1-20-06 Letting, Item 110

INDEX OF SHEETS

STANDARDS: (SEE PROPOSAL)
280001–02 – EROSION CONTROL
702001–05 – TRAFFIC
BLR 21–6 – TRAFFIC
BLR 22–4 – TRAFFIC

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL–AID B.R.R. PROGRAM

CRAWFORD COUNTY
SECTION 05–02114–00–BR
HUTSONVILLE ROAD DISTRICT
STRUCTURE NO. 017–3280
PROJECT NO. BROS–033(41)
JOB NO. C–97–038–05
TR 226

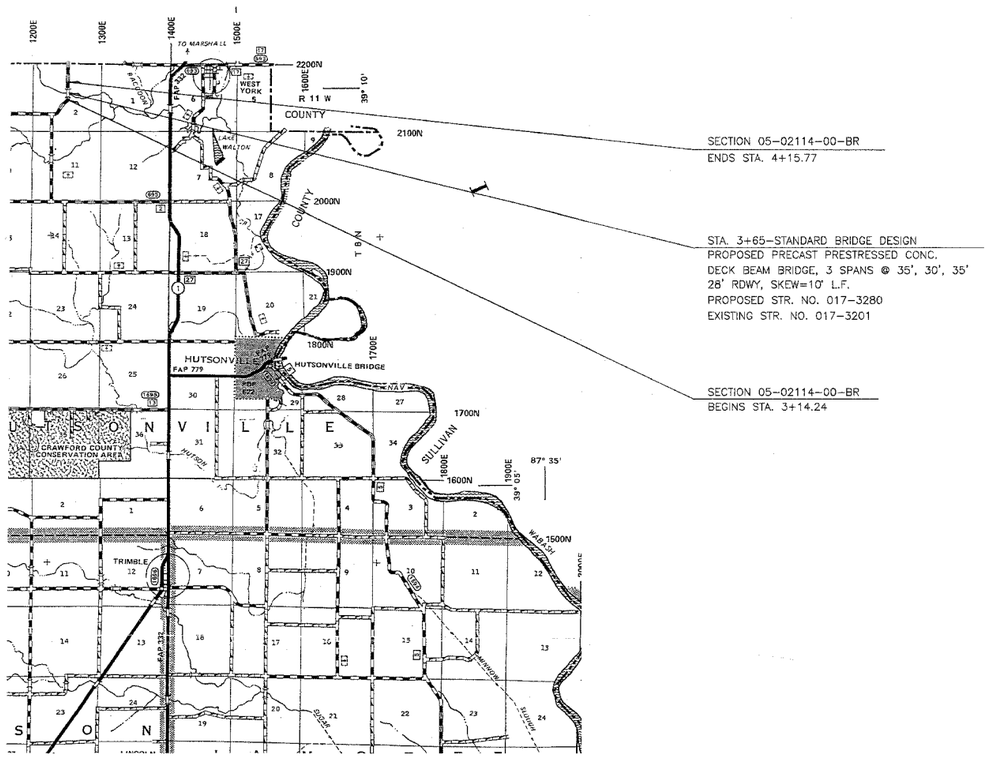
SCALES

PLAN	1 INCH = 50 FEET
PROFILE HORZ.	1 INCH = 50 FEET
PROFILE VERT.	1 INCH = 10 FEET

SUMMARY OF QUANTITIES

X080-2A

QUANTITY	UNIT	ITEM	CODE NO.
524	CU YD	CHANNEL EXCAVATION	20300100
267	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
533	SQ YD	FILTER FABRIC	28200200
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
36.2	CU YD	CONCRETE STRUCTURES	50300225
2,800	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	50400305
4,260	POUND	REINFORCEMENT BARS	50800105
200	FOOT	STEEL RAILING, TYPE S1	50900205
396	FOOT	FURNISHING STEEL PILES HP 10X42	51201400
396	FOOT	DRIVING STEEL PILES	51202700
2	EACH	TEST PILE STEEL HP 10X42	51203400
11	CU YD	CONCRETE ENCASEMENT	51204315
20	EACH	METAL SHOES	51204600
1	EACH	NAME PLATES	51500100
1	L SUM	MOBILIZATION	67100100
1	L SUM	TRAFFIC CONTROL AND PROTECTION	70101700



LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE
NET LENGTH = 101.53 FT. = 0.019 MILES

FUNCTIONAL CLASS: RURAL LOCAL ROAD
ADT = 75

CONTRACT NO. 95446

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

PROFESSIONAL DESIGN FIRM #184–000832

THOMAS ROSS GORDON
31350
ILLINOIS

Michael Gordon 9/6/05
ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 31350
LICENSE EXPIRES NOVEMBER 30, 2005

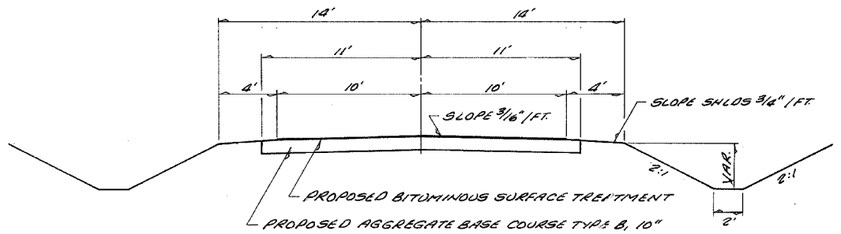
APPROVED September 7, 2005
COUNTY ENGINEER

PASSED 10-31, 2005
DISTRICT SEVEN ENGINEER
OF LOCAL ROADS & STREETS

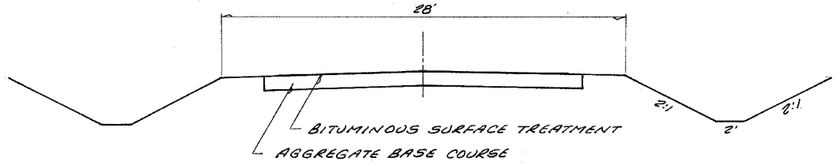
RELEASING FOR BID BASED ON LIMITED REVIEW
10-31, 2005
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONTRACT NO. 95446

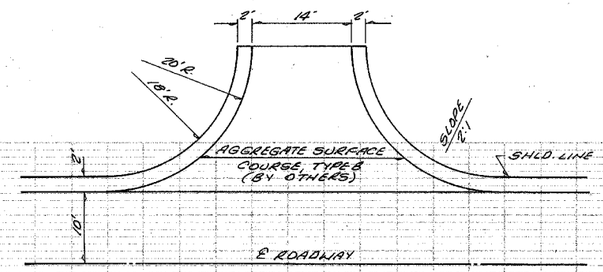
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	05-02114-00-BR	CRAWFORD	11	2
STA. 3+14.24		TO STA. 4+15.77		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



TYPICAL CROSS SECTION OF PROPOSED IMPROVEMENT
(BY OTHERS)



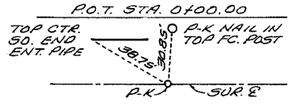
TYPICAL CROSS SECTION OF EXISTING ROADWAY

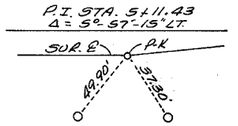


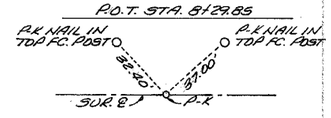
DETAIL OF FIELD ENTRANCES
(BY OTHERS)

UTILITIES

TELEPHONE: VERIZON
225 EAST CHESTNUT ST.
OLNEY, IL. 62450
618-395-6189



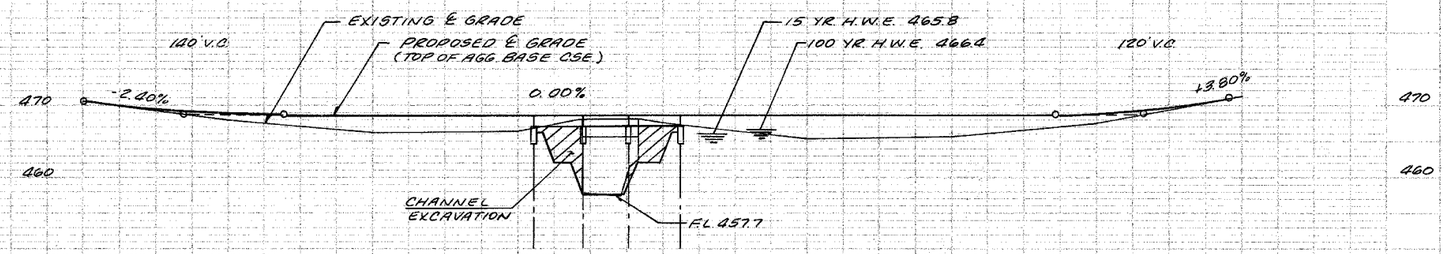




CURVE DATA
P.I. STA 5+11.43
Δ = 5° 57'-15" LT.
D = 3° 08'-12"
R = 1826.69'
T = 95.00'
L = 189.83'
E = 2.47'

CHANNEL EXCAVATION = 524 C.Y.

B.M. #1 ELEV. 465.73
P.K. NAIL IN COR. POST
36' RT. STA. 4+19



	0	1	2	3	4	5	6	7	8
	P.C.	P.I. (468.62)	P.T.					P.C.	P.I. (468.62) P.T.
	470.3	469.04 (468.62)	468.62	466.1	466.3	467.7	465.7	468.62	467.4 (468.62) 469.9 (468.62) 470.90
	470.30	468.76 (468.62)	468.62	468.62	468.62	468.62	468.62	468.74 (468.62)	471.2
									471.20
		+20						+72.11	+32.11 +92.11

CONTRACT NO. 95446

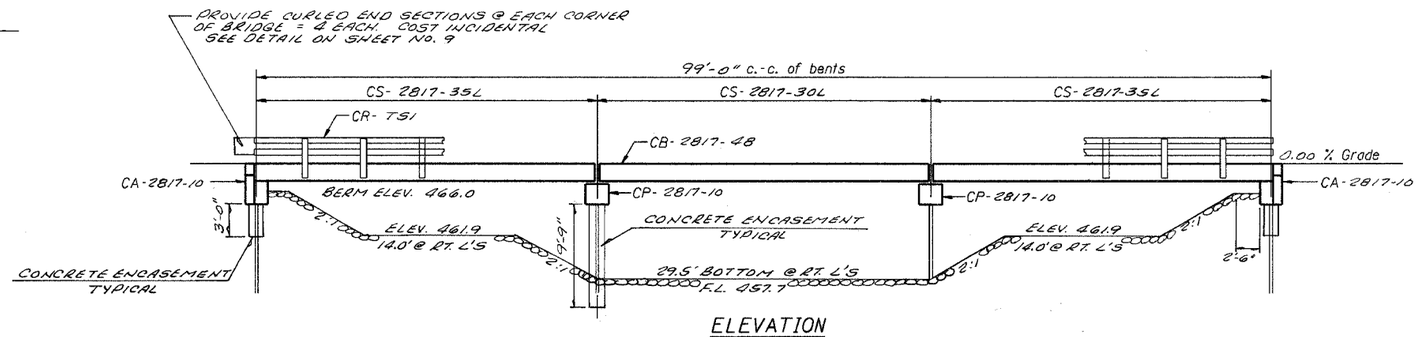
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	*	CRAWFORD	11	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

* 05-02114-00-BR

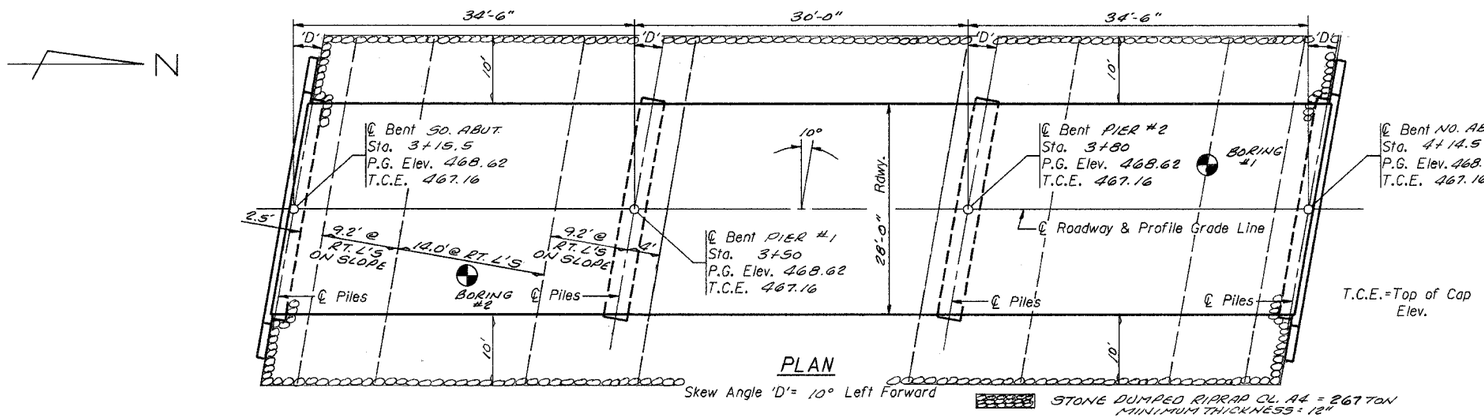
~~B.M.~~

~~Existing Structure~~

~~Salvage~~



ELEVATION



PLAN

Skew Angle 'D'= 10° Left Forward

STONE DUMPED RIPRAP CL. A4 = 267 TON
MINIMUM THICKNESS = 18"

GENERAL NOTES

1. The Contractor shall drive 2 test piles, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
2. See Special Provisions for boring logs.
3. ~~A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.~~

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Piers	Sub. Abuts.	Total
Removal of Existing Structures	Each				1
~~Bituminous Concrete Surface Course, Superpave~~	Ton				
~~Waterproofing Membrane System~~	Sq. Yd.				
Concrete Structures	Cu. Yd.		17.2	19.0	36.2
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2800			2800
~~Steel Bridge Rail, Type SM~~	~~Foot~~				
Steel Railing, Type S-1	Foot	200			200
Reinforcement Bars	Pound		1760	2500	4260
Furnishing STEEL PILES HP 10 x 42	Foot		198	198	396
Driving STEEL PILES	Foot		198	198	396
Test Piles STEEL HP 10 x 42	Each		1	1	2
Name Plates	Each				1
Concrete Encasement	Cu. Yd.		8.4	2.6	11.0
~~Portland Cement Mortar Fairing Course~~	~~Foot~~				
STONE DUMPED RIPRAP CL A2	TON				267
FILTER FABRIC	SQ. YD.				533
METAL SHOES	EACH		10	10	20

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications - 17th ed.

LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) =
Bedrock Acceleration Coefficient (A) =
Site Coefficient (S) =

PILE DATA (2-PIERS)

Type STEEL HP 10 x 42 W/METAL SHOES
Capacity Tons REFUSAL
Estimated Length Feet 22
Number Required 10 (Includes 1 Test Pile located ~~in Bent #1~~ PIER #2

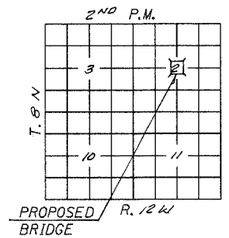
PILE DATA (2-ABUTS.)

Type STEEL HP 10 x 42 W/METAL SHOES
Capacity Tons REFUSAL
Estimated Length Feet 22
Number Required 10 (Includes 1 Test Pile located in ~~Bent #1~~ SO. ABUT.

STATION 3+65
RACCOON CREEK
SEC. 05-02114-00-BR BUILT 20
PROJECT NO. BR05-033 (41)
CRAWFORD COUNTY
LOADING HS20
STR. NO. 017-3280

LETTERING FOR NAME PLATE

Locate Name Plate at SOUTHEAST Corner of Bridge (See Std. CN)



LOCATION SKETCH

INDEX OF SHEETS

WATERWAY INFORMATION

Drainage Area = 9.68 SQ.MI. Low Grade Elev. = 468.62 @ Sta. 3+65

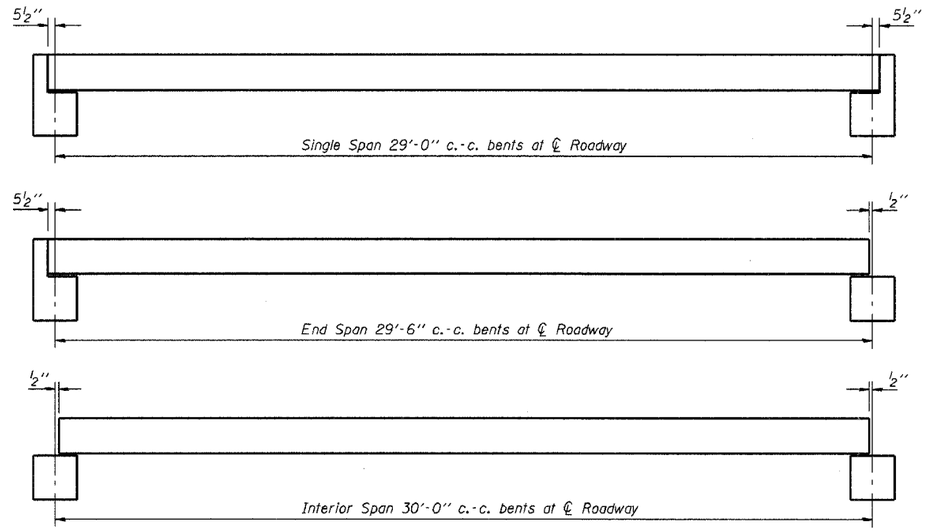
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	1845	~~BR 264 APP 99~~	BR 302 APP 0	465.8	0.8	0.4	466.6	466.2
Base	100	2960	~~BR 264 APP 182~~	BR 298 APP 0	466.4	0.9	0.9	467.3	467.3
Overtopping									
Max. Calc.	500	3868			466.8	0.9	1.6	467.7	468.4

GENERAL PLAN & ELEVATION
TR ROUTE 226
OVER RACCOON CREEK
SECTION 05-02114-00-BR
CRAWFORD COUNTY
STATION 3+65

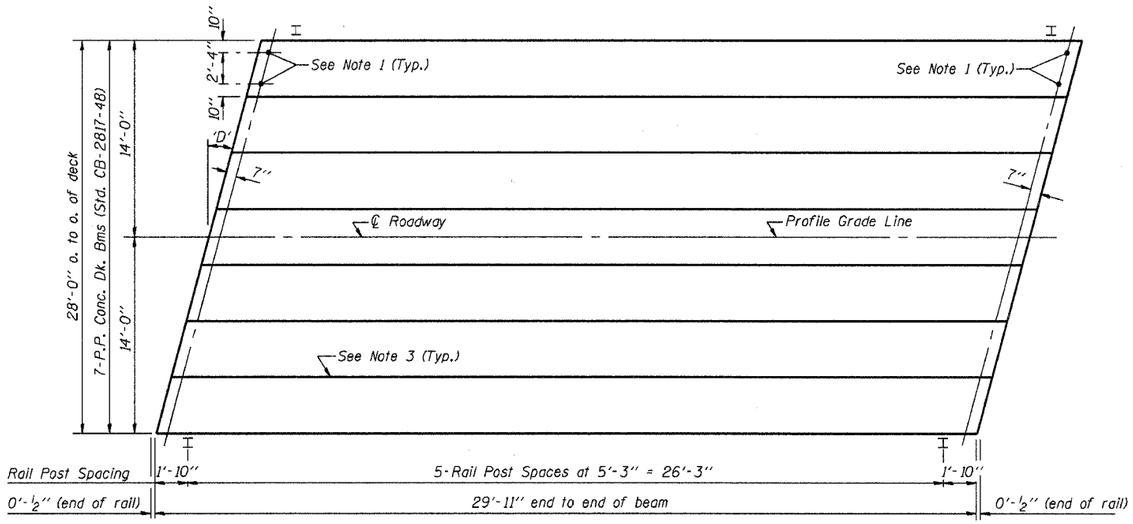
GP-3L (04-04-05)

CONTRACT NO. 95426

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	25-02114.00-BR	CRAWFORD	11	4
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

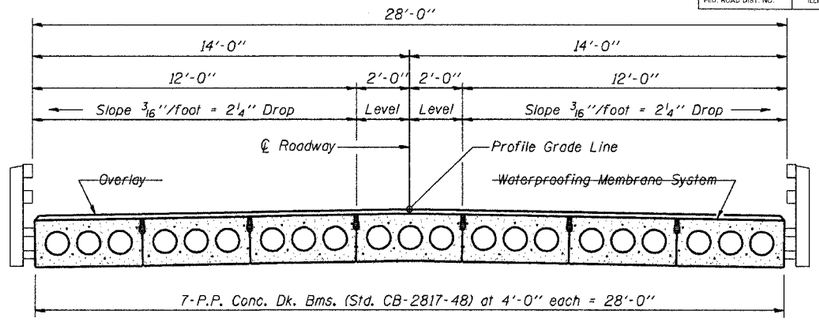


TYPICAL ELEVATIONS

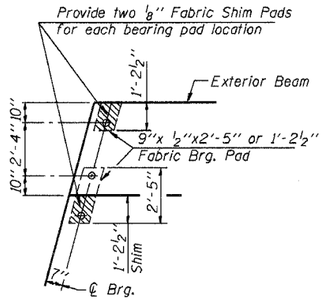


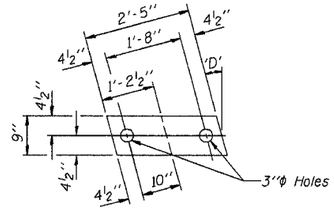
PLAN

('D' = Designated Skew Angle)

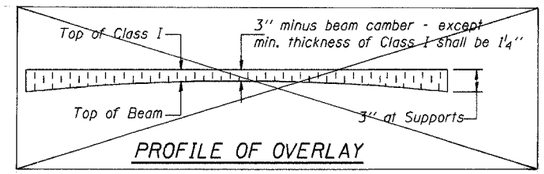


CROSS SECTION





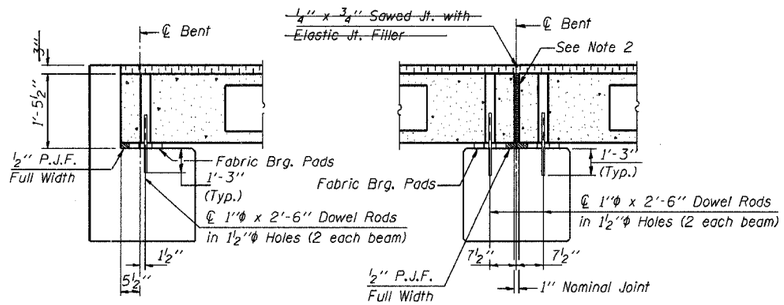
½" FABRIC BRG. PAD DETAILS



PROFILE OF OVERLAY

DIMENSIONS 'A' AND 'B'

'D'	5°	10°	15°	20°	25°	30°
A	1½"	1⅝"	1¾"	1⅞"	2¼"	2⅝"
B	7½"	7⅝"	7¾"	8"	8¼"	8⅝"



SECTION AT ABUTS.

(Along ℄ Beams)

SECTION AT PIERS

(Along ℄ Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 17" Dp.	840 Sq. Ft.
Steel Railing	60 Ft.
~~Waterproofing Membrane System~~	~~93.3 Sq. Yds.~~
~~Portland Cement Mortar Fairing Course~~	~~180 Ft.~~

~~Note: Quantity of overlay for one span = 14.4 Tons~~

NOTES

1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
2. Nominal 1" joint at ℄ Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted. WITH NON-SHRINK GROUT.

Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

ISSUED 1-1-88

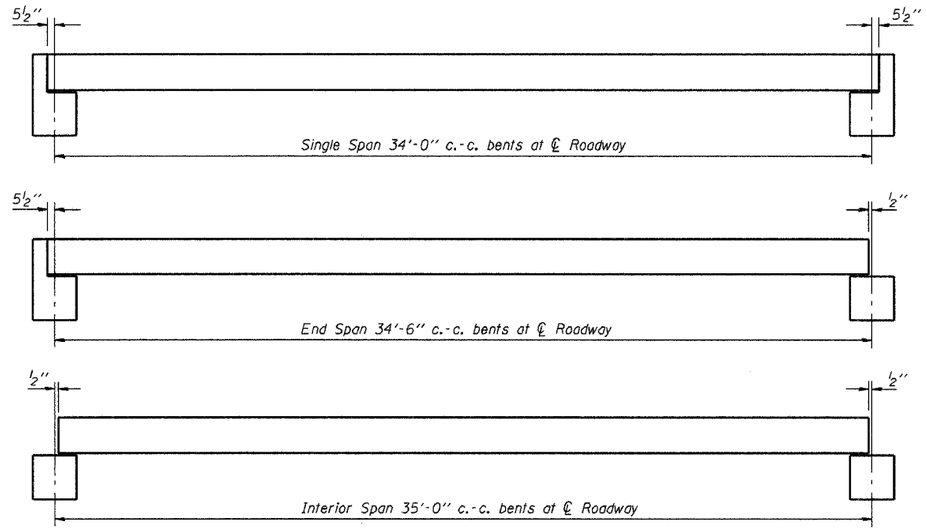
P.P.C. DECK BEAM SUPERSTRUCTURE

28' RDWY.	17" BMS.	30' SPAN	LEFT

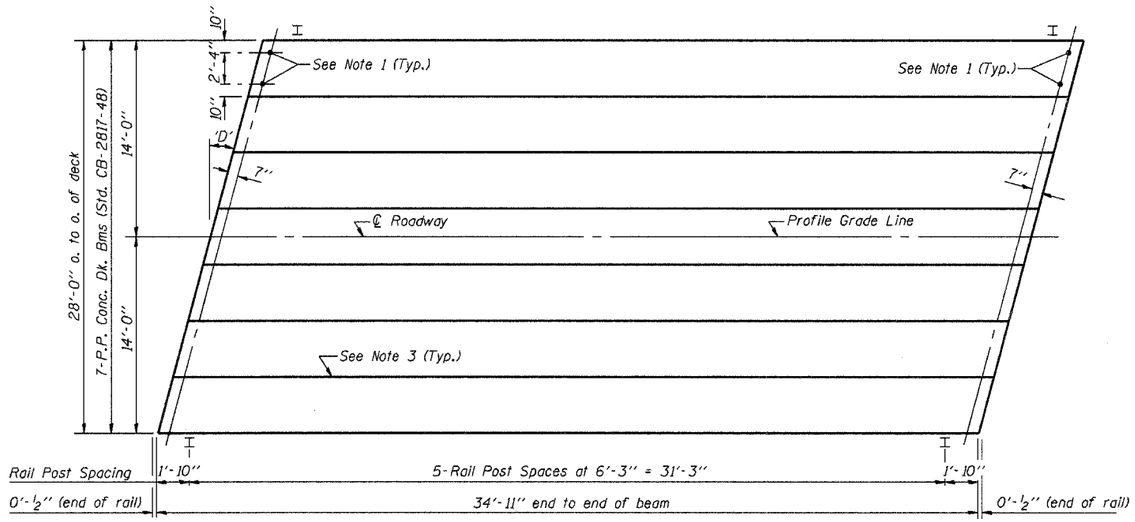
STANDARD CS-2817-30L

CONTRACT NO. 95426

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	05-02114-00-BR	CRAWFORD	11	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

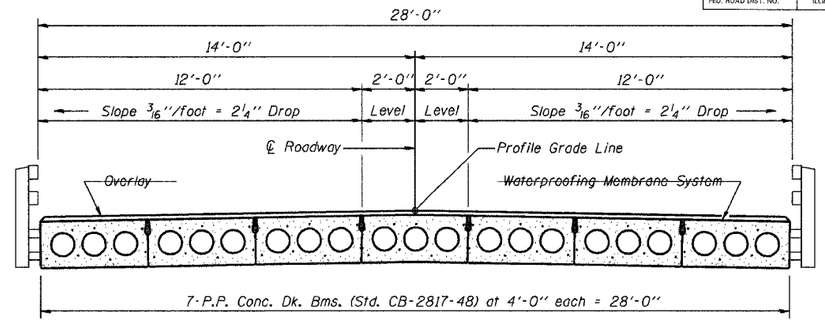


TYPICAL ELEVATIONS

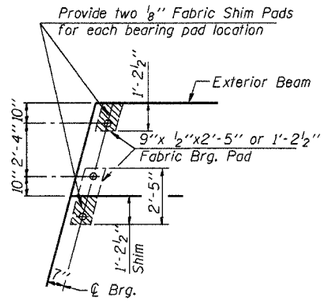


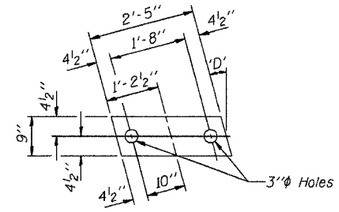
PLAN

('D' = Designated Skew Angle)

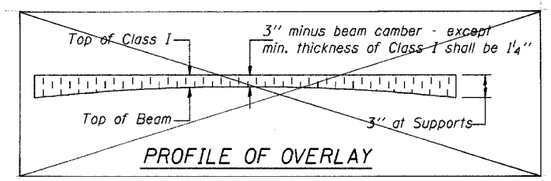


CROSS SECTION





½" FABRIC BRG. PAD DETAILS



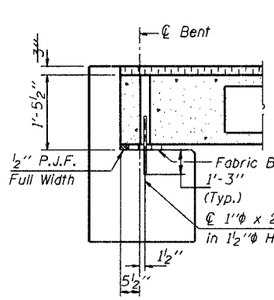
PROFILE OF OVERLAY

DIMENSIONS 'A' AND 'B'

'D'	5°	10°	15°	20°	25°	30°
A	1½"	1⅝"	1¾"	1⅞"	2¼"	2⅝"
B	7½"	7⅝"	7¾"	8"	8¼"	8⅝"

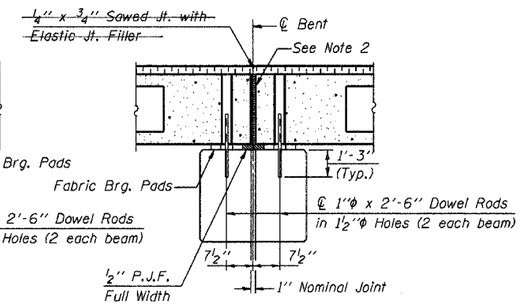
NOTES

1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
2. Nominal 1" joint at ℄ Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted. WITH NON-SHRINK GROUT.



SECTION AT ABUTS.

(Along ℄ Beams)



SECTION AT PIERS

(Along ℄ Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 17" Dp.	980 Sq. Ft.
Steel Railing	70 Ft.
~~Waterproofing Membrane System~~	~~108.9 Sq. Yds.~~
~~Portland Cement Mortar~~	~~210 Ft.~~
~~Fairing Course~~	

~~Note: Quantity of overlay for one span = 15.8 Tons~~

Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

1981-1-1 CJP/SSI

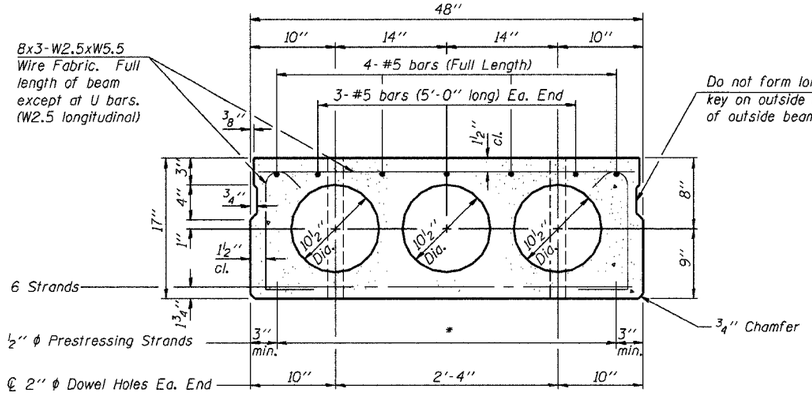
P.P.C. DECK BEAM SUPERSTRUCTURE

28' RDWY.	17" BMS.	35' SPAN	LEFT

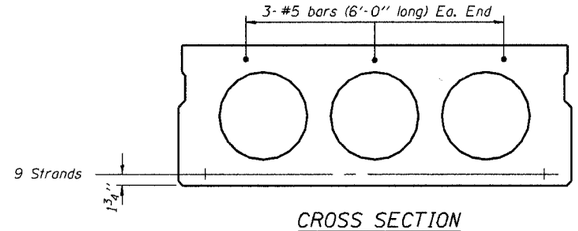
STANDARD CS-2817-35L

CONTRACT NO. 95446

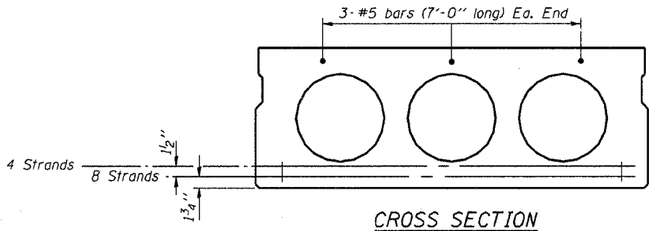
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	25-02118-00-BR	CRAWFORD	11	6
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



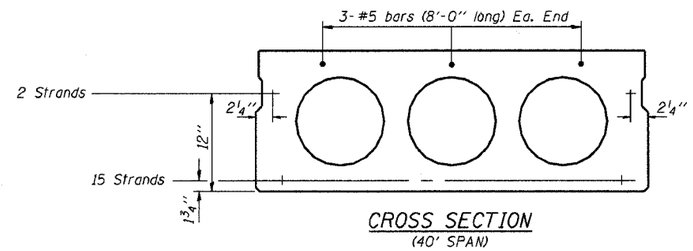
CROSS SECTION
(25' SPAN)



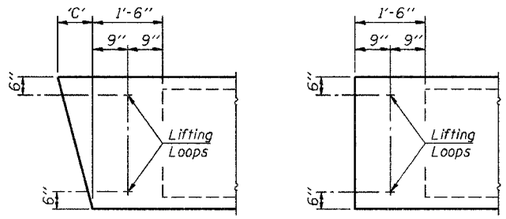
CROSS SECTION
(30' SPAN)



CROSS SECTION
(35' SPAN)

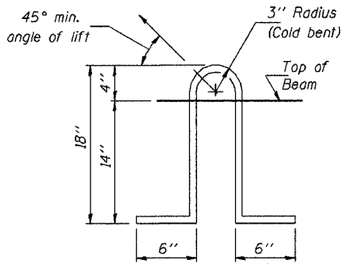


CROSS SECTION
(40' SPAN)



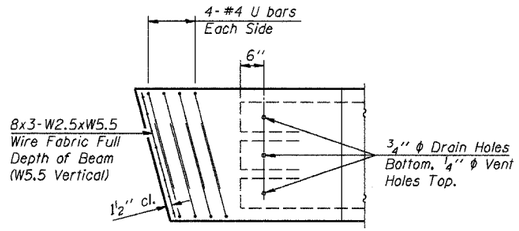
END BLOCK DETAILS

Each beam shall have four Lifting Loops, two at each end of beam cast in locations shown above. Loops shall be burned off after beams have been erected.

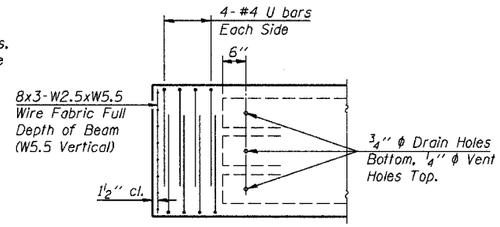


LIFTING LOOP DETAIL

Lifting loops shall be 2, 1/2''ϕ-270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.



END REINFORCEMENT
(SKEWED)



END REINFORCEMENT
(RIGHT ANGLE)

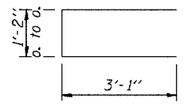
DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	4 1/4	8 1/2	12 7/8	17 1/2	22 3/8	27 3/4

* TRANSVERSE STRAND PLACEMENT GUIDELINES

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

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



BAR U

MIN. BAR LAP

#5 bars = 1'-8''

NOTES

1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2'' and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
4. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
5. When a Waterproofing Membrane System is specified, the top surface of the beams shall be screeded with a straightedge and finished with a hand float. The finished surface shall be free of depressions or high spots with sharp corners and the top edge of keys shall be rounded or chamfered a minimum of 1/4''.
6. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between the top of the beam and the bottom edge of the key.

DESIGN STRESSES

f'_c = 5,000 p.s.i.
f'_{ci} = 4,000 p.s.i.
f'_s = 270,000 p.s.i. (1/2'' ϕ Strand)
f_{si} = 201,960 p.s.i. (1/2'' ϕ Strand)
f_y = 60,000 p.s.i.

NOTE
The std. reinf. and dimensions shown on the 25' span cross section is typical for all spans, except as shown.

Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

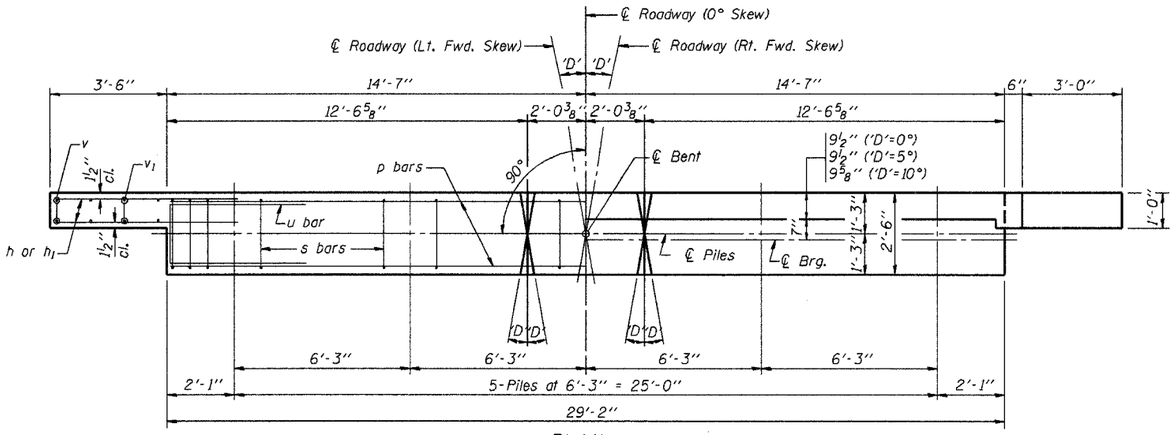
ISSUED 1-1-1981

P.P.C. DECK BEAM DETAILS

28' ROADWAY | 17'' x 48'' BEAMS

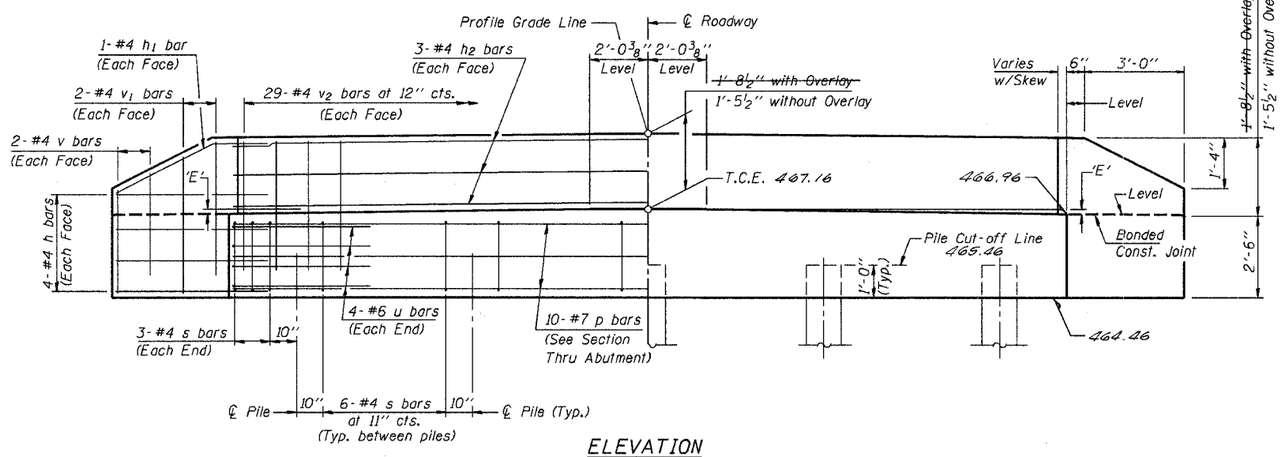
STANDARD CB-2817-48

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	05-02114-00-BR	CRAWFORD	11	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

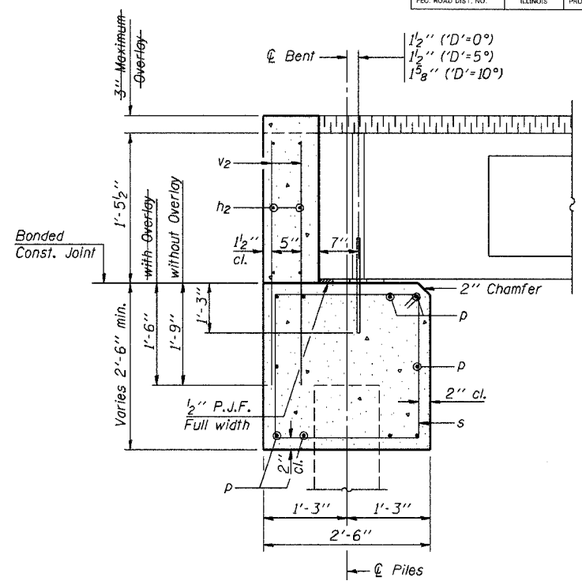


PLAN

('D'=Designated Skew Angle)

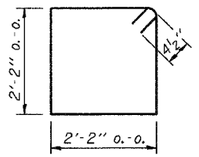


ELEVATION

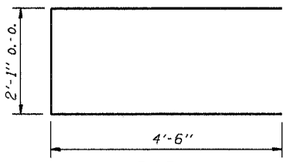


SECTION THRU ABUTMENT

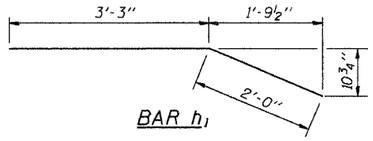
(At Right Angles)



BAR s



BAR u



BAR h1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	——
h1	4	#4	5'-3"	⟋
h2	6	#4	28'-10"	——
p	10	#7	28'-10"	——
s	30	#4	9'-5"	□
u	8	#6	11'-1"	⊏
v	8	#4	2'-6"	——
v1	8	#4	3'-5"	——
v2	58	#4	3'-1"	——
Concrete Structures			9.5 Cu. Yds.	
Reinforcement Bars			1250 Lb.	

DIMENSION 'E'

GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 1/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/8"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

NOTES

1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
3. Space reinforcement in cap to miss anchor bolts.

MAXIMUM PILE LOADS

SPAN	TONS
25'	25
30'	25
35'	25
40'	27

DESIGN STRESSES

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

Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas S. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

ISSUED 1-1-08

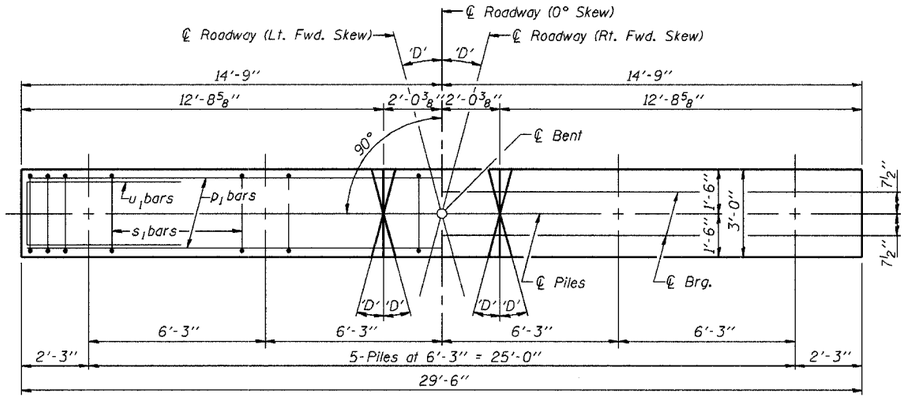
P.P.C. DECK BEAMS
PILE BENT ABUTMENT

28' RDWY. | 17" BMS. | 'D'=0°, 5° OR 10°

STANDARD CA-2817-10

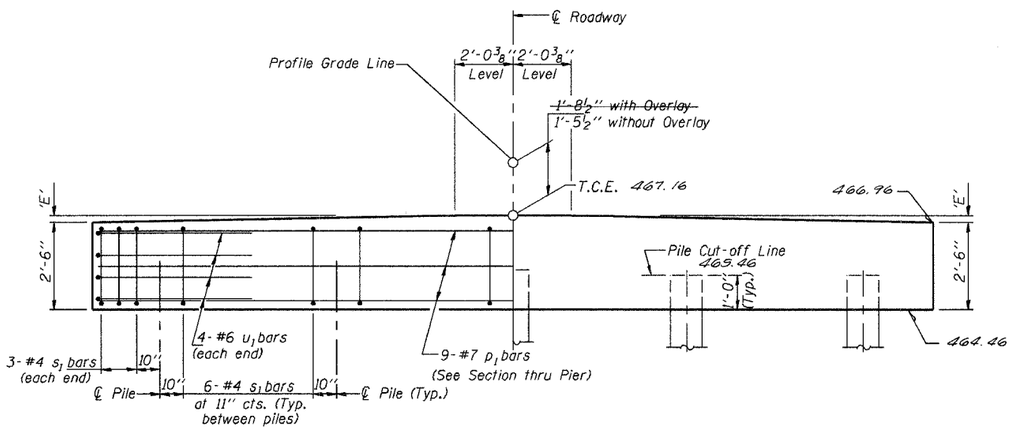
CONTRACT NO. 95426

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	05-02114-00-BR	CRAWFORD	11	8
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

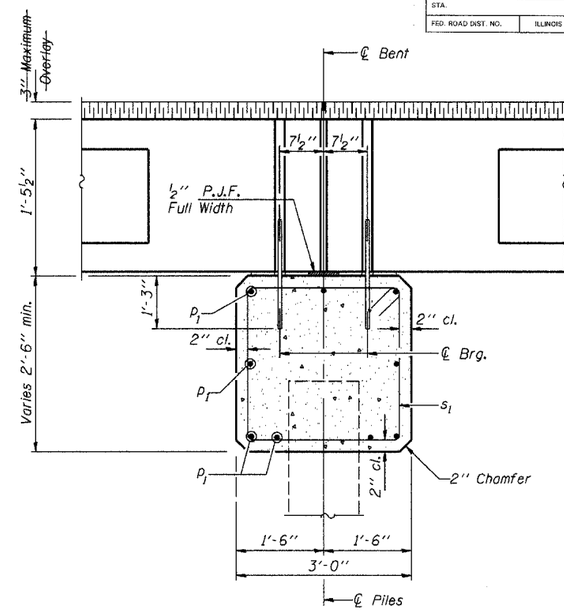


PLAN

('D'= Designated Skew Angle)



ELEVATION



SECTION THRU PIER

(At Right Angles)

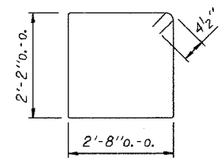
DIMENSION 'E'

GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 1/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/8"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

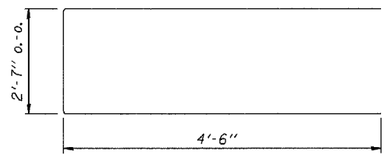
MAXIMUM PILE LOADS

SPAN	TONS
25'	30
30'	33
35'	36
40'	40

Longer of Either Span Supported by Pier.



BAR s_1



BAR u_1

BILL OF MATERIAL FOR ONE PIER

Bar	No.	Size	Length	Shape
p_1	9	#7	29'-2"	——
s_1	30	#4	10'-5"	□
u_1	8	#6	11'-7"	⊏⊐
Concrete Structures			8.6	Cu. Yds.
Reinforcement Bars			880	Lb.

DESIGN STRESSES

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

NOTE

Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.

Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design

APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

1968-1-1 D3ISSI

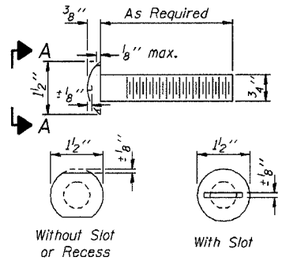
P.P.C. DECK BEAMS PILE BENT PIER

28' RDWY. | 17" BMS. | 'D'=0°, 5° OR 10°

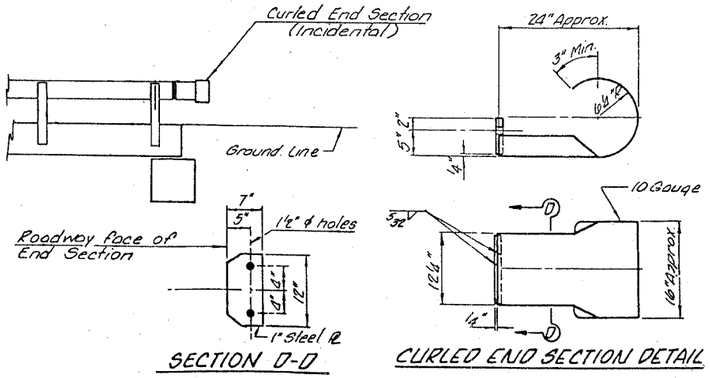
STANDARD CP-2817-10

CONTRACT NO. 95446

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	03-02114-00-BR	CRAWFORD	11	9
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



VIEW A-A
ROUND HEAD BOLT



SECTION D-D

CURLED END SECTION DETAIL

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft.-lbs. at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270 Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M-111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

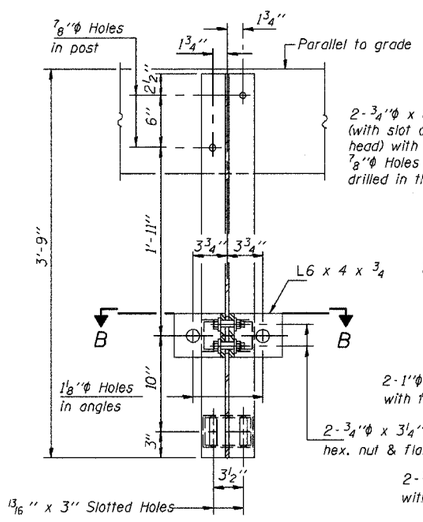
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

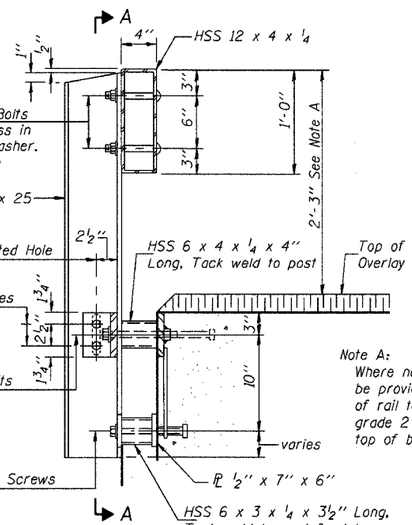
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

The 3/4"ø high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04 (f)(2) of the Standard Specifications. The 1"ø high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8"ø cap screws in bottom of posts shall be tightened to a snug fit only.

The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6" or less.

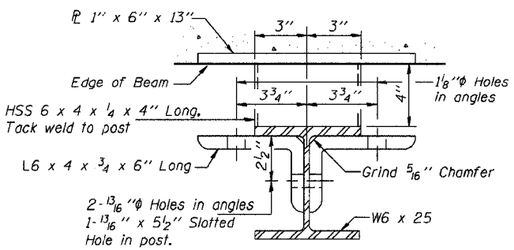


SECTION A-A

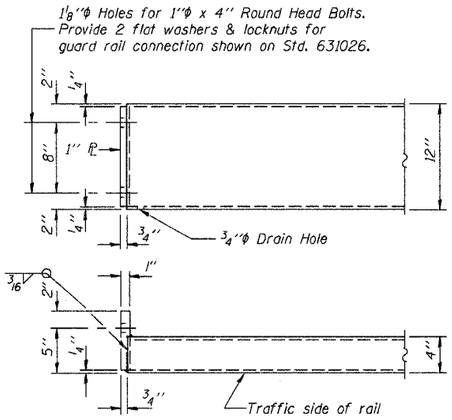


SECTION AT RAIL POST

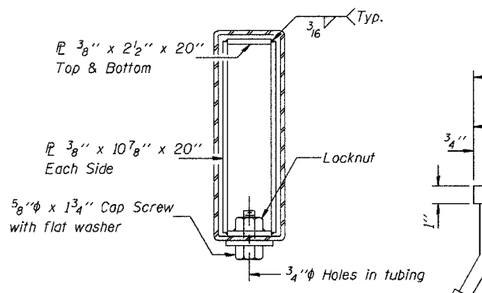
Note A:
Where no overlay is to be provided, adjust top of rail to lay parallel to grade 2'-5" max. above top of beam.



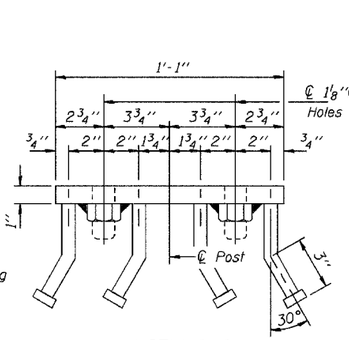
SECTION B-B



END OF RAIL DETAILS



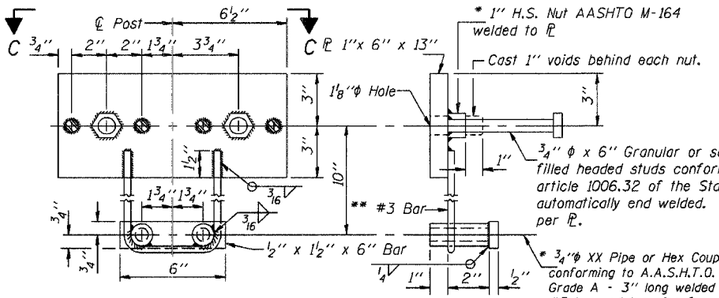
SECTION AT RAIL SPLICE



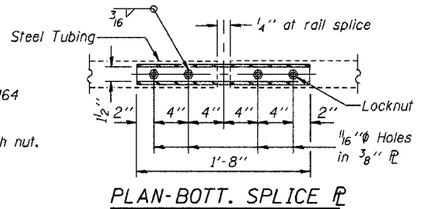
VIEW C-C

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

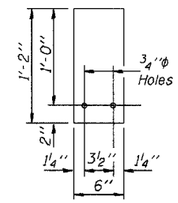
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



ANCHOR DEVICE



PLAN-BOTT. SPLICE Pl
TYPICAL



1/4" SHIM PLATE

Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas S. Domagalski
Engineer of Bridge Design

APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

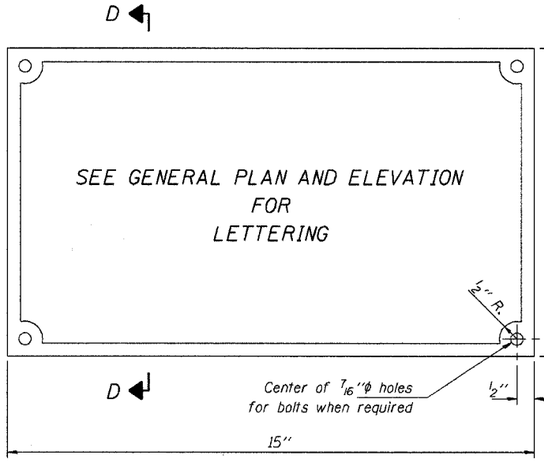
ISSUED 1-1-1981 (BRSSI)

STEEL RAILING, TYPE S-1

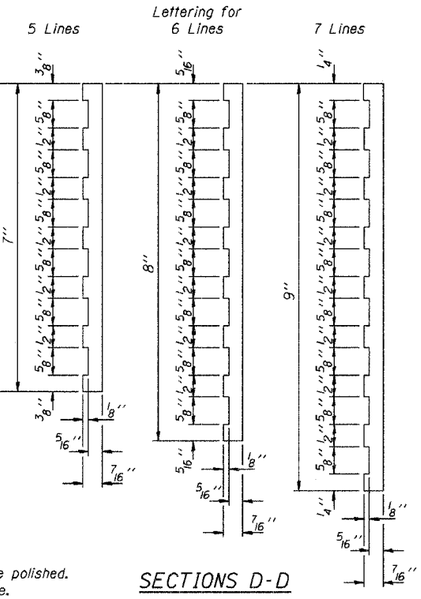
STANDARD CR-TS1

CONTRACT NO. 95446

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	05-02114-00-BR	CRAWFORD	11	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

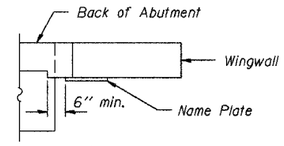


DETAIL OF NAME PLATE

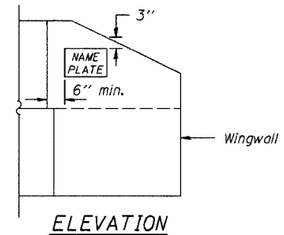


SECTIONS D-D

Material: Best quality brass or bronze.
Border & Lettering: Raised 1/8 inch. Square cut and not tapered. Top surface polished.
Fastenings: Four lugs at least three inches long, cast on back of plate.



PLAN



ELEVATION

LOCATION OF NAME PLATE

Illinois Department of Transportation

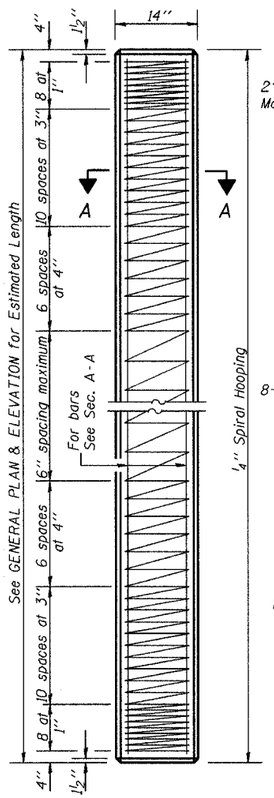
PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4. 2005
Ralph E. Anderson
Engineer of Bridges and Structures

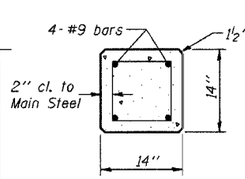
ISSUED 7-1-95

NAME PLATE
STANDARD CN

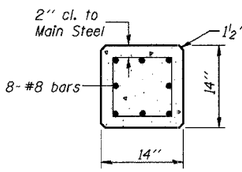
CONTRACT NO. 95426

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	05-02114-00-BR	CRAWFORD	11	11
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		





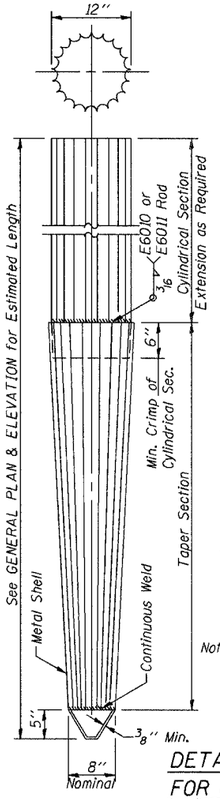
SECTION A-A
FOR PILES UNDER 45' LONG

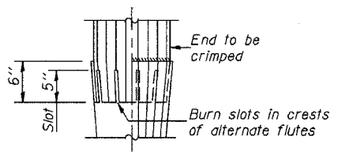


SECTION A-A
FOR PILES 45' OR MORE

Handling: For Pile lengths up to 45' use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.

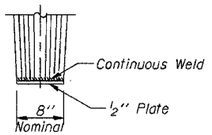
DETAIL OF PRECAST CONCRETE PILES





FIELD CRIMP DETAIL

Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.



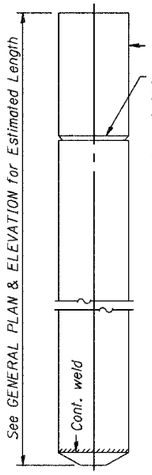
OPTIONAL FLAT END

ALLOWABLE TAPER SECTIONS

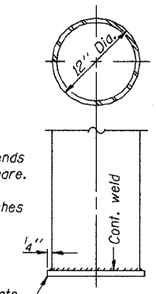
10' Length-Taper 1" in 2'-6"
17' Length-Taper 1" in 4'-0"
25' Length-Taper 1" in 7'-0"
30' Length-Taper 1" in 7'-0"

Note: The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be according to Article 1006.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 p.s.i.

DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



Note: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

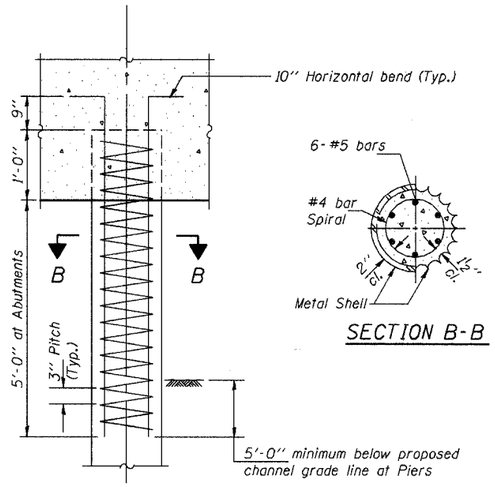


OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

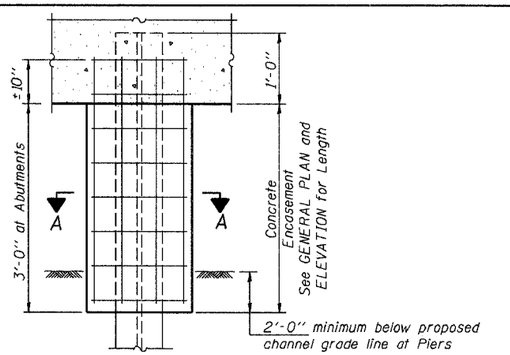
Reinforcement cage shall be omitted when Concrete Encasement is provided.

The cost of Reinforcement is included with the Cost of Furnishing Piles.



SECTION B-B

DETAIL OF REINFORCEMENT FOR METAL SHELLS

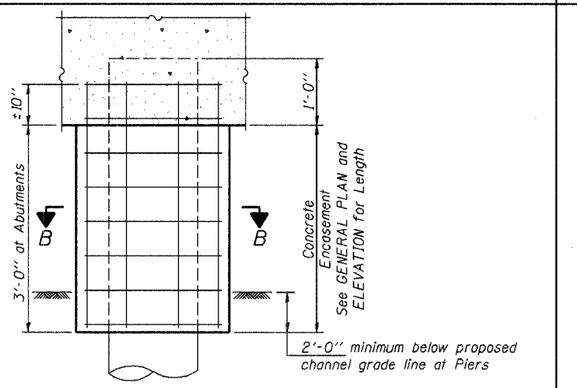


Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Reinforcement is included with the cost of Concrete Encasement. Forms for Encasement may be omitted when soil conditions will permit.

SECTION A-A

Pile	'F'
HP8	1'-6"
HP10	1'-9"
HP12	2'-0"

DETAIL OF HP PILE ENCASEMENT



Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Reinforcement is included with the cost of Concrete Encasement. Forms for Encasement may be omitted when soil conditions will permit.

SECTION B-B

DETAIL OF METAL SHELL PILE ENCASEMENT

QUANTITIES/FT. OF ENCASEMENT

(STEEL PILES)

Pile Size	Item	Quantity
HP8	Concrete Encasement	0.063 C.Y.
HP10	Concrete Encasement	0.086 C.Y.
HP12	Concrete Encasement	0.112 C.Y.

(METAL SHELL PILES)

Pile Size	Item	Quantity
12" Dia.	Concrete Encasement	0.087 C.Y.

PILE DETAILS

STANDARD CX-1

Illinois Department of Transportation

PASSED FEBRUARY 1, 2000
Thomas J. Domagalski
Engineer of Bridge Design
APPROVED FEBRUARY 1, 2000
Ralph E. Anderson
Engineer of Bridges and Structures

ISSUED 11-98