

INDEX OF SHEETS

- 1 COVER SHEET
- 2 PLAN & PROFILE
- 3 CROSS SECTIONS
- 4-10 BRIDGE PLANS

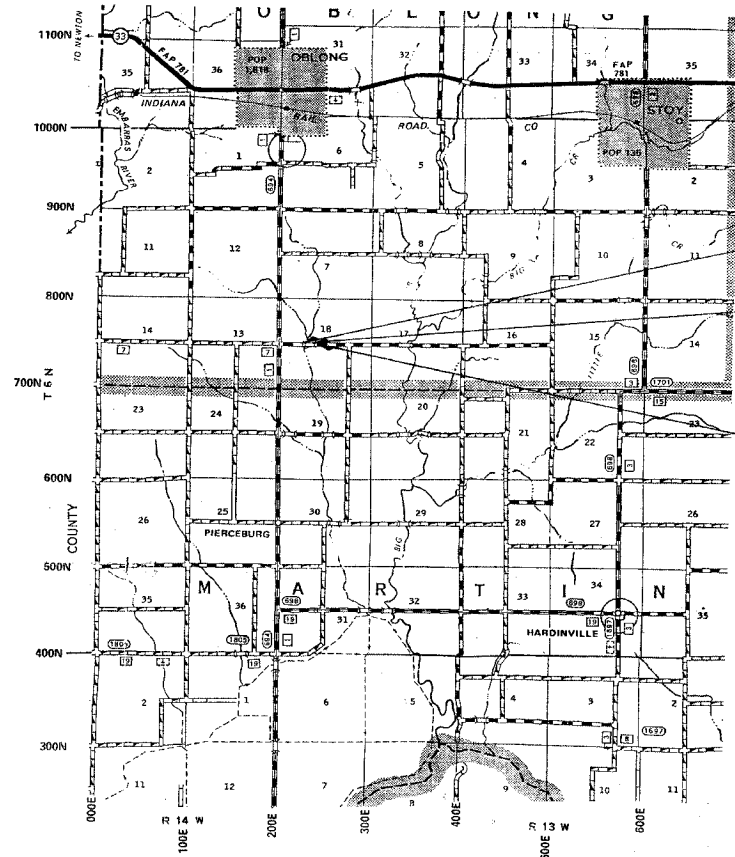
STANDARDS: 280001-02 - EROSION CONTROL
 702001-05 - TRAFFIC
 BLR 21-6 - TRAFFIC
 BLR 22-4 - TRAFFIC

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PLANS FOR PROPOSED
 FEDERAL-AID B.R.R. PROGRAM
 CRAWFORD COUNTY
 SECTION 01-07128-00-BR
 OBLONG ROAD DISTRICT
 STRUCTURE NO. 017-3751
 PROJECT NO. BROS-033 (040)
 JOB NO. C-97-011-04
 TR 203

QUANTITY	UNIT	ITEM	X080-2A CODE NO.
66	UNIT	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	20100110
150	CU YD	EARTH EXCAVATION	20200100
143	CU YD	CHANNEL EXCAVATION	20300100
62	CU YD	FURNISHED EXCAVATION	20400800
0.3	ACRE	SEEDING, CLASS 2 (SPECIAL)	25001000
4	EACH	TEMPORARY DITCH CHECKS	28000300
32	FOOT	PERIMETER EROSION BARRIER	28000400
125	TON	STONE DUMPED RIPRAP, CLASS AA	28100807
44	TON	STONE RIPRAP DITCH	28102600
370	TON	AGGREGATE BASE COURSE, TYPE B	35101400
30	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
19.8	CU YD	CONCRETE STRUCTURES	50300225
1,400	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	50400405
1,940	POUND	REINFORCEMENT BARS	50800105
100	FOOT	STEEL RAILING, TYPE S1	50900205
360	FOOT	FURNISHING STEEL PILES HP 10X42	51201400
360	FOOT	DRIVING STEEL PILES	51202700
1	EACH	TEST PILE STEEL HP 10X42	51203400
2.6	CU YD	CONCRETE ENCASEMENT	51204315
1	EACH	NAME PLATES	51500100
32	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 15"	542D0220
66	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 18"	542D0223
1	L SUM	TRAFFIC CONTROL AND PROTECTION	70101700
1	L SUM	MOBILIZATION	67100100

SCALES

PLAN 1 INCH = 50 FEET
 PROFILE HORZ. 1 INCH = 50 FEET
 PROFILE VERT. 1 INCH = 10 FEET
 CROSS SECTION 1 INCH = 5 FEET



SECTION 01-07128-00-BR
 BEGINS STA. 0+90

STA. 2+98-STANDARD BRIDGE DESIGN
 PROPOSED PRECAST PRESTRESSED CONC.
 DECK BEAM BRIDGE, 1 SPAN @ 50'
 28' RDWY, SKEW=10' L.F.
 EXIST. STRUCTURE NO. 017-3718
 PROP. STRUCTURE NO. 017-3751

SECTION 01-07128-00-BR
 ENDS STA. 3+75

THE ACCEPTANCE OF THIS PROJECT IS BASED ON A MINIMUM DESIGN CRITERIA FOR A FEDERAL-AID BRRP TYPE IMPROVEMENT ON THE COUNTY HIGHWAY SYSTEM.
Maureen E. Kattl
 DISTRICT ENGINEER OF LOCAL ROADS & STREETS

FUNCTIONAL CLASS: LOCAL ROAD
 ADT = 125
 DESIGN SPEED = 30 MPH

LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE
 NET LENGTH = 285 L.F. = 0.054 MILES

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

CONTRACT NO. 95383

PROFESSIONAL DESIGN FIRM #184-000832

Michael R. ...
 ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 31350
 LICENSE EXPIRES NOVEMBER 30, 2005

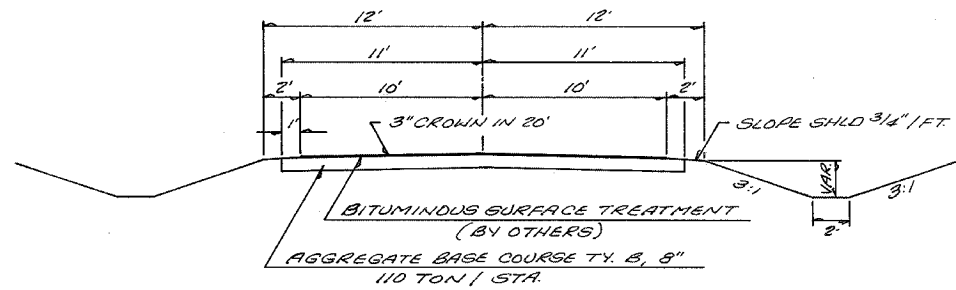
APPROVED 4/20 2005
Robert R. Chubb
 COUNTY ENGINEER

APPROVED 4-22 2005
Maureen E. Kattl
 DISTRICT ENGINEER OF LOCAL ROADS & STREETS

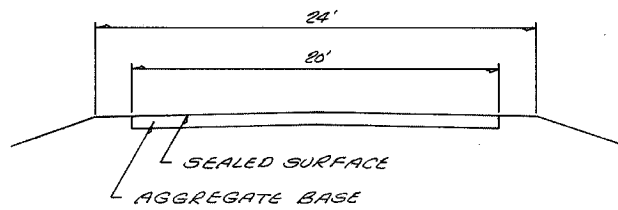
APPROVED 4-22 2005
Christina M. Reed
 REGIONAL ENGINEER

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

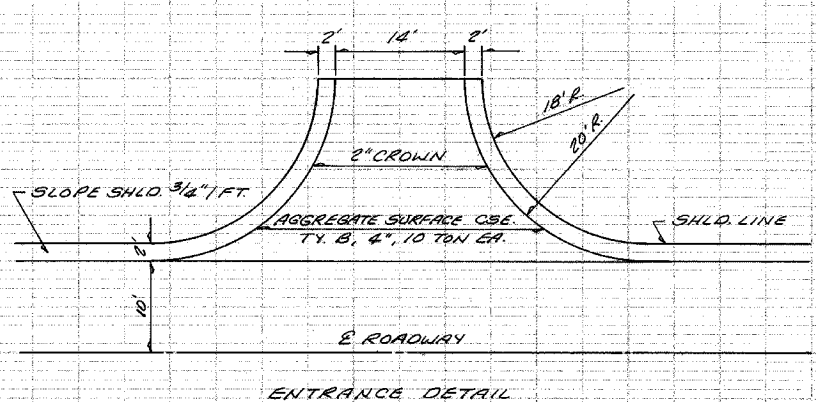
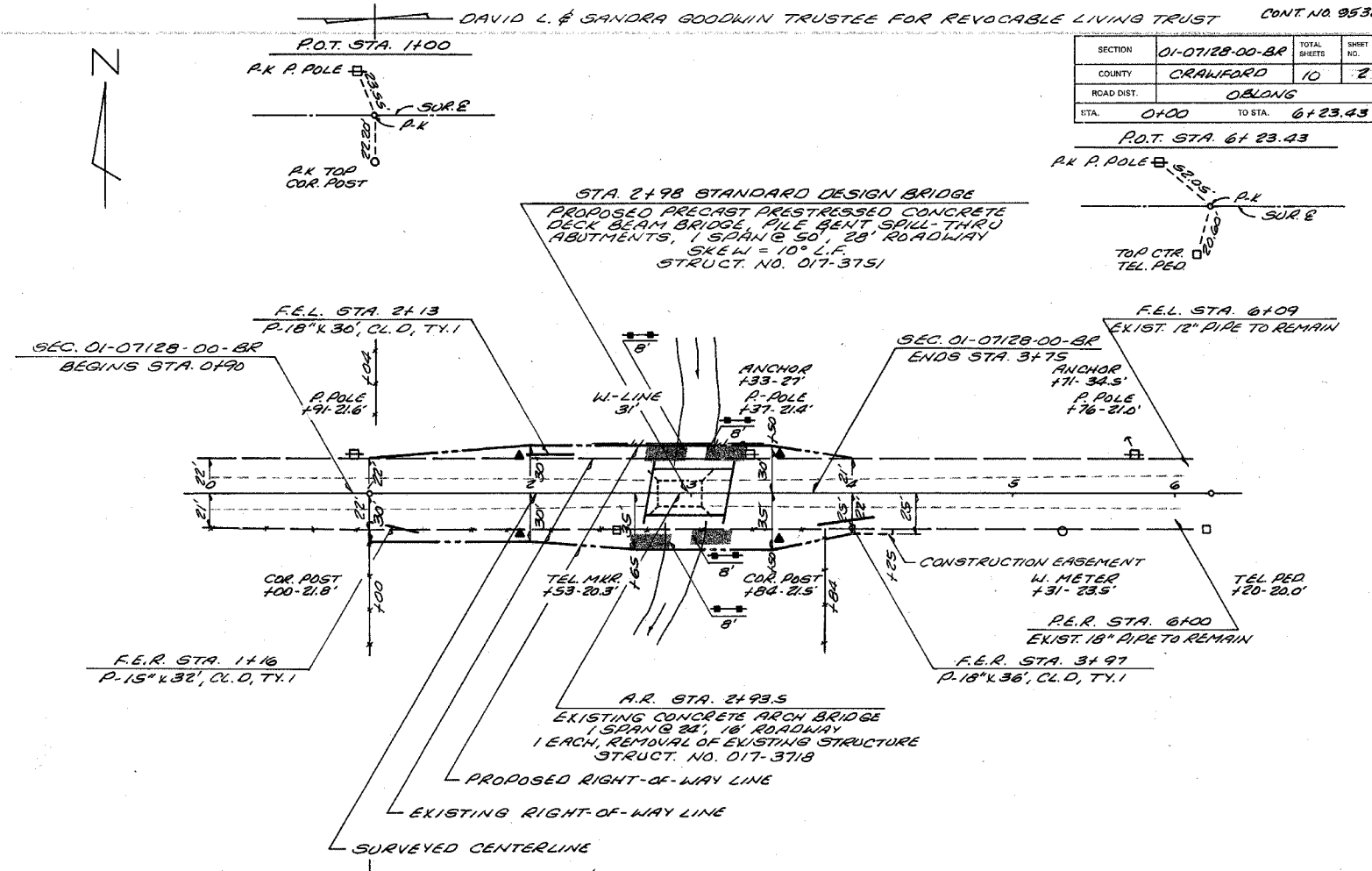
SECTION	01-07128-00-BR	TOTAL SHEETS	10	SHEET NO.	2
COUNTY	CRAWFORD				
ROAD DIST.	OBLONG				
STA.	0+00	TO STA.	6+23.43		



TYPICAL SECTION OF PROPOSED IMPROVEMENT



TYPICAL SECTION EXISTING ROADWAY



STONE RIPRAP DITCH

RT. STA. 2+60 TO 2+85	= 11 TON
LT. STA. 2+70 TO 2+95	= 11
RT. STA. 3+00 TO 3+25	= 11
LT. STA. 3+10 TO 3+35	= 11
TOTAL	= 44 TON

TEMPORARY DITCH CHECKS

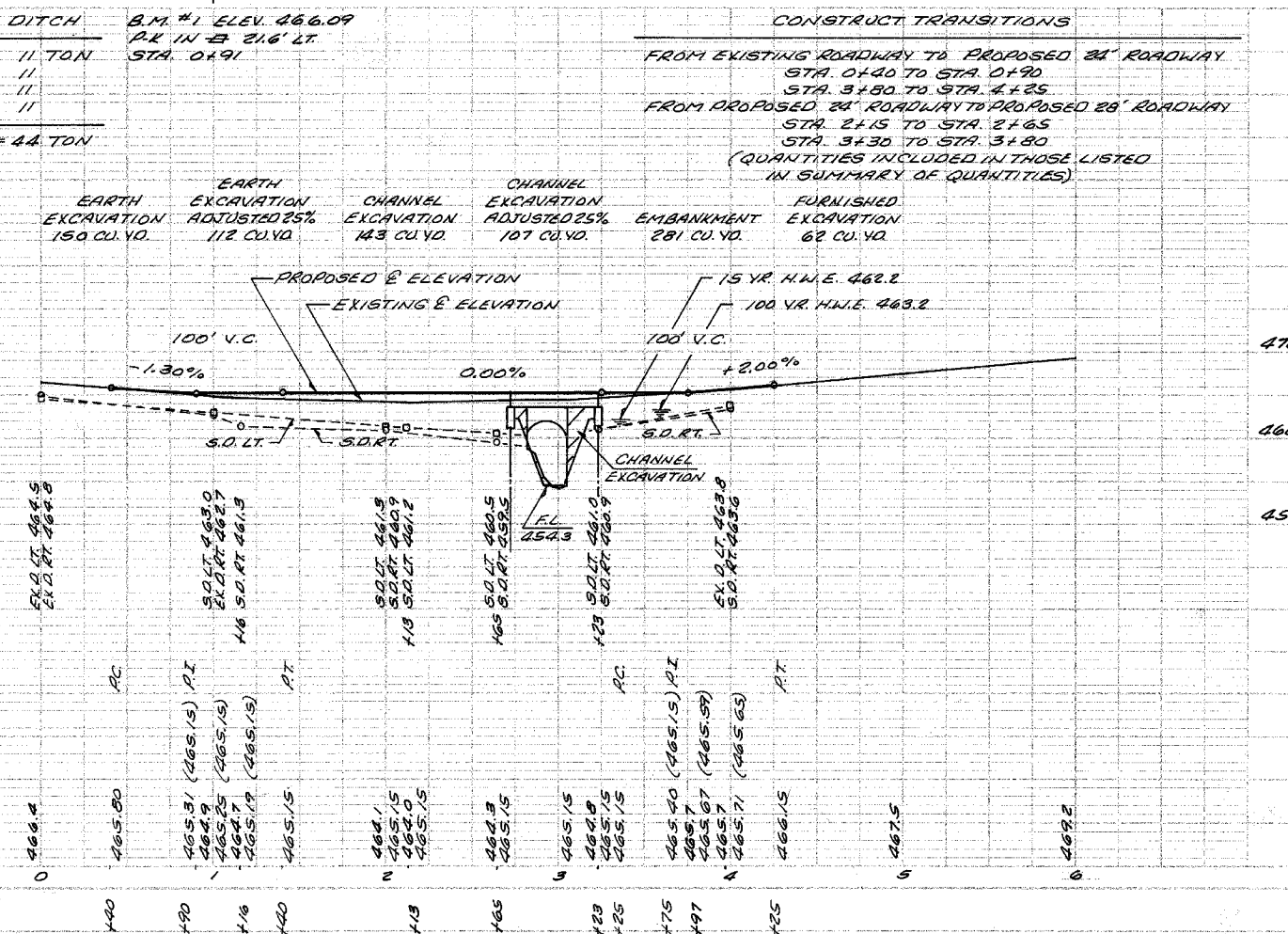
LT. STA. 1+95	= 1 EACH
RT. STA. 1+95	= 1
LT. STA. 3+50	= 1
RT. STA. 3+50	= 1
TOTAL	= 4 EACH

PERIMETER EROSION BARRIER

RT. STA. 2+85	= 8 FT
LT. STA. 2+90	= 8
RT. STA. 3+00	= 8
LT. STA. 3+15	= 8
TOTAL	= 32 FT

* PLACE AT TOP OF BANK

SEEDING CLASS 2 SPECIAL
STA. 0+40 - 4+25 = 0.30 ACRES



TELEPHONE: OTE COMMUNICATIONS
102 E. KIRKWOOD ST.
OQUIN, IL 62870
618-775-8222

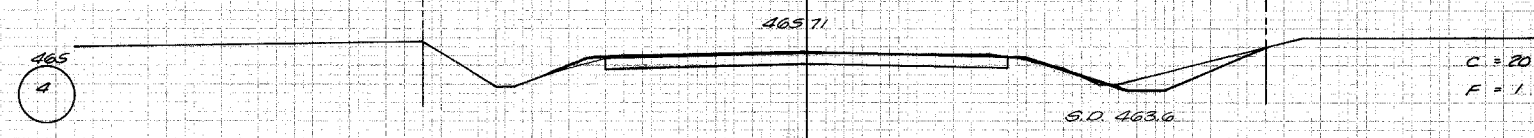
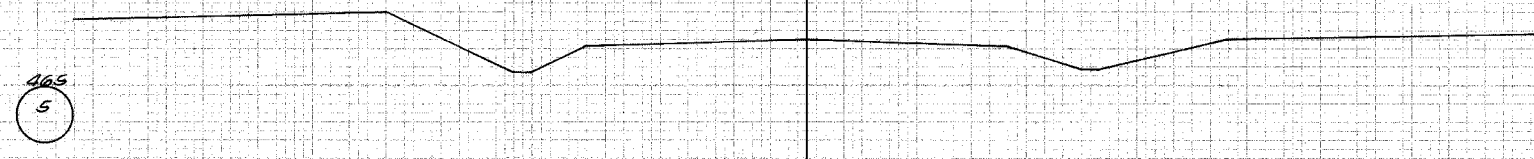
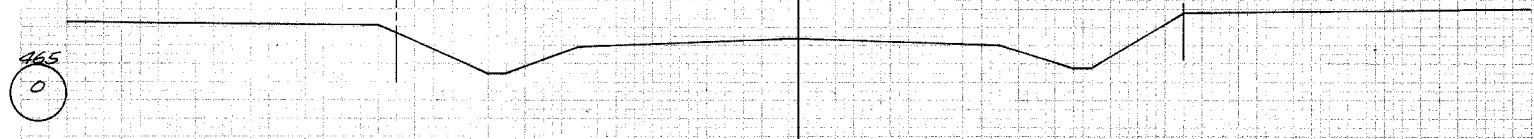
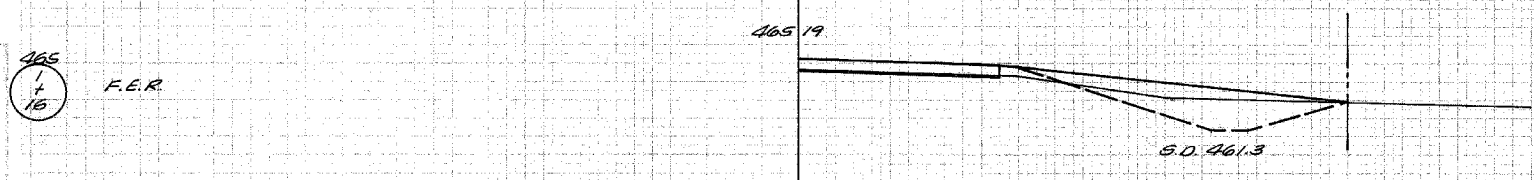
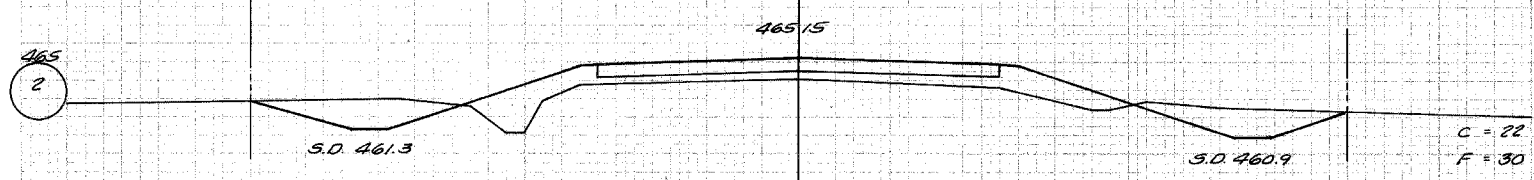
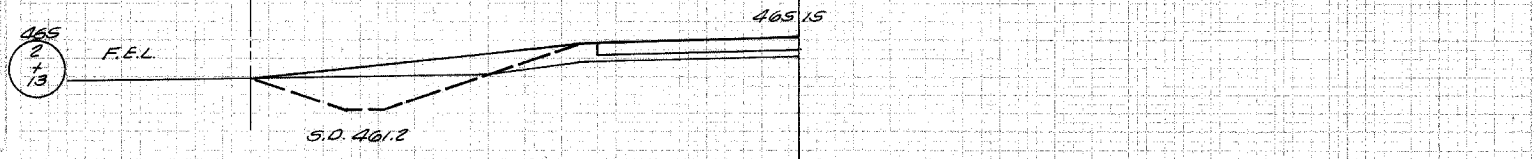
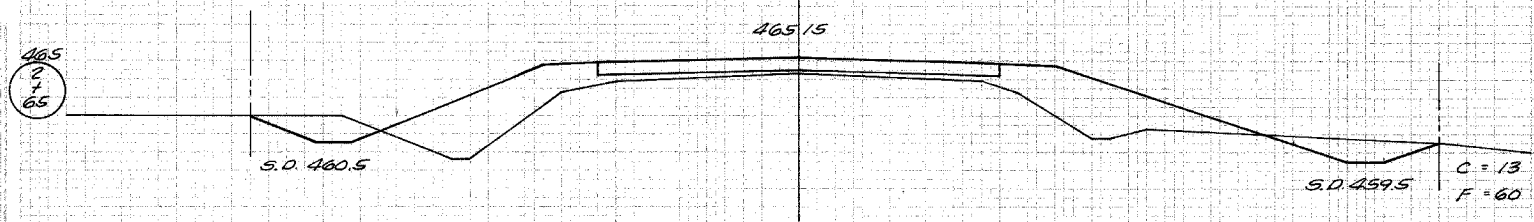
ELECTRIC: NORRIS ELECTRIC CO-OP
8543 NORTH STATE HIGHWAY
NEWTON, IL 62448
618-783-8765

WATER: HARDINVILLE WATER CO.
2400 NORTH 575TH STREET
ROBINSON, IL 62454
618-557-3550

PROJECT NO. 01-07128-00-BR
SHEET NO. 2 OF 10
DATE: 08/15/11
BY: [Signature]

SCALE: HORIZONTAL 1" = 40'
VERTICAL 1" = 10'

SECTION	01-07128-00-8R	TOTAL SHEETS	10	SHEET NO.	3
COUNTY	CRAWFORD	ROAD DIST.	OBLONG		
STA.	0+00	TO STA.	6+00		



PROJECT: _____
 DRAWN BY: _____
 CHECKED BY: _____
 DATE: _____

PROJECT: _____
 DRAWN BY: _____
 CHECKED BY: _____
 DATE: _____

B.M. - SEE PLAN-PROFILE

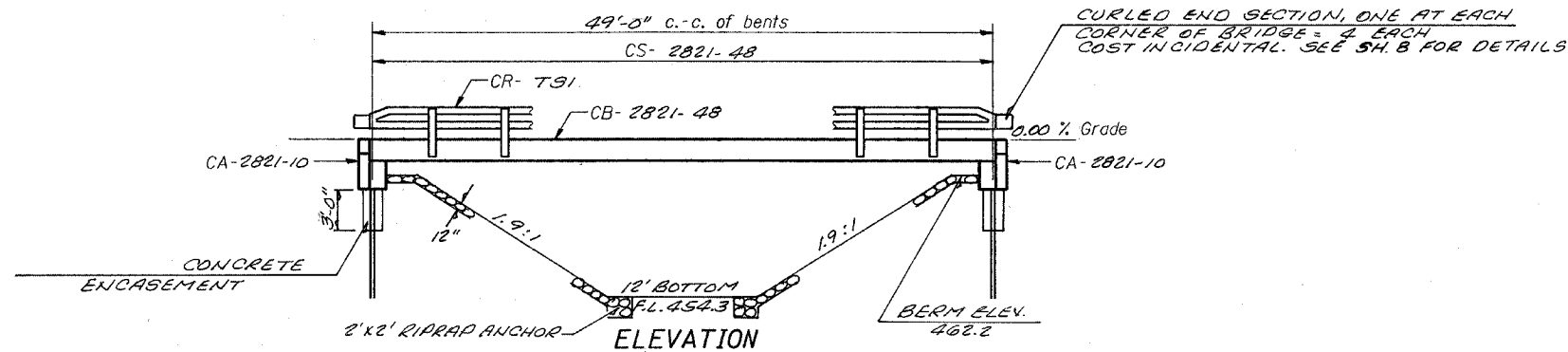
Existing Structure - SEE PLAN-PROFILE

Salvage - SEE SPEC. PROV.

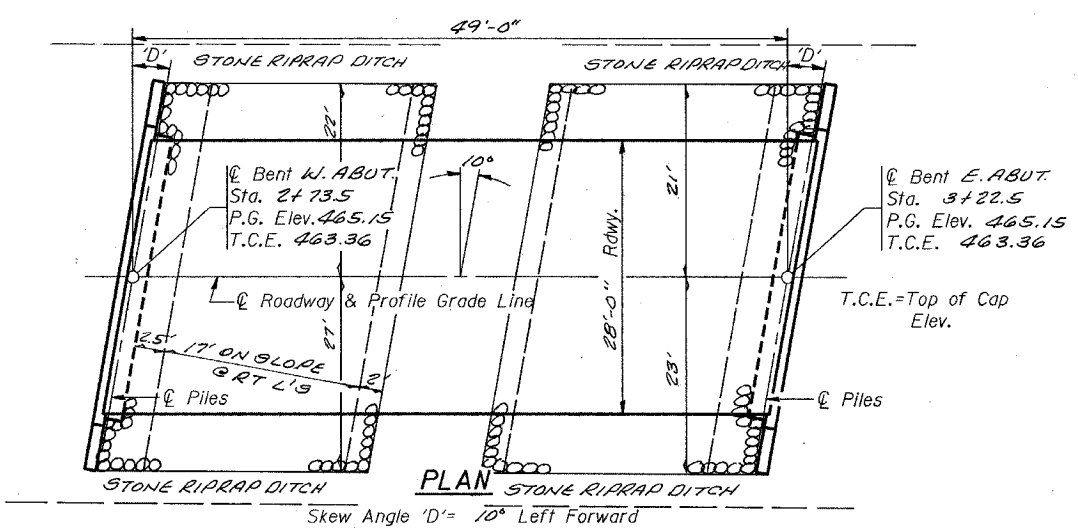
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
*	CRAWFORD	10	4	

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT

* 01-07128-00-BR



CURLED END SECTION, ONE AT EACH CORNER OF BRIDGE - 2 EACH COST INCIDENTAL. SEE SH. 8 FOR DETAILS



STONE DUMPED RIPRAP CLASS AA MINIMUM THICKNESS 12" WEST SIDE - 66 TON EAST SIDE - 59 TON TOTAL - 125 TON

GENERAL NOTES

- The Contractor shall drive 1 test piles, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See Special Provisions for boring logs.
- A Calcium Nitrite 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.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each				1
Bituminous Concrete Surface Course, Class 1	Ton				
Waterproofing Membrane System	Sq. Yd.				
Concrete Structures	Cu. Yd.			19.8	19.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1400			1400
Steel Bridge Rail, Type SM	Foot				
Steel Railing, Type S-1	Foot	100			100
Reinforcement Bars	Pound			1940	1940
Furnishing STEEL PILES HP10X42	Foot			360	360
Driving STEEL PILES	Foot			360	360
Test Piles STEEL HP10X42	Each			1	1
Name Plates	Each			1	1
Class SI Concrete Encasement	Cu. Yd.			2.6	2.6
STONE DUMPED RIPRAP CLASS AA	TON				125

NOTE:
The Article or Section numbers referencing the Standard Specifications for Road and Bridge Construction as shown on the standard bridge plan sheets included with the contract plans should be interpreted as referring to the current edition of the Standard Specification (Adopted January 1, 1997) as shown in the "Article/Section No. Reference Table".

ARTICLE/SECTION NO. REFERENCE TABLE

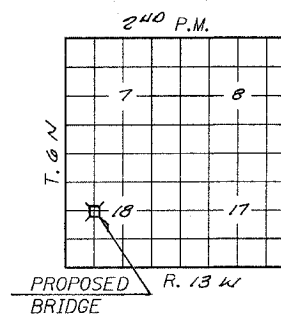
Previous No.	Current No.
504.06	504.06
505.04	505.04
706.05	1006.05
706.32	1006.32
760.07	1060.07

PILE DATA (2-ABUTS.)

Type STEEL HP 10x42
Capacity 50 Tons
Estimated Length 40 Feet
Number Required 10 (Includes 1 Test Pile located in Bent #1) W. ABUT.

LETTERING FOR NAME PLATE

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



PROPOSED BRIDGE LOCATION SKETCH

INDEX OF SHEETS

- General Plan & Elevation
- Standard CS-2821-50L
- Standard CB-2821-48
- Standard CA-2821-10
- Standard CR-T91
- Standard CN
- Standard CX-1
- Standard
- Standard

WATERWAY INFORMATION

Drainage Area = 2.84		Low Grade Elev. = 465.15 @ Sta.					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Nat. H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.	
Design	15	818	* **	462.2 0.8	0	463.0	462.0
Base	100	1323	*** ****	463.2 1.7	0.4	464.9	463.6
Overtopping							
Max. Calc.	500	1736		463.5 1.7	1.0	465.2	464.5

BR APP
* 133 0
** 202 0
*** 133 0
**** 248 0

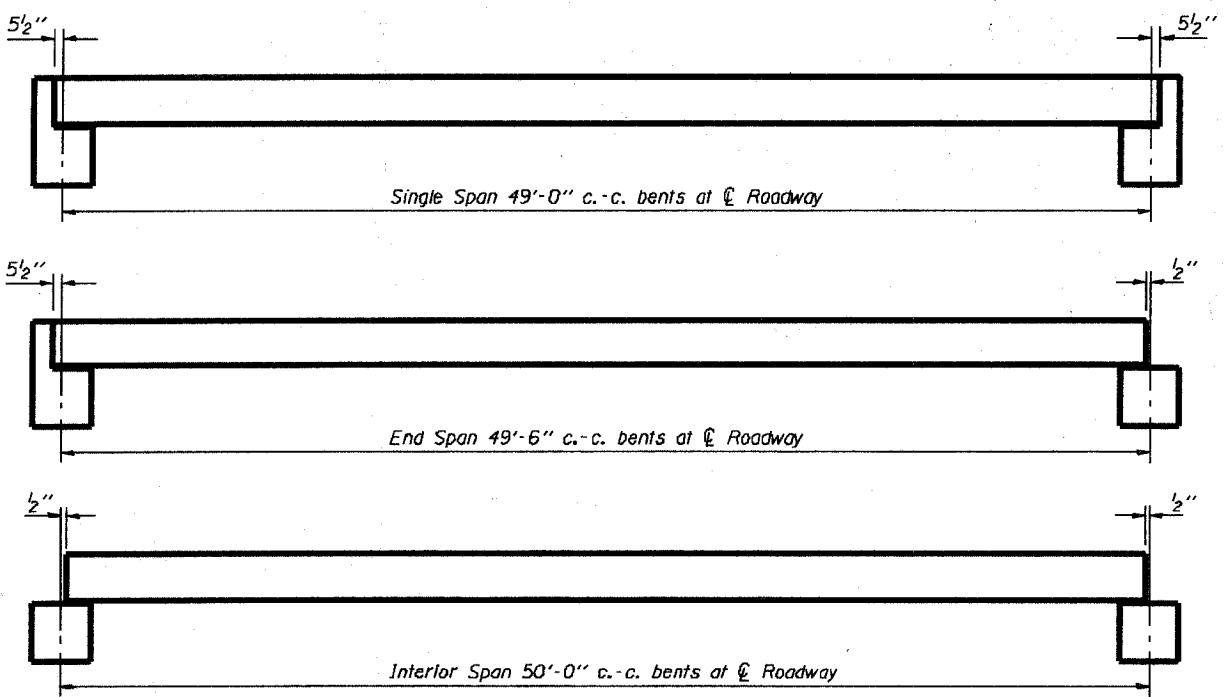
DESIGN SPECIFICATIONS

1996 AASHTO, HS20-44 Loading. Load Factor Design.

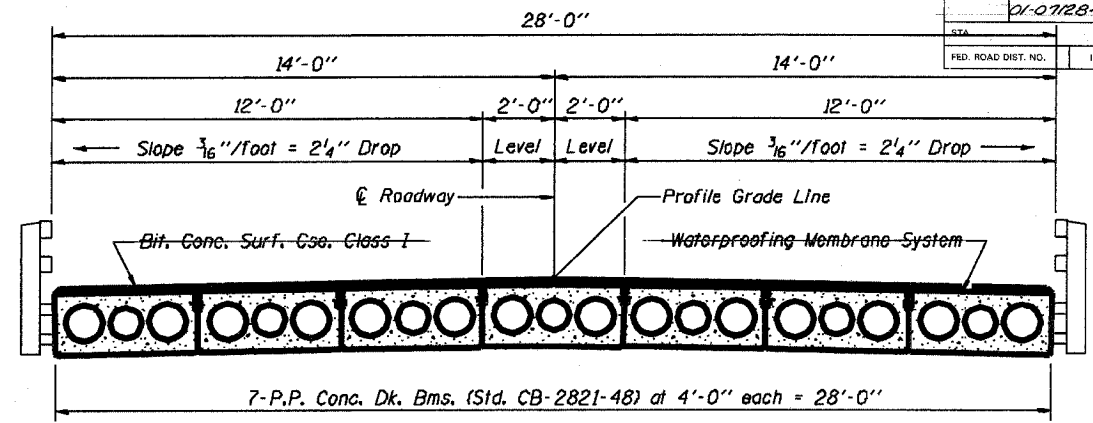
GENERAL PLAN & ELEVATION

TR ROUTE 203
OVER FREEPORT CREEK
SECTION 01-07128-00-BR
CRAWFORD COUNTY
STATION 2198

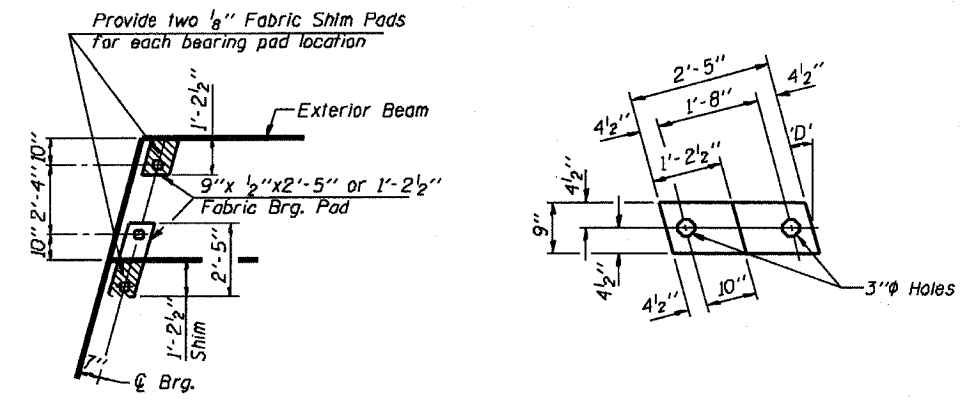
P.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
01-07128-00-88	CRAWFORD		10	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



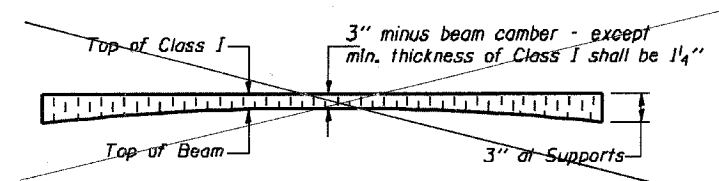
TYPICAL ELEVATIONS



CROSS SECTION



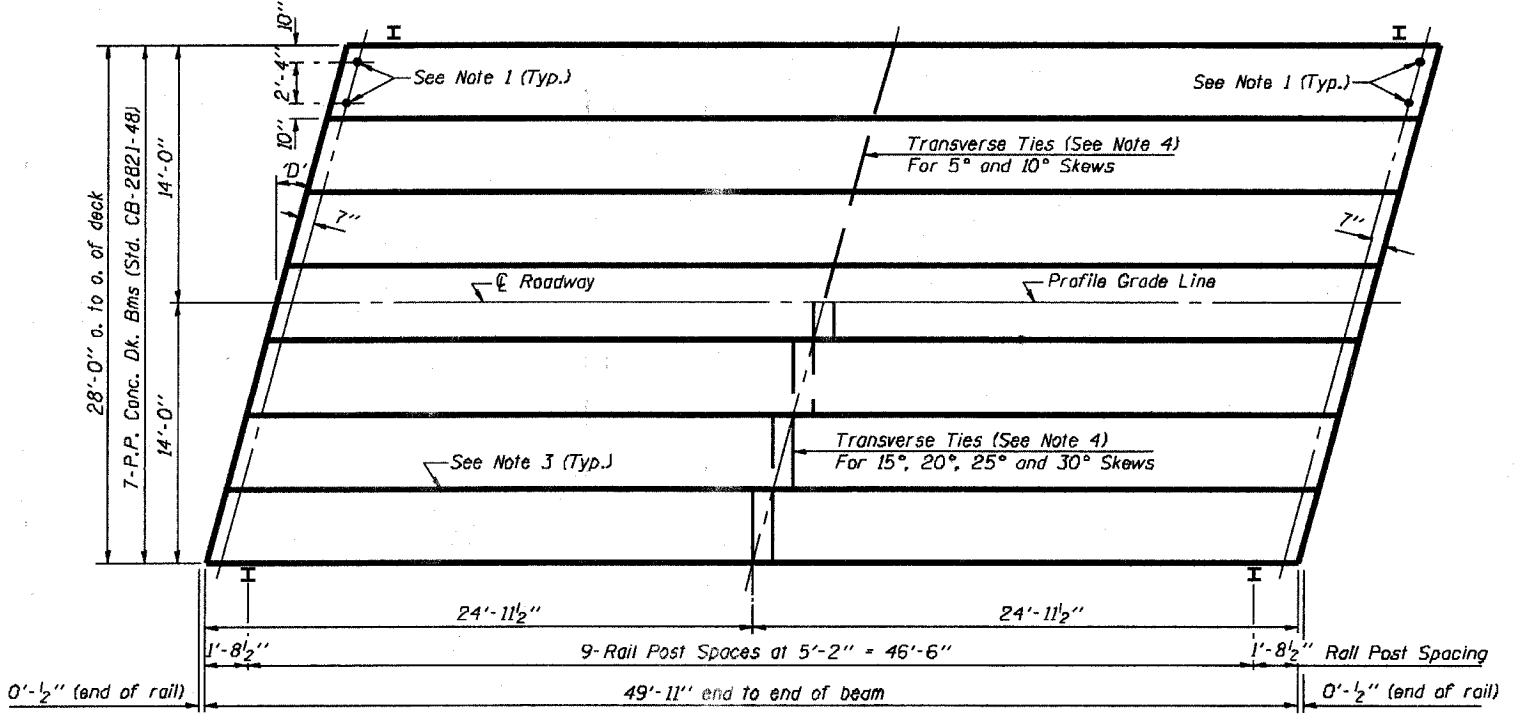
1/2" FABRIC BRG. PAD DETAILS



PROFILE OF OVERLAY

DIMENSIONS 'A' AND 'B'

'D'	5°	10°	15°	20°	25°	30°
A	1 1/2"	1 5/8"	1 3/4"	1 7/8"	2 1/4"	2 5/8"
B	7 1/2"	7 5/8"	7 3/4"	8"	8 1/4"	8 5/8"

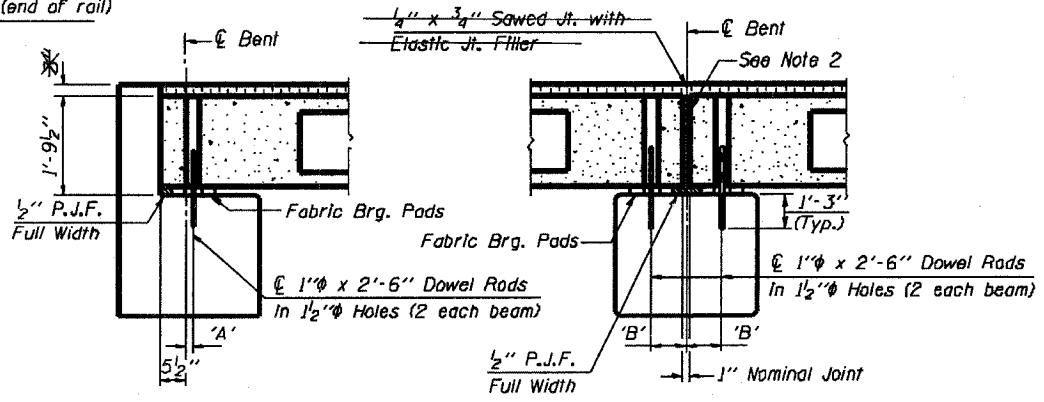


PLAN

('D' = Designated Skew Angle)

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 \bar{C} Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted with non-shrink grout.
4. The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar outside shall be filled with grout after transverse tie assembly is in place.



SECTION AT ABUTS
(Along \bar{C} Beams)

SECTION AT PIERS
(Along \bar{C} Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 21" Dp.	1400 Sq. Ft.
Steel Railing	100 Ft.
Bit. Conc. Surf. Cse. Class I	19.0 Tons
Waterproofing Membrane System	155.6 Sq. Yds.

P.P.C. DECK BEAM SUPERSTRUCTURE

28' RDWY. | 21" BMS. | 50' SPAN | LEFT

STANDARD CS-2821-50L

Illinois Department of Transportation

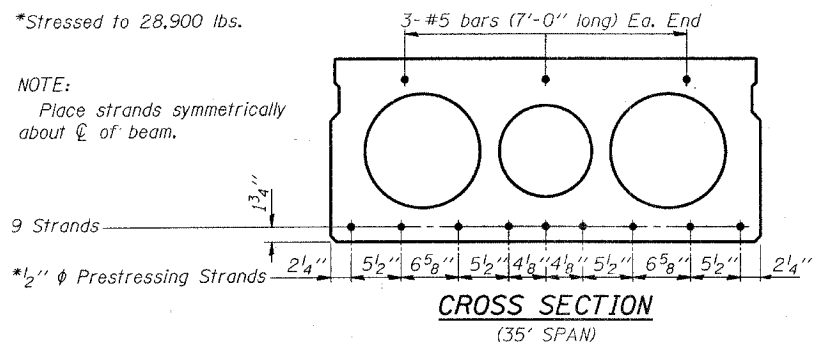
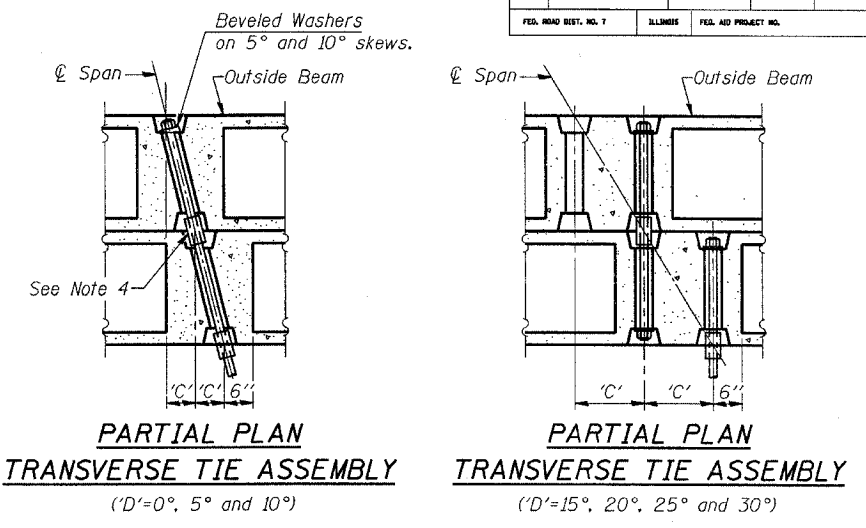
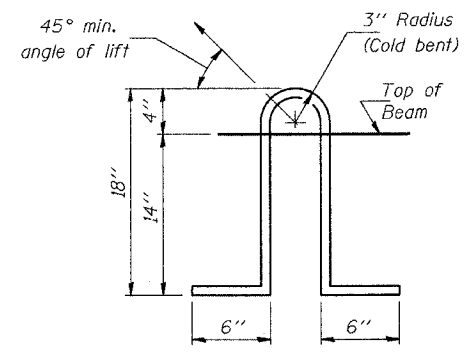
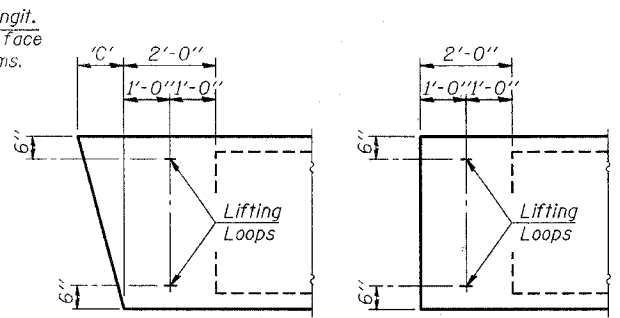
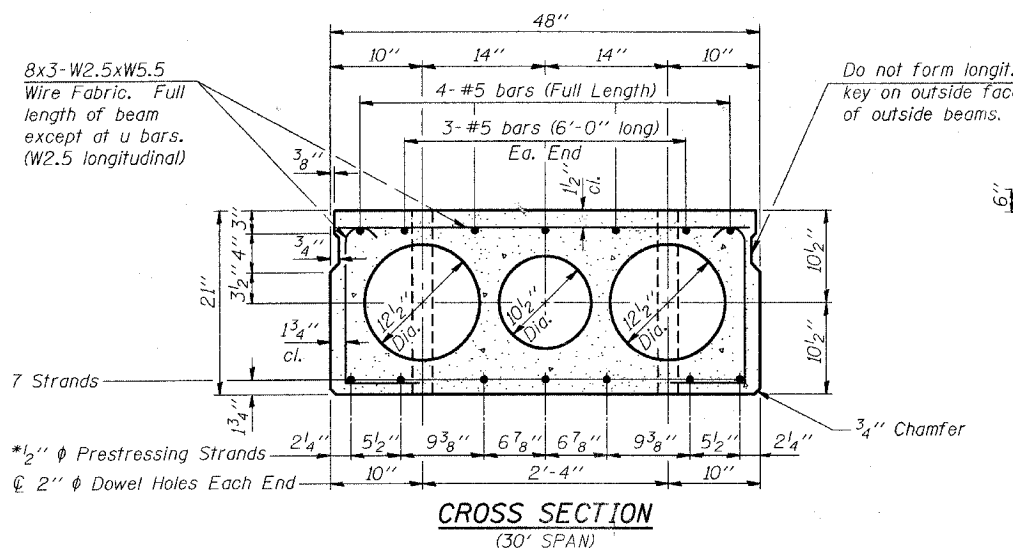
PASSED NOVEMBER 1, 1995

Engineer of Bridge Design

APPROVED NOVEMBER 1, 1995

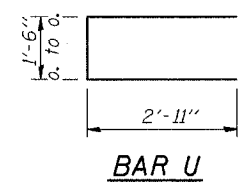
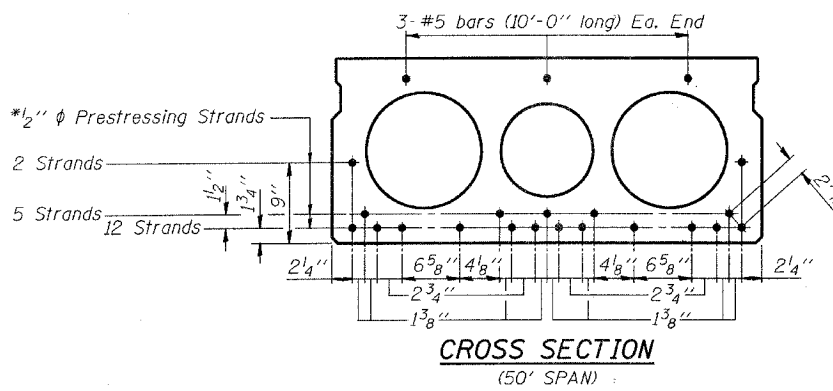
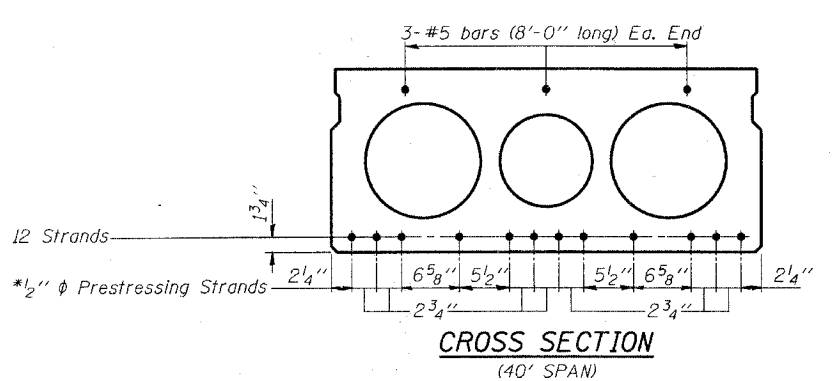
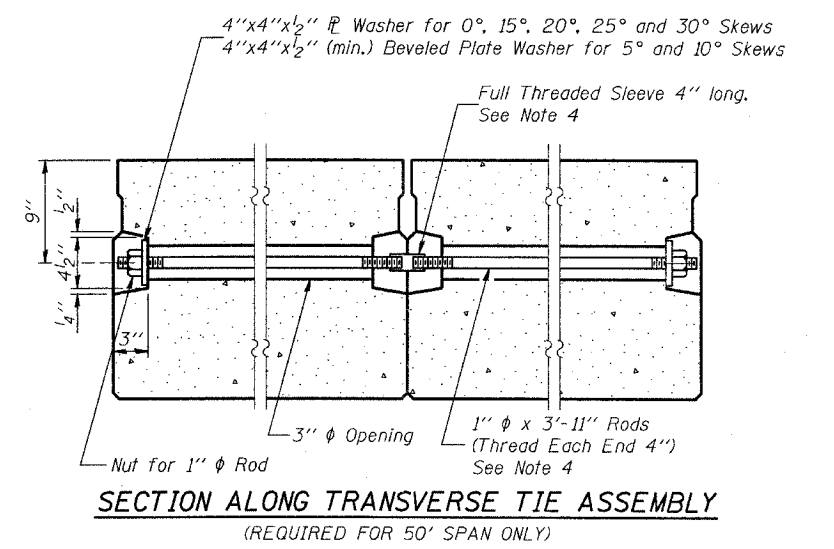
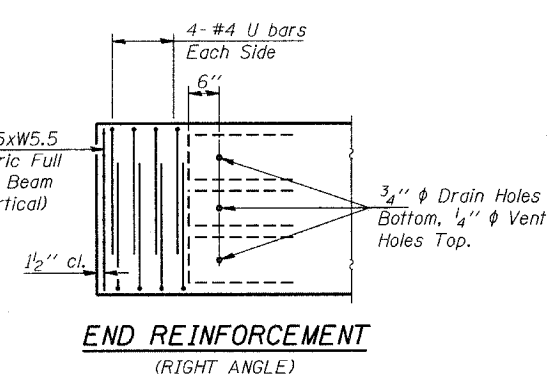
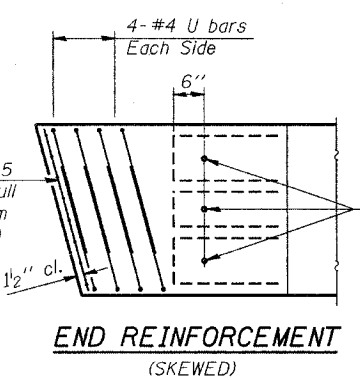
Engineer of Bridges and Structures

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
01-D7128-00-48	CRAW	10	6



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



DESIGN STRESSES

- $f'_c = 5,000$ p.s.i.
- f'_{ci} = (See Required Release Strength Table)
- $f'_s = 270,000$ p.s.i. (1/2" ϕ Strand)
- $f_{si} = 189,000$ p.s.i. (1/2" ϕ Strand)
- $f_y = 60,000$ p.s.i.

REQUIRED RELEASE STRENGTH

Span	f'_{ci} (psi)
30'	4,000
35'	4,000
40'	4,000
50'	4,000

- NOTES**
- Prestressing steel shall be uncoated high strength, stress relieved 7-wire strand, Grade 270.
 - The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
 - Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
 - On 0°, 5° and 10° skews, alternate approved transverse tie rods of increased segmental length are acceptable.
 - Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
 - When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. 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".
 - Low-relaxation strands may be substituted for the stress relieved strands. The initial prestressing force applied to each strand shall be the same as for the stress relieved strands (28,900 lbs.).
 - 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.

Illinois Department of Transportation

PASSED NOVEMBER 1, 1995

Engineer of Bridge Design

APPROVED NOVEMBER 1, 1995

Engineer of Bridges and Structures

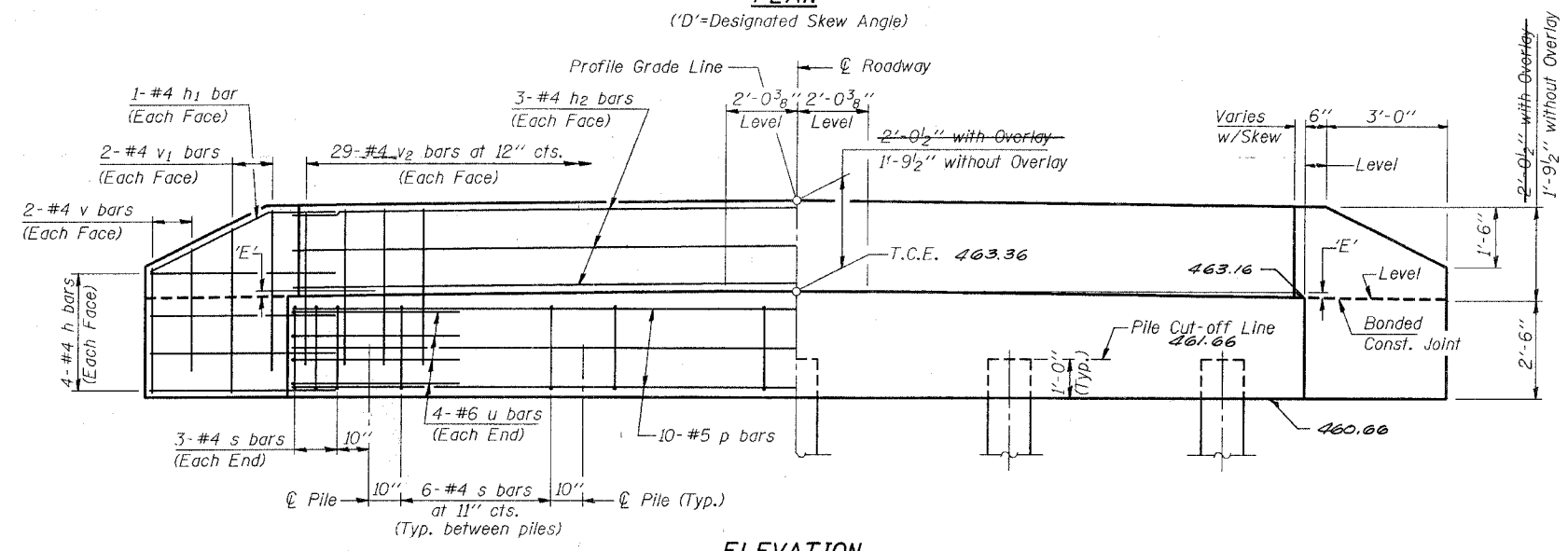
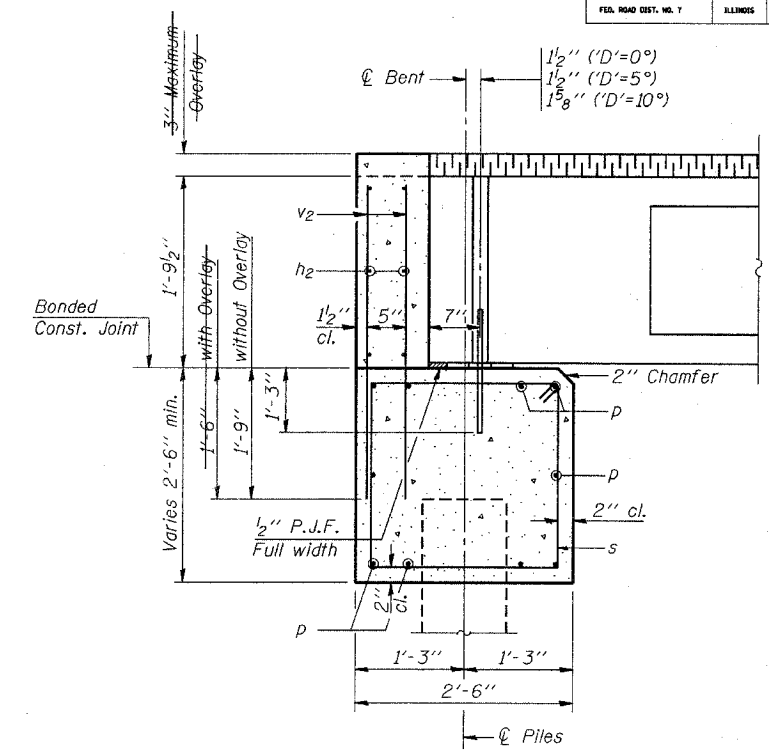
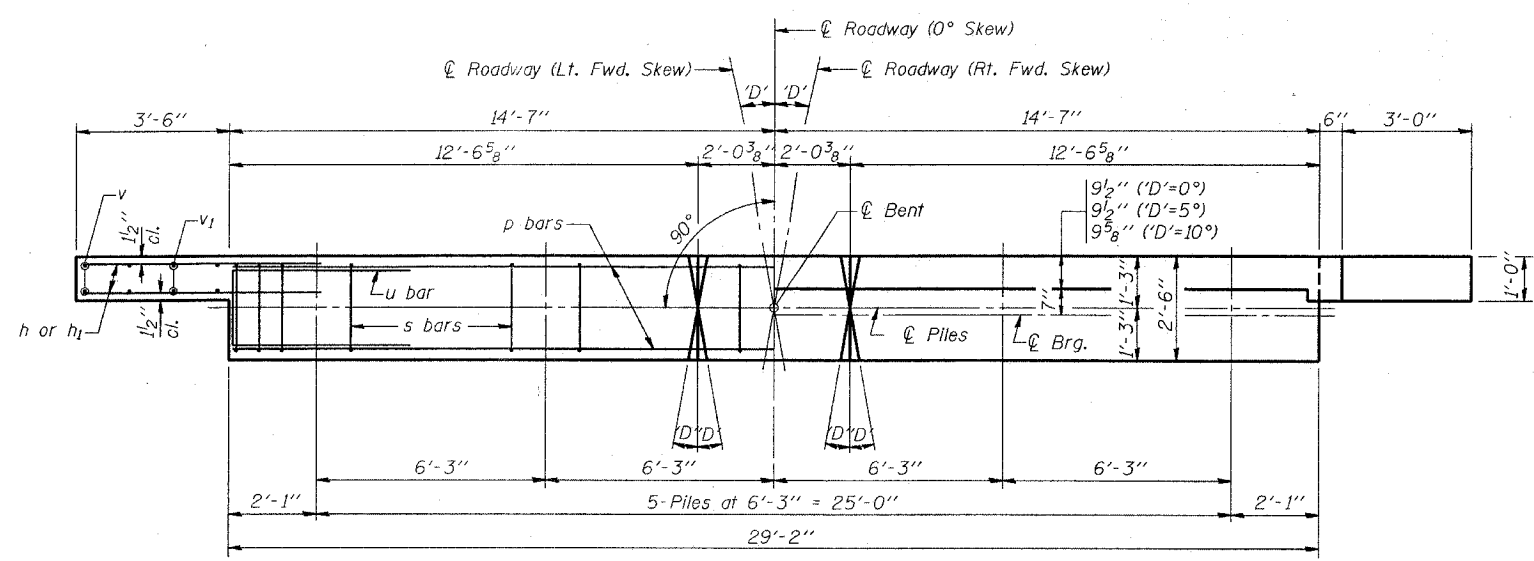
NOTE: The std. reinf. shown on the 30' span cross section is typical for all spans, except as shown.

P.P.C. DECK BEAM DETAILS

28' ROADWAY 21" x 48" BEAMS

STANDARD CB-2821-48

REL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FEL. ROAD DIST. NO. 7		ILLINOIS	FEL. AID PROJECT NO.	

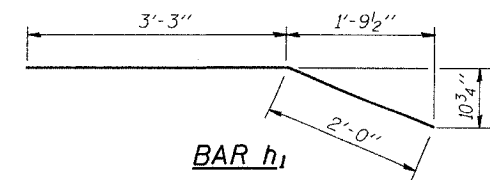
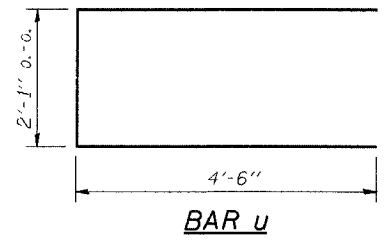
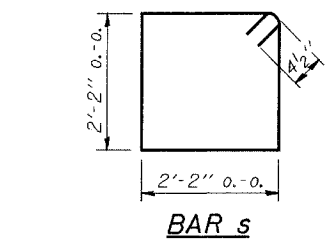


DIMENSION 'E'

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

- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.



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	#5	28'-10"	—
s	30	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	2'-8"	—
v1	8	#4	3'-8"	—
v2	58	#4	3'-5"	—
Concrete Structures			9.9 Cu. Yds.	
Reinforcement Bars			970 Lbs.	

MAXIMUM PILE LOADS

SPAN	TONS
30'	25
35'	27
40'	29
50'	33

DESIGN STRESSES

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

P.P.C. DECK BEAMS	
PILE BENT ABUTMENT	
28' RDWY.	21" BMS. 'D'=0°, 5° OR 10°
STANDARD CA-2821-10	

Illinois Department of Transportation

PASSED November 1, 1995

Greg J. Kasper
Engineer of Bridge Design

APPROVED November 1, 1995

Ralph E. Anderson
Engineer of Bridges and Structures

ISSUED 1-1-81

NOTES		F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
		01-0712B-00-BR	CRAWFORD		10	8

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 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 A-307 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 in accordance with AASHTO M-232.

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

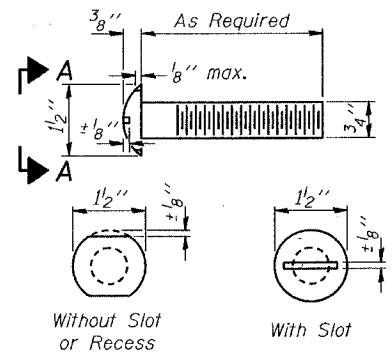
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing, Type S-1.

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

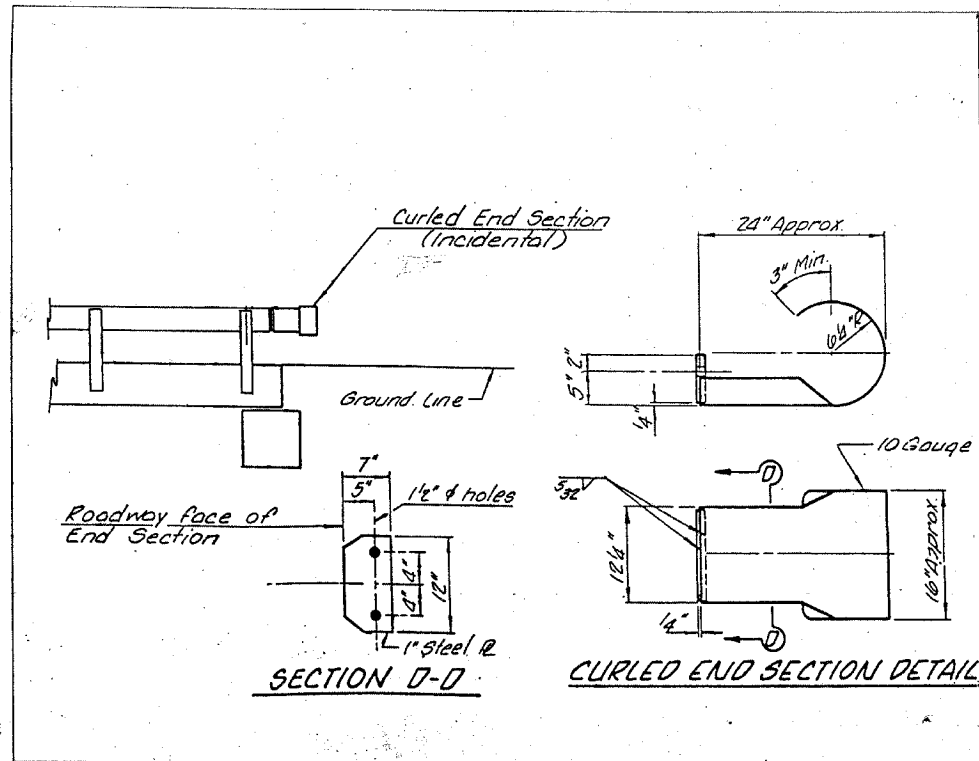
The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 760.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.

The 3/4" high strength bolts used to connect the 6" x 4" x 3/4" angles to the post shall be tightened in accordance with Article 505.04 (f) (3) of the Standard Specifications. The 1" 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" cap screws in bottom of posts shall be tightened to a snug fit only.

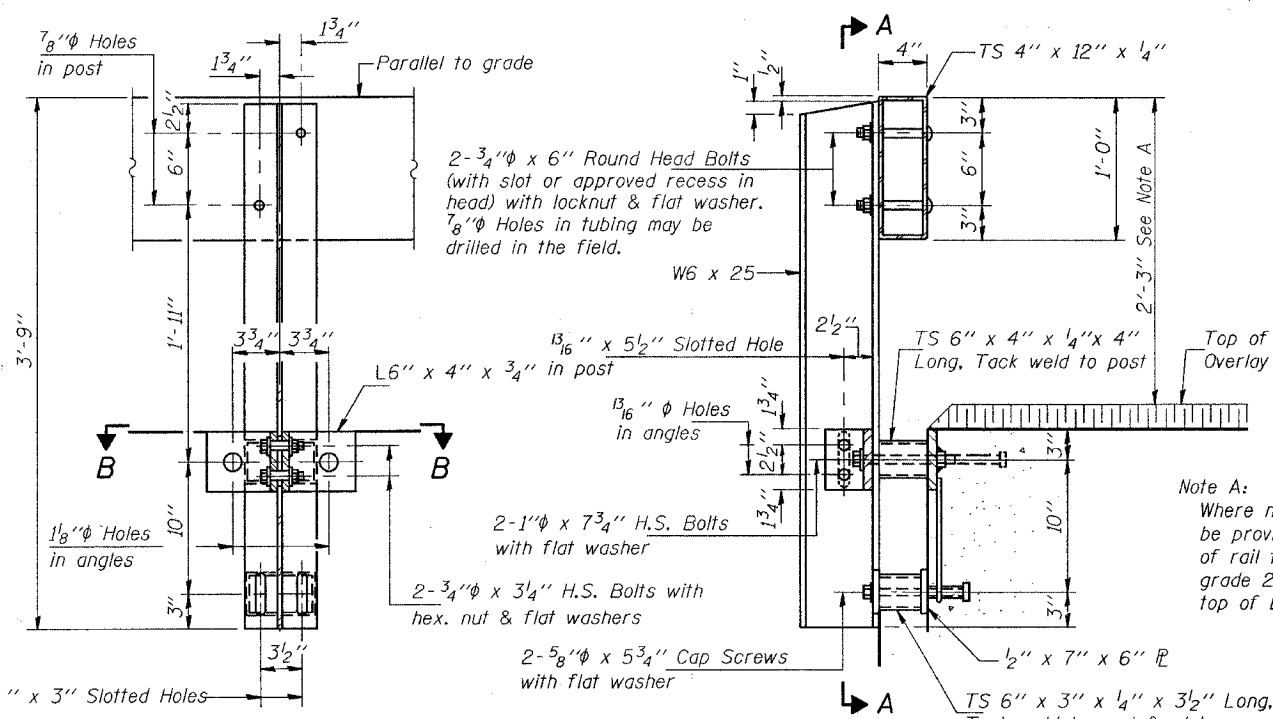
The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6"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



VIEW A-A
ROUND HEAD BOLT

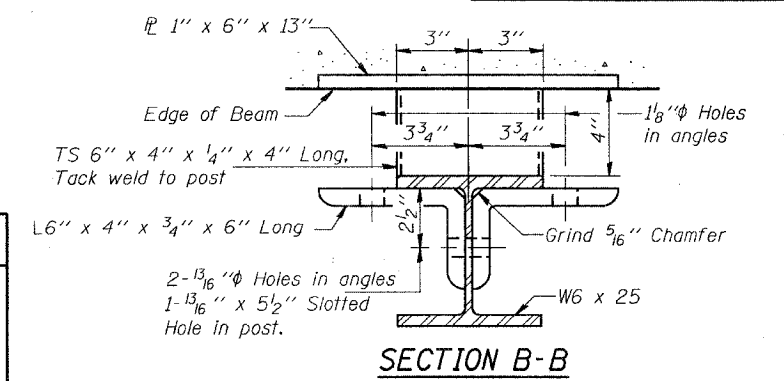


SECTION D-D
CURLED END SECTION DETAIL

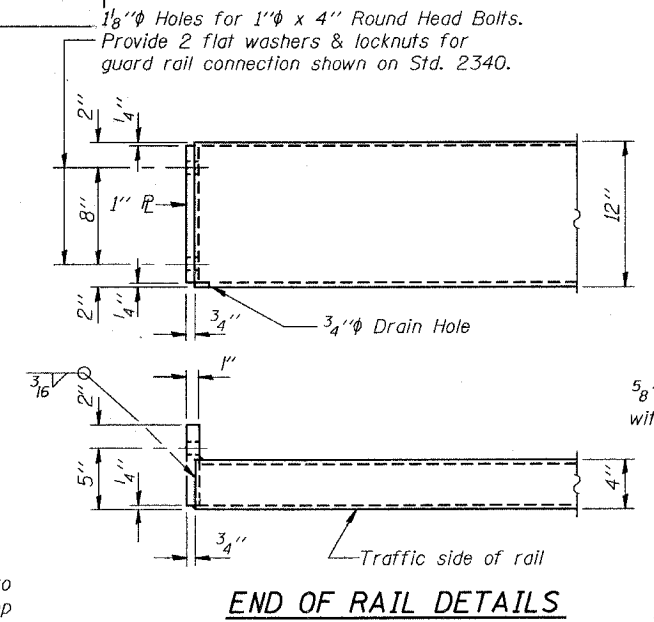


SECTION A-A

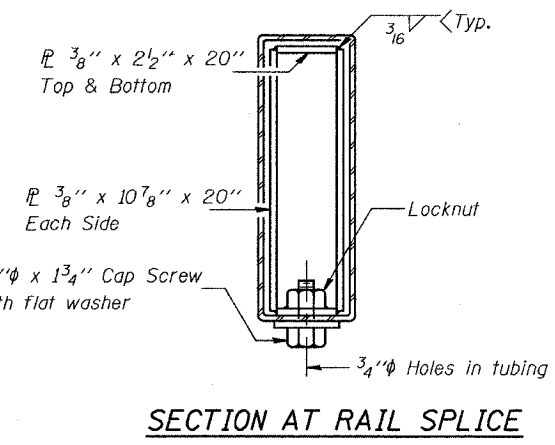
SECTION AT RAIL POST



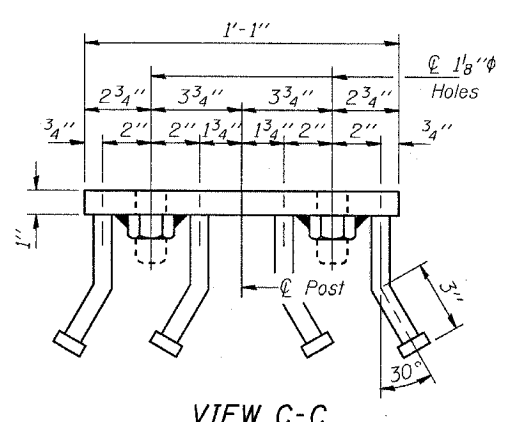
SECTION B-B



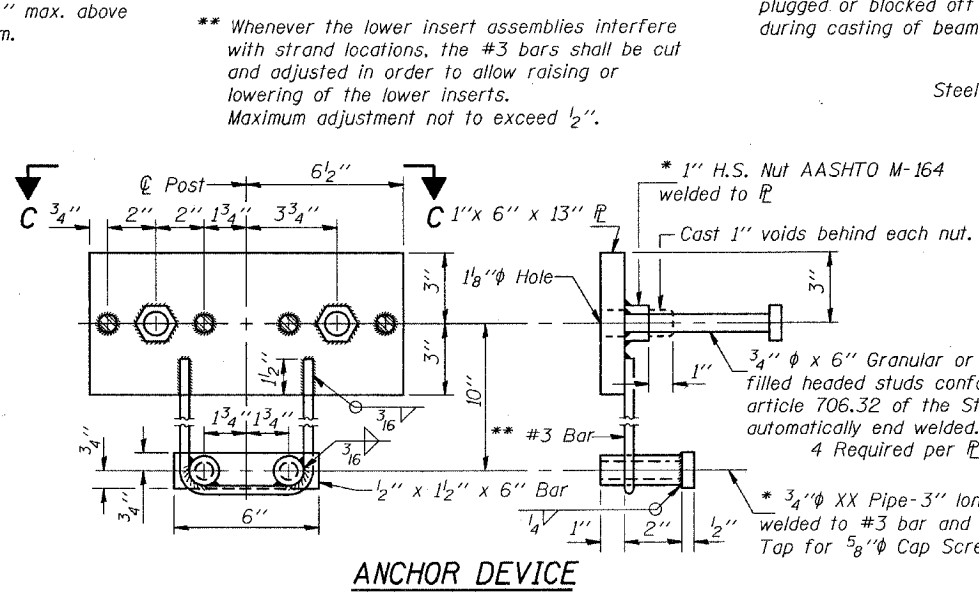
END OF RAIL DETAILS



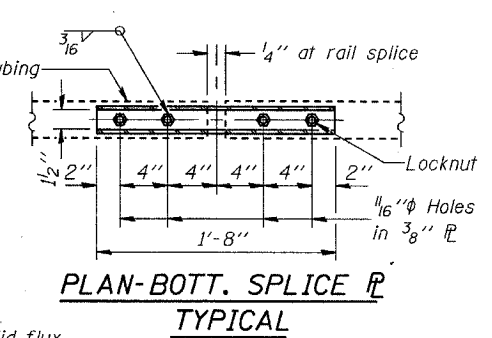
SECTION AT RAIL SPLICE



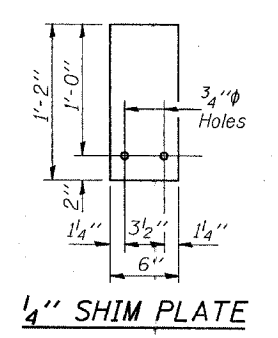
VIEW C-C



ANCHOR DEVICE



PLAN-BOTT. SPLICE TYPICAL



1/4" SHIM PLATE

* 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".

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.

Illinois Department of Transportation

PASSED November 1, 1995

Draj D. Kasper
Engineer of Bridge Design

APPROVED November 1, 1995

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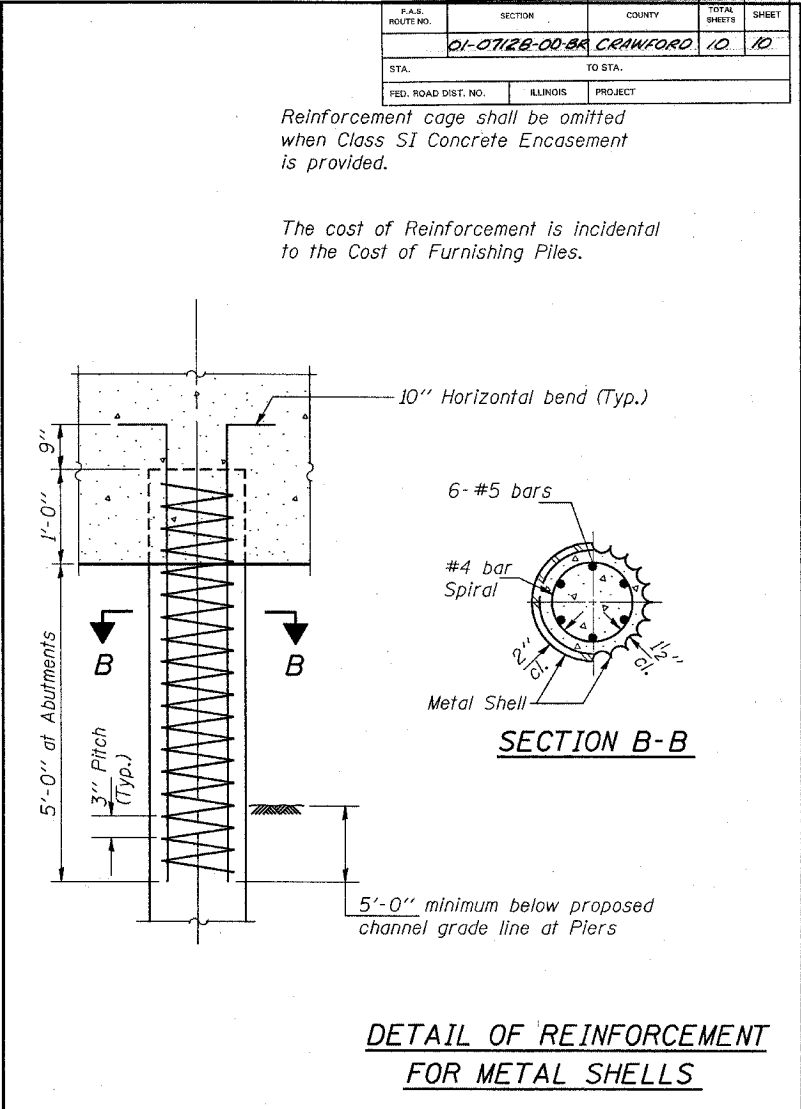
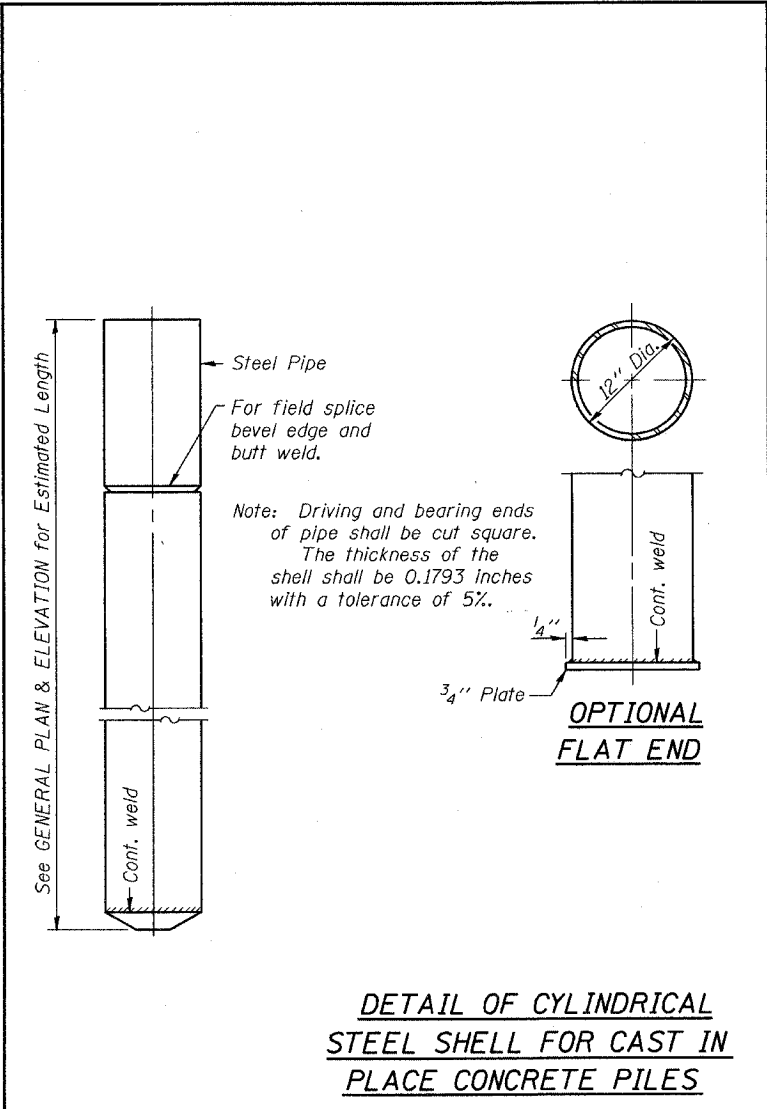
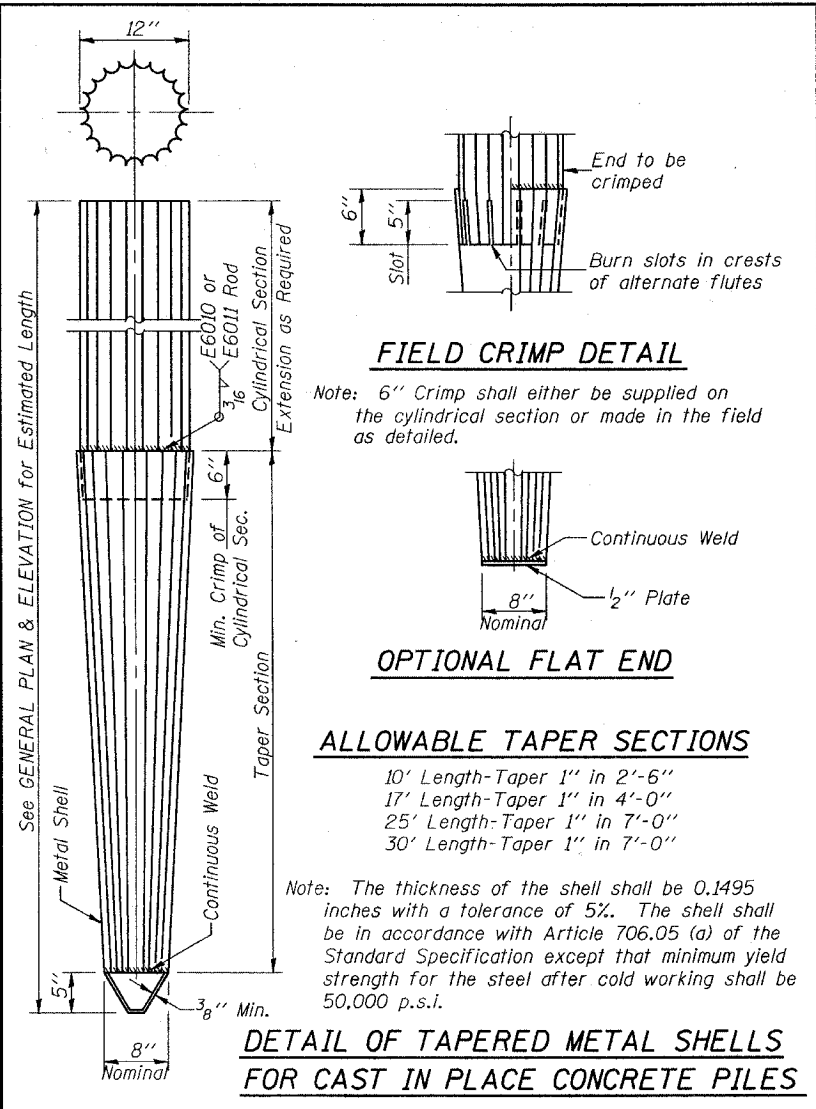
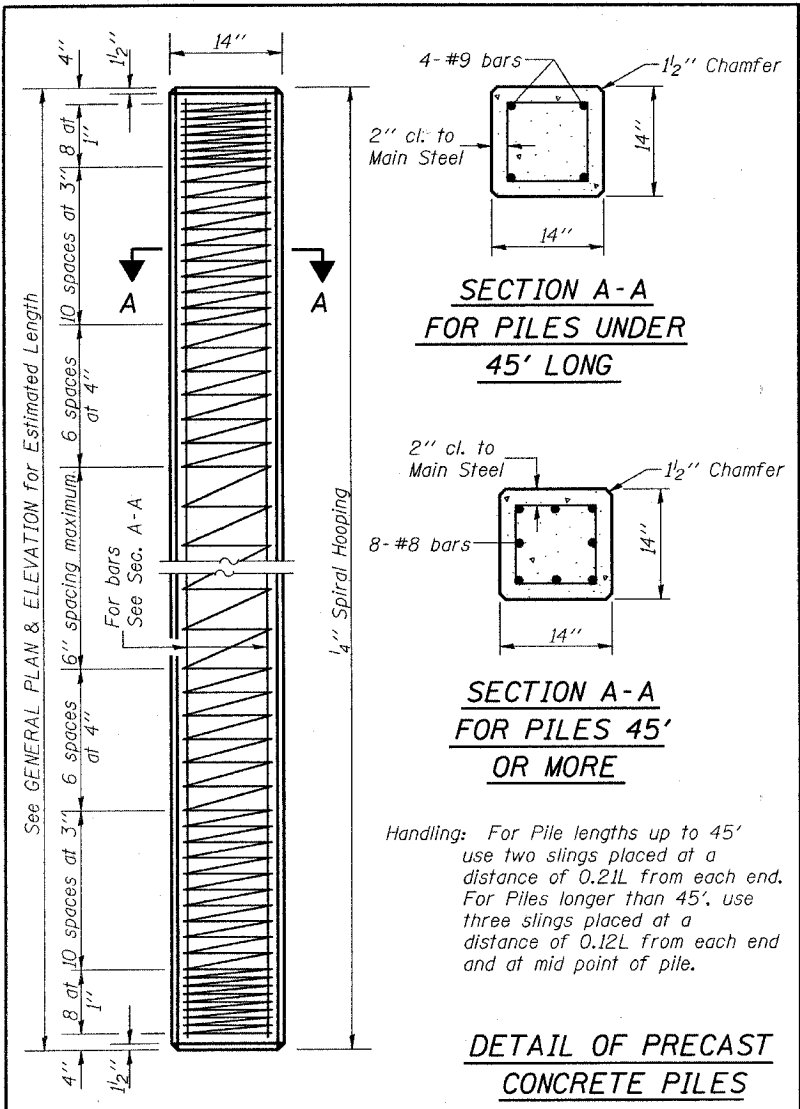
ISSUED 11-1-95

STEEL RAILING, TYPE S-1
STANDARD CR-TS1

P.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
01-07128-00-8A		CRANFORD	10	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

Reinforcement cage shall be omitted when Class SI Concrete Encasement is provided.

The cost of Reinforcement is incidental to the Cost of Furnishing Piles.



Illinois Department of Transportation

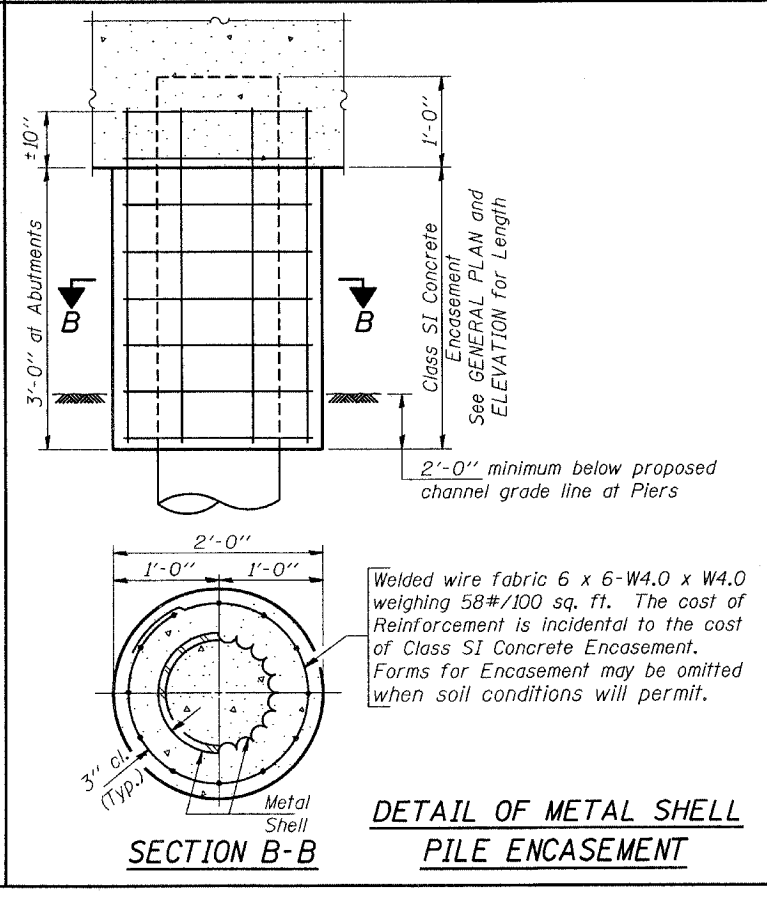
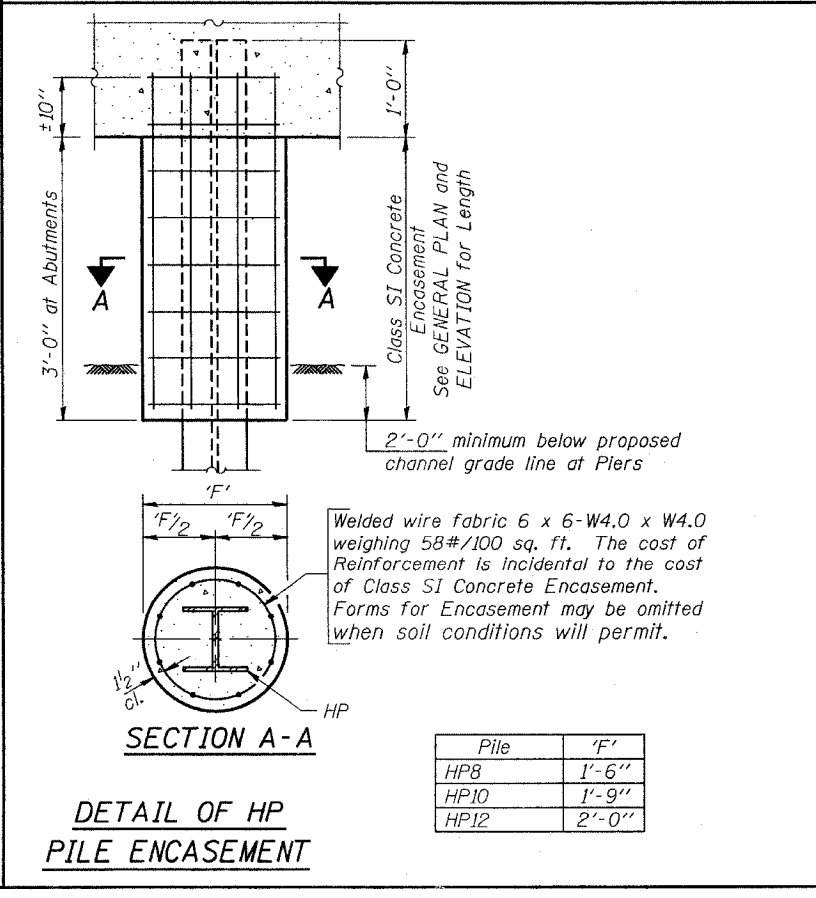
PASSED November 1, 1995

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Engineer of Bridge Design

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ISSUED I-1-B



QUANTITIES/LIN. FT. OF ENCASEMENT (STEEL PILES)

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

(METAL SHELL PILES)

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

PILE DETAILS

STANDARD CX-1