

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PLANS FOR PROPOSED  
 FEDERAL-AID H. B. P. PROGRAM

T. R. 587  
 WAYNE COUNTY  
 SECTION 03-07118-00-BR  
 STRUCTURE NO. 096-3440  
 PROJECT NO. BROS-191(51)  
 JOB NO. C-97-136-06

INDEX OF SHEETS

- 1 COVER SHEET
- 2 PLAN & PROFILE
- 3 CROSS SECTIONS
- 4-11 BRIDGE PLANS

STANDARDS: 280001-02 - EROSION CONTROL  
 702001-06 - TRAFFIC  
 BLR 21-6 - TRAFFIC  
 BLR 22-4 - TRAFFIC

SCALES

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

SUMMARY OF QUANTITIES

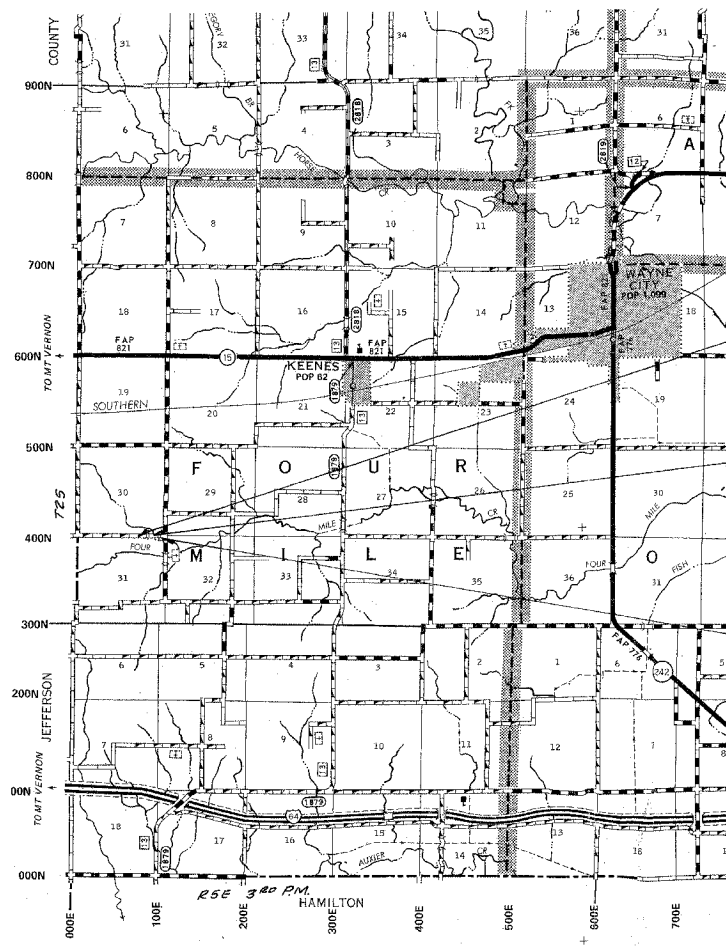
QUANTITY	UNIT	ITEMS	CODE NO.
34	UNIT	TREE REMOVAL (OVER 15 UNITS DIAMETER)	20100210
133	CU YD	EARTH EXCAVATION	20200100
83	CU YD	CHANNEL EXCAVATION	20300100
603	CU YD	FURNISHED EXCAVATION	20400800
0.5	ACRE	SEEDING, CLASS 2 (SPECIAL)	25001000
4	EACH	TEMPORARY DITCH CHECKS	28000300
68	FOOT	PERIMETER EROSION BARRIER	28000400
80	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
397	TON	AGGREGATE BASE COURSE, TYPE B	35101400
30	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
20.2	CU YD	CONCRETE STRUCTURES	50300225
1200	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	50400405
2200	POUND	REINFORCEMENT BARS	50800105
100	FOOT	STEEL RAILING, TYPE S1	50900205
455	FOOT	FURNISHING STEEL PILES HP 10X42	51201400
455	FOOT	DRIVING STEEL PILES	51202700
1	EACH	TEST PILE STEEL HP 10X42	51203400
2.1	CU YD	CONCRETE ENCASUREMENT	51204315
1	EACH	NAME PLATES	51500100
38	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 24"	542D0229
1	L SUM	MOBILIZATION	67100100
1	L SUM	TRAFFIC CONTROL AND PROTECTION	70101700

FUNCTIONAL CLASS: LOCAL ROAD  
 ADT = 75  
 DESIGN SPEED = 30 MPH

CONTRACT NO. 95486

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

PROFESSIONAL DESIGN FIRM #184-000832



LOCATION MAP


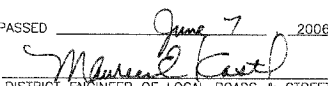
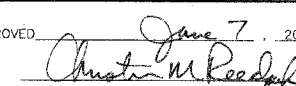
APPROXIMATE SCALE: 1 INCH = 1 MILE  
 NET LENGTH = 475 L.F. = 0.090 MILES

SECTION 03-07118-00-BR  
 BEGINS STA. 1+50

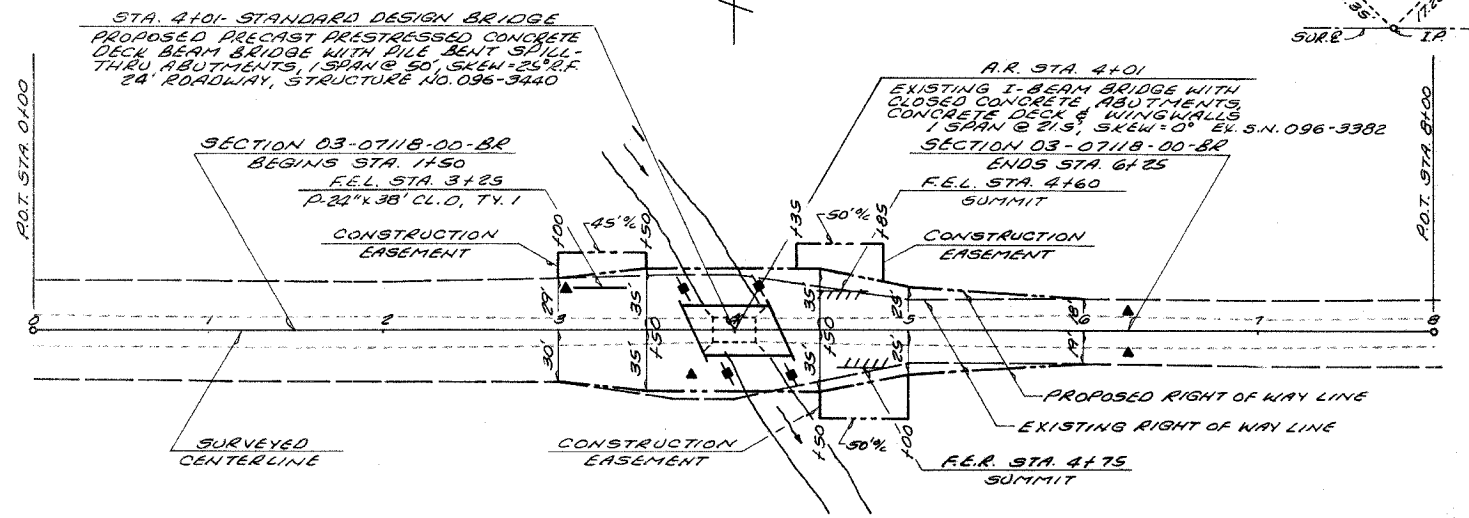
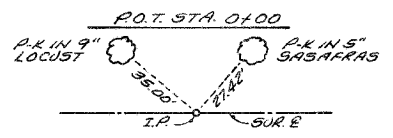
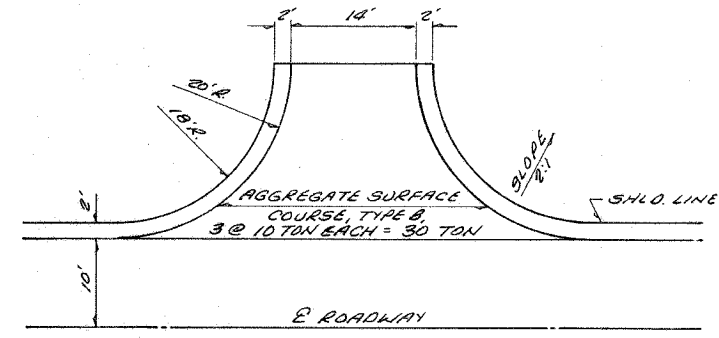
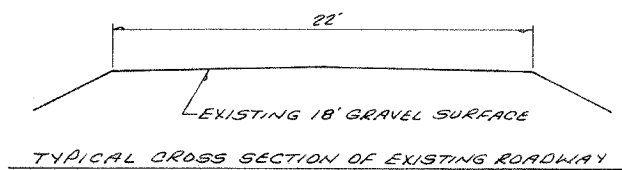
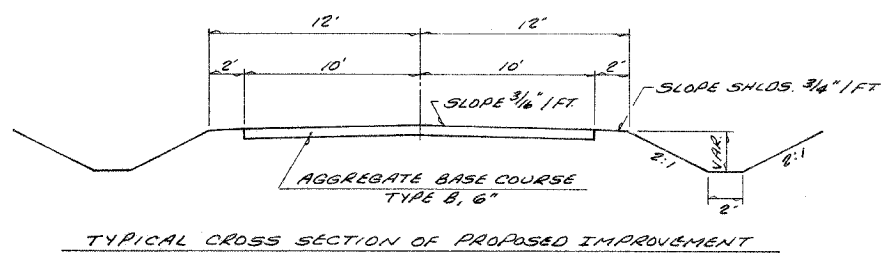
STA. 4+01-- STD. BRIDGE DESIGN  
 PROPOSED PRECAST PRESTRESSED  
 CONCRETE DECK BEAM BRIDGE.  
 1SPANS @ 50', 24RDWY. SKEW = 25  
 PROP. STR. NO. 096-3440  
 EXIST. STR. NO. 096-3382

SECTION 03-07118-00-BR  
 ENDS STA. 6+25

Michael Ross  
 ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 31350  
 LICENSE EXPIRES DECEMBER 30, 2007

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
SUBMITTED	Feb 3, 2006
 LOCAL AGENCY REPRESENTATIVE	
PASSED	June 7, 2006
 DISTRICT ENGINEER OF LOCAL ROADS & STREETS	
APPROVED	June 7, 2006
 DEPUTY DIRECTOR OF HIGHWAYS REGION FIVE ENGINEER	

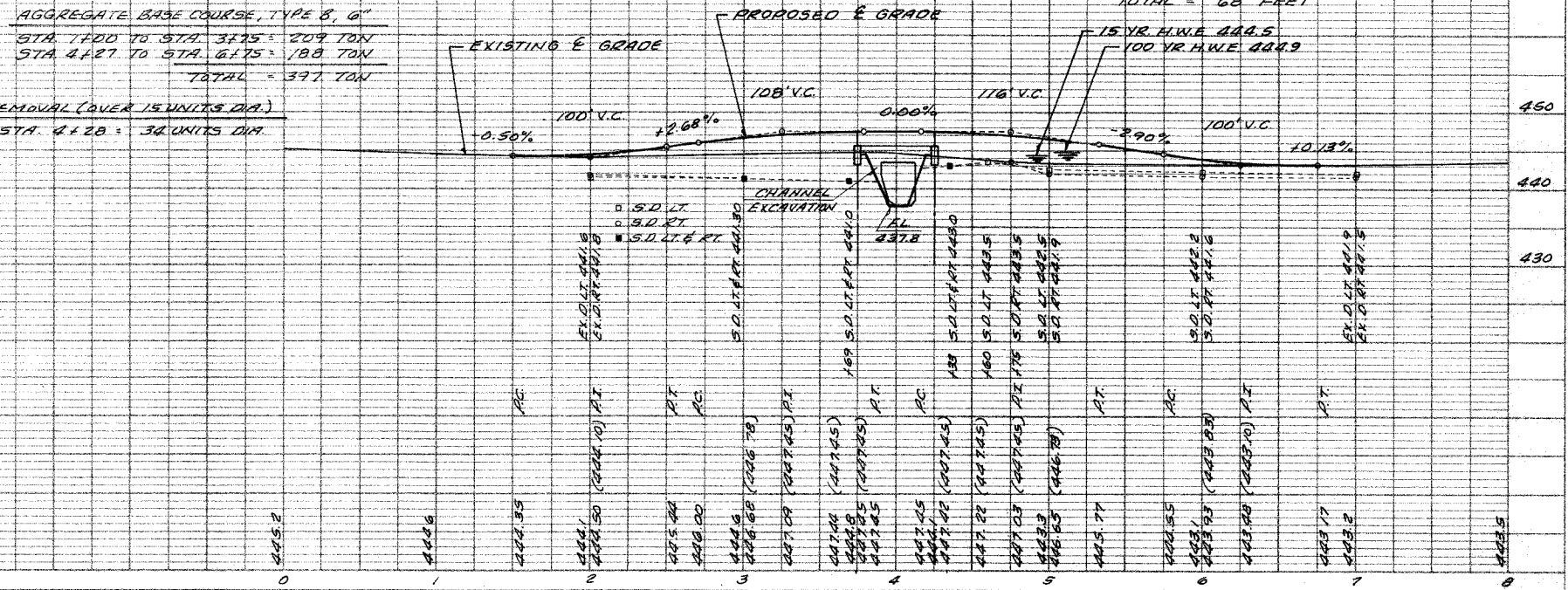
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-07118-00-BR	WAYNE		11	2
STA. 0+00	TO STA. 8+00			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BR05-191(51)	



PLAN  
 SHEET NO. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 IN CHARGE \_\_\_\_\_  
 NO. \_\_\_\_\_

PROFILE  
 SHEET NO. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 IN CHARGE \_\_\_\_\_  
 NO. \_\_\_\_\_

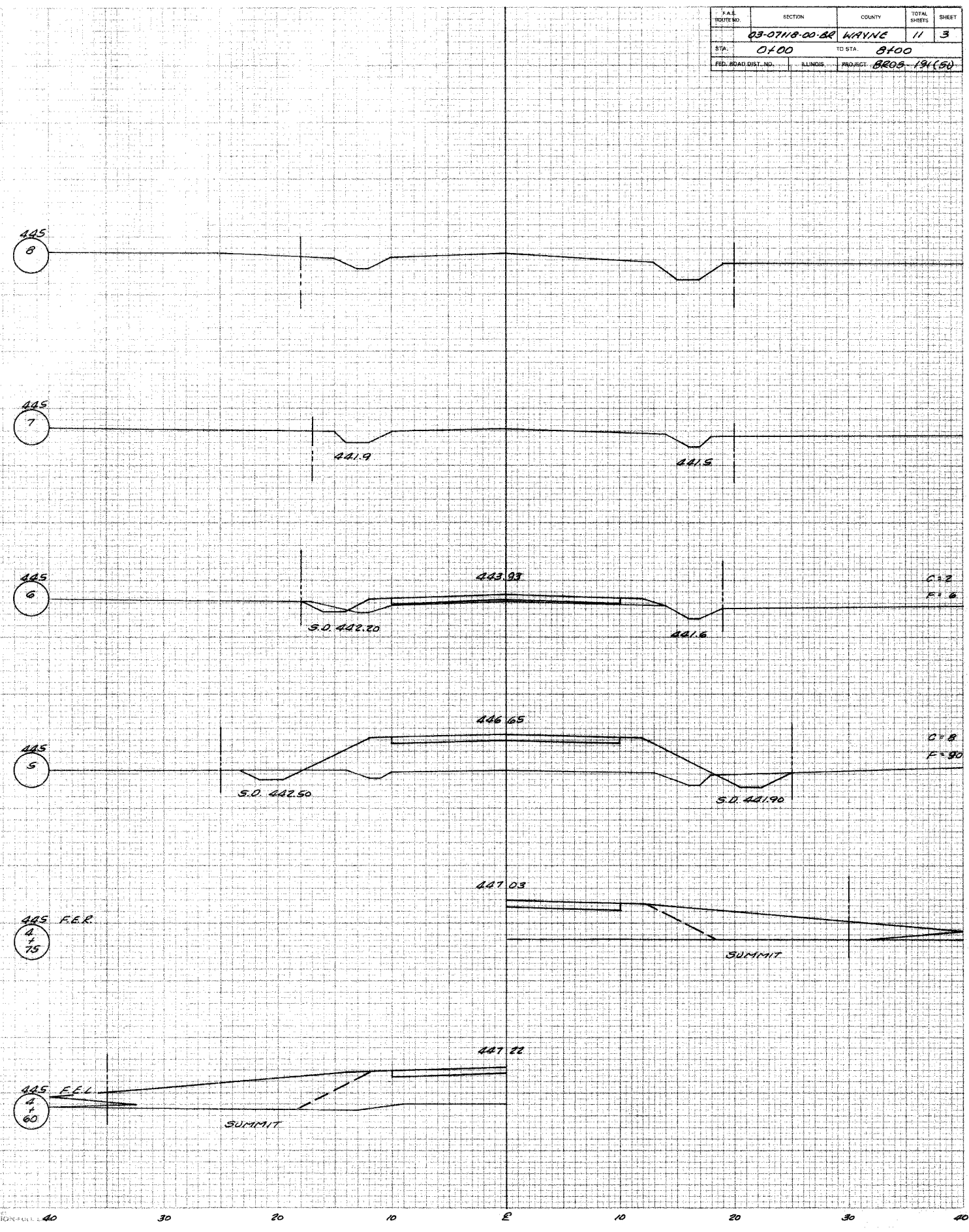
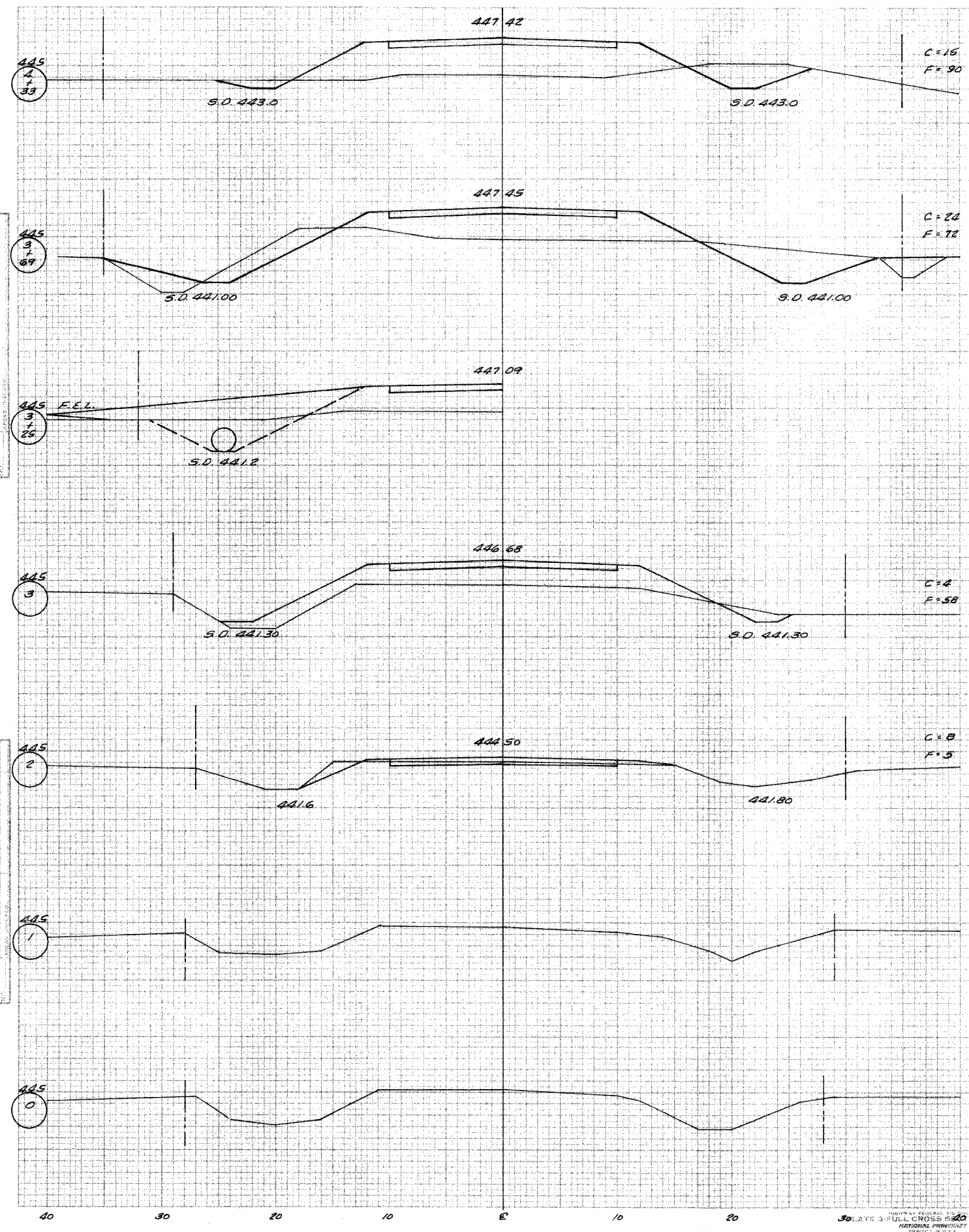
EARTHWORK SCHEDULE		SEEDING CLASS 2 SPECIAL		CONSTRUCT TRANSITIONS	
EARTH EXCAVATION =	133 C.Y.	STA. 1+00 TO STA. 6+75 = 0.5 ACRE		FROM EXISTING ROADWAY TO PROPOSED 24' ROADWAY	
EARTH EXCAVATION ADJUSTED 25% =	100 C.Y.	▲ TEMPORARY DITCH CHECKS		STA. 1+00 TO STA. 1+50	
CHANNEL EXCAVATION =	83 C.Y.	LT. STA. 3+05 = 1 EACH		STA. 6+25 TO STA. 6+75	
CHANNEL EXCAVATION ADJUSTED 25% =	62 C.Y.	RT. STA. 3+75 = 1 EACH			
EMBANKMENT =	165 C.Y.	LT. & RT. STA. 6+25 = 2 EACH		■ PERIMETER EROSION BARRIER	
FURNISHED EXCAVATION =	603 C.Y.	TOTAL = 4 EACH		LT. STA. 3+70 = 17 FEET	
				RT. STA. 3+75 = 17 FEET	
				LT. STA. 4+75 = 17 FEET	
				RT. STA. 4+30 = 17 FEET	
				TOTAL = 68 FEET	



FILE SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-0718-00-88	WAYNE		11	3
STA. 0+00		TO STA. 8+00		
FED. ROAD DIST. NO.	BLINDS	PROJECT	BROS-19(50)	

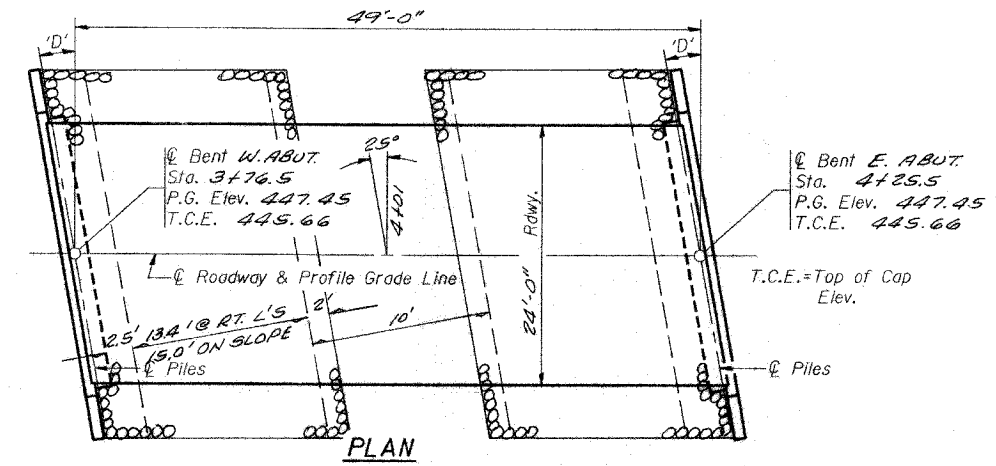
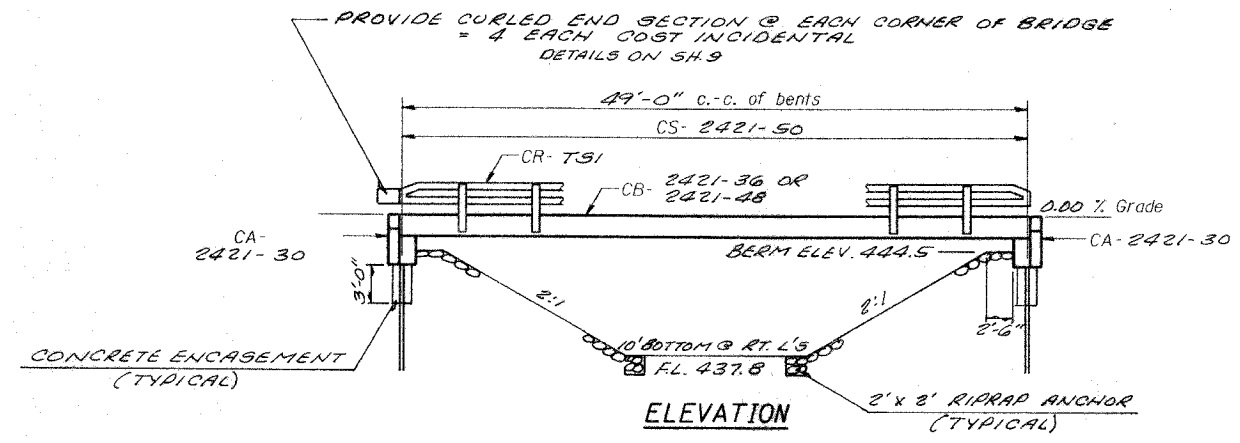
ORIGINAL SURVEY  
 DATE: 10/15/50  
 BY: J. B. BROWN  
 PROJECT: BROS-19(50)

ORIGINAL SURVEY  
 DATE: 10/15/50  
 BY: J. B. BROWN  
 PROJECT: BROS-19(50)



F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-07118-00-BR	WAYNE	11	4	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BR05-191(51)		

B.M.  
Existing Structure  
Salvage



STONE DUMPED RIPRAP CL. A4 = 80 TON  
12" MINIMUM THICKNESS

**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.			20.2	20.2
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1200			1200
Steel Bridge Rail, Type SM	Foot				
Steel Railing, Type S-1	Foot	100			100
Reinforcement Bars	Pound			2200	2200
Furnishing STEEL HP 10 X 42	Foot			455	455
Driving STEEL PILES	Foot			455	455
Test Piles STEEL HP 10 X 42	Each				1
Name Plates	Each			1	1
Concrete Encasement	Cu. Yd.			2.1	2.1
STONE DUMPED RIPRAP CL. A4	TON				80

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	1080.07

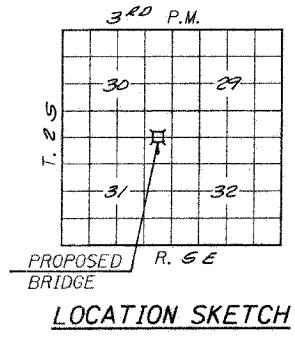
**PILE DATA (2-ABUTS.)**

Type STEEL HP 10 X 42  
Capacity 56 Tons  
Estimated Length 65 Feet  
Number Required 8 (Includes 1 Test Pile located in Bent #1 WEST ABUT.)

STATION 4+01  
PROJECT NO. BR05-191(51)  
SEC. 03-07118-00-BR BUILT 20  
  
WAYNE COUNTY  
LOADING HS20  
STR. NO. 096-3440

**LETTERING FOR NAME PLATE**

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



**INDEX OF SHEETS**

- General Plan & Elevation
- Standard CS- 2421-50R
- Standard CB- 2421-36
- Standard CB- 2421-48
- Standard CA- 2421-30
- Standard CR- TSI
- Standard CX- 1
- Standard

**DESIGN SPECIFICATIONS**

2002 AASHTO STANDARD SPECIFICATIONS-17TH ED.  
HS20-44 Loading, Load Factor Design.

**WATERWAY INFORMATION**

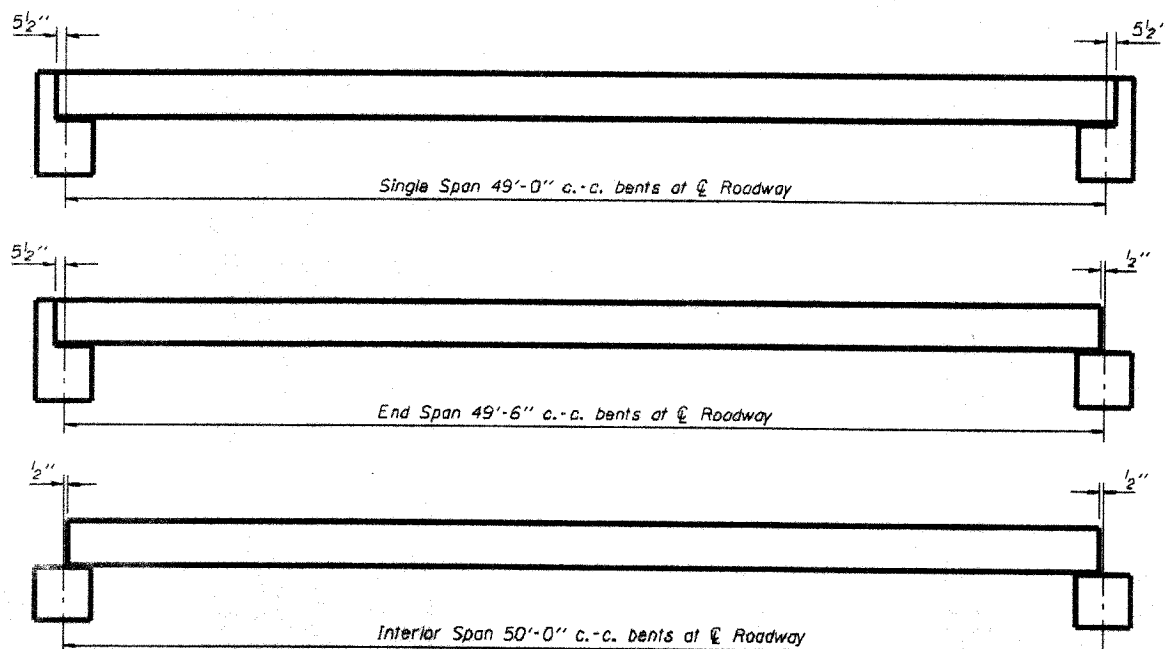
Drainage Area = 2.98 SQ. MI. Low Grade Elev. = 443.2 @ Sta. 7+00

Flood	Freq. Yr.	Q C.F.S.	Opening Exist. Sq. Ft.	Prop. H.W.E.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	15	1005	88,187	158	444.5	0	0.1	444.5	444.6
Base	100	1642	88,187	172	444.9	0	0.1	444.9	445.0
Overlapping									
Max. Calc.	500	2172			445.2		0.2		445.4

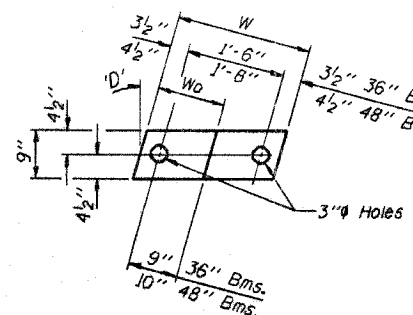
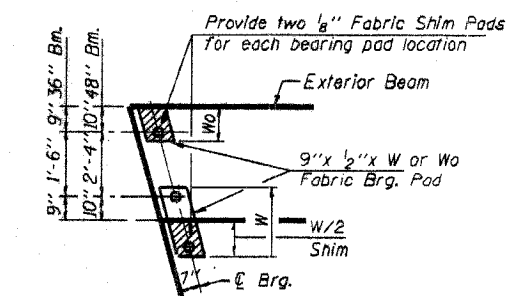
**GENERAL PLAN & ELEVATION**

T.R. ROUTE 587  
OVER TRIB. TO FOUR MILE CREEK  
SECTION 03-07118-00-BR  
WAYNE COUNTY  
STATION 4+01

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-07118-00-5E	WAYNE		11	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BROS-191 (51)	

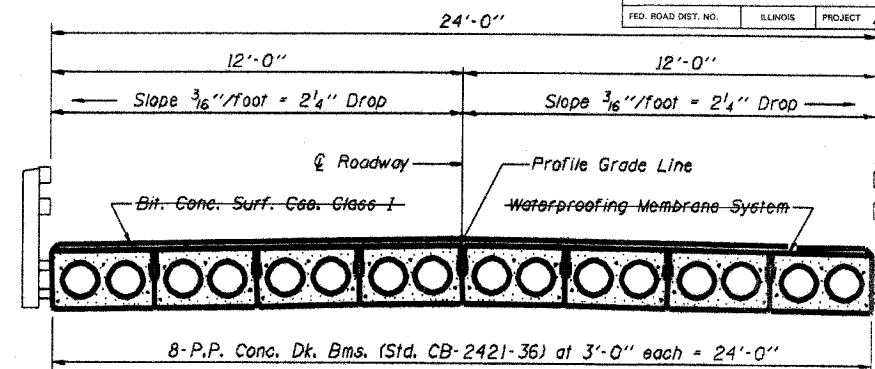


**TYPICAL ELEVATIONS**

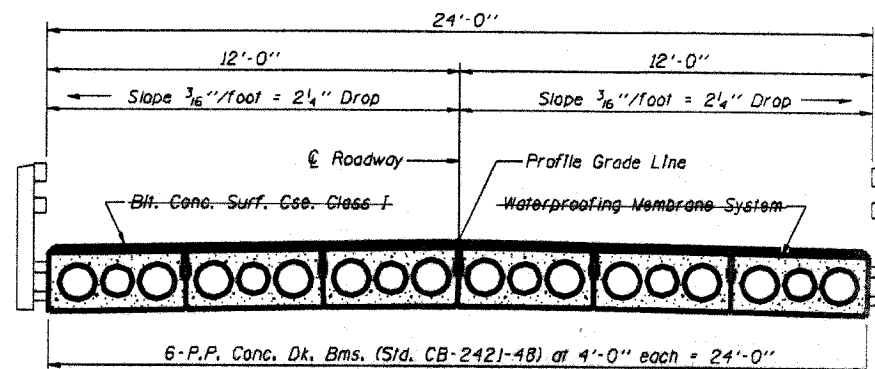


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

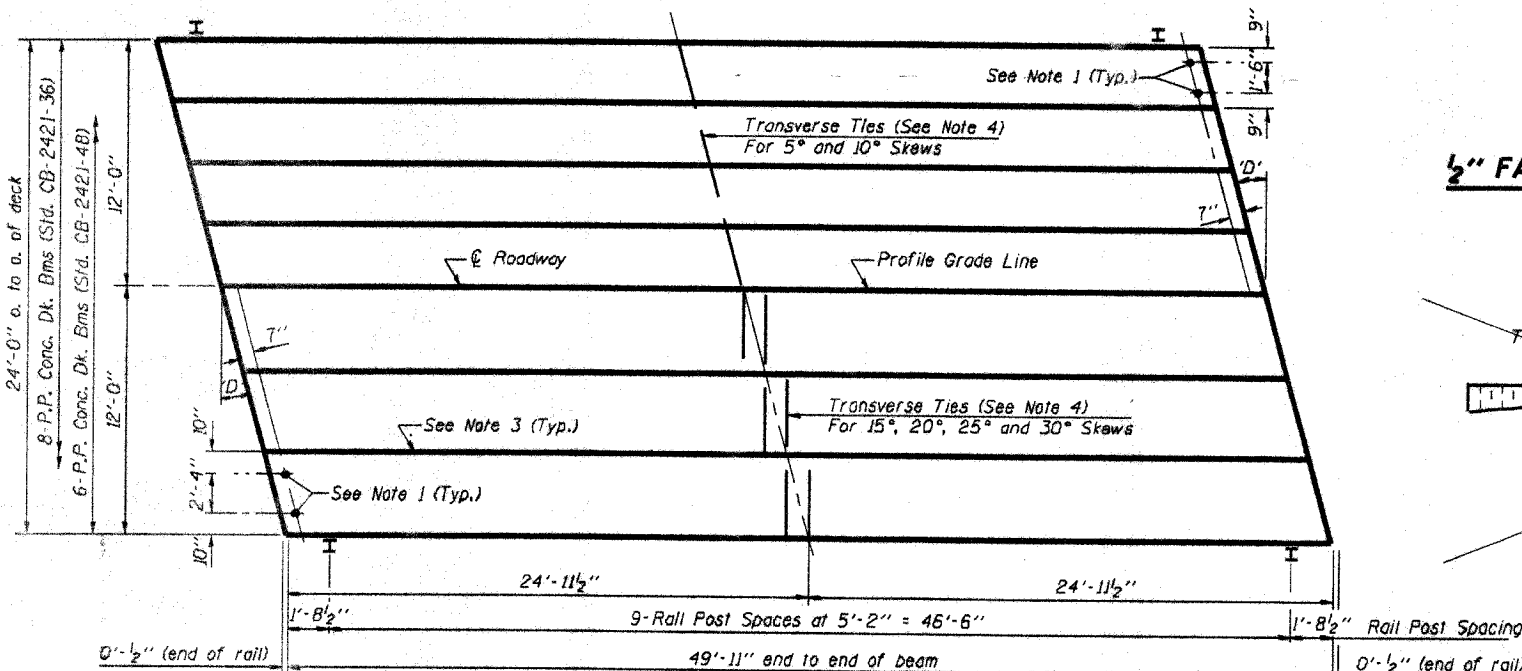
**1/2" FABRIC BRG. PAD DETAILS**



**CROSS SECTION**

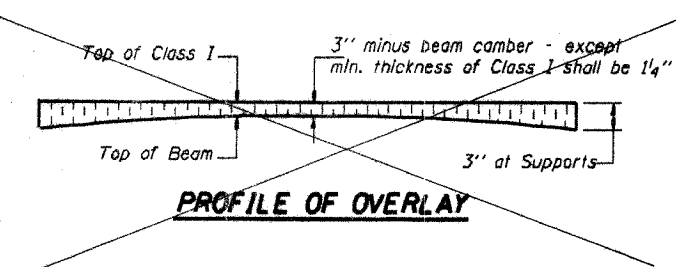


**CROSS SECTION**



**PLAN**

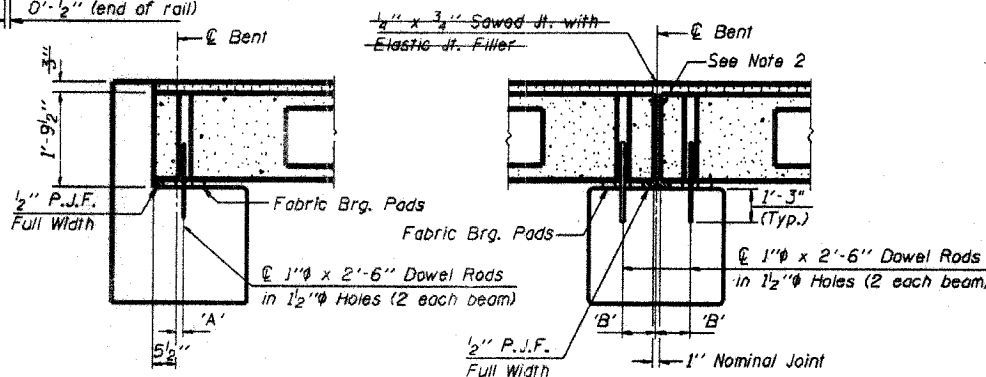
('D' = Designated Skew Angle)



**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 1/8"	2 3/8"
B	7 1/2"	7 5/8"	7 3/4"	8"	8 1/4"	8 3/8"



**SECTION AT ABUTS.**

(Along centerline of Beams)

**SECTION AT PIERS**

(Along centerline of Beams)

**QUANTITIES FOR ONE SPAN**

P.P. Conc. Dk. Bms. 21" Dp.	1200 Sq. Ft.
Steel Railing	100 Ft.
Bit. Conc. Surf. Cse. Class I	15.0 Tons
Waterproofing Membrane System	133.3 Sq. Yds.

**P.P.C. DECK BEAM SUPERSTRUCTURE**

**24' RDWY. 21" BMS. 50' SPAN RIGHT**

**STANDARD CS-2421-50R**

**NOTES**

- 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.
- Nominal 1" joint at centerline of Pier shall be filled with non-shrink grout.
- Longitudinal keys shall be grouted.
- The 1" diameter 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.

Illinois Department of Transportation

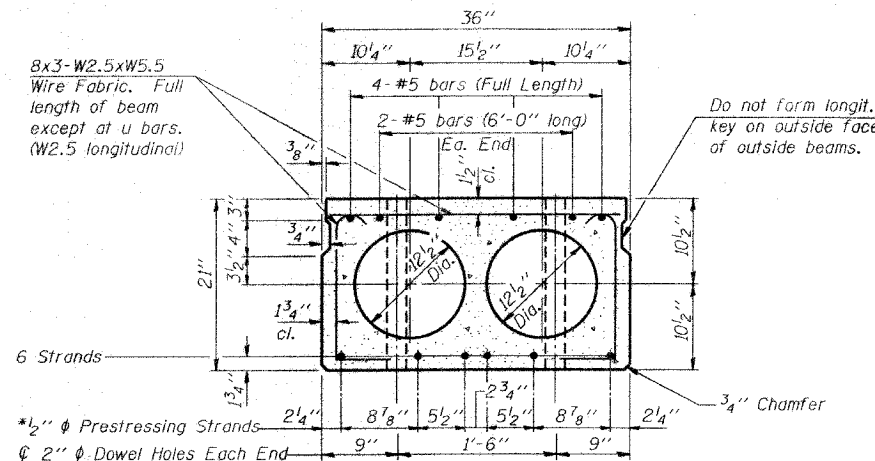
PASSED NOVEMBER 1, 1995

Engineer of Bridge Design

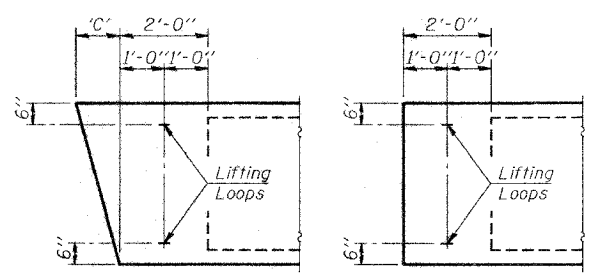
APPROVED NOVEMBER 1, 1995

Engineer of Bridges and Structures

F.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-0718-00-BR	WAYNE	11	6	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BR05-191 (S)	

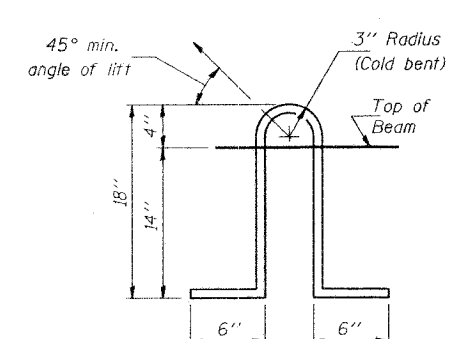


**CROSS SECTION**  
(30' SPAN)



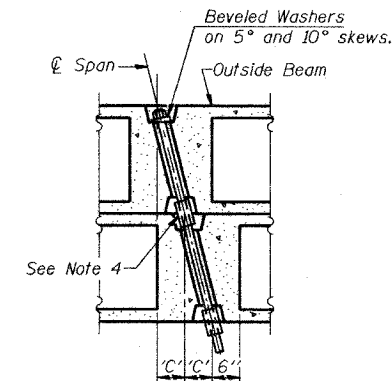
**END BLOCK DETAILS**

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.

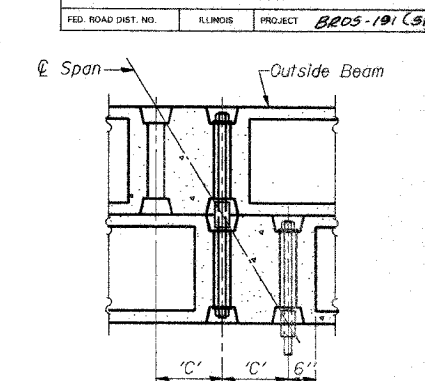


**LIFTING LOOP DETAIL**

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



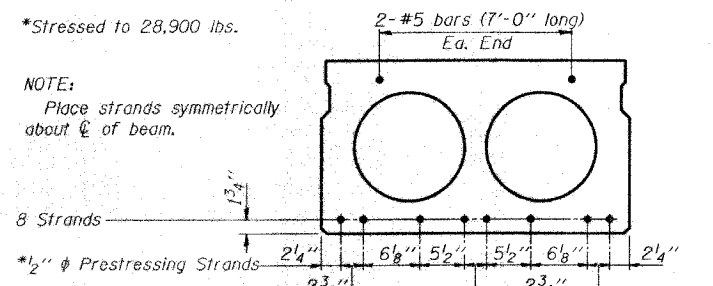
**PARTIAL PLAN TRANSVERSE TIE ASSEMBLY**  
(D=0°, 5° and 10°)



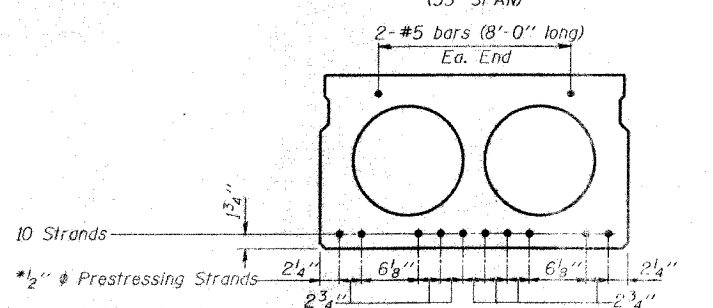
**PARTIAL PLAN TRANSVERSE TIE ASSEMBLY**  
(D=15°, 20°, 25° and 30°)

**DIMENSION 'C'**

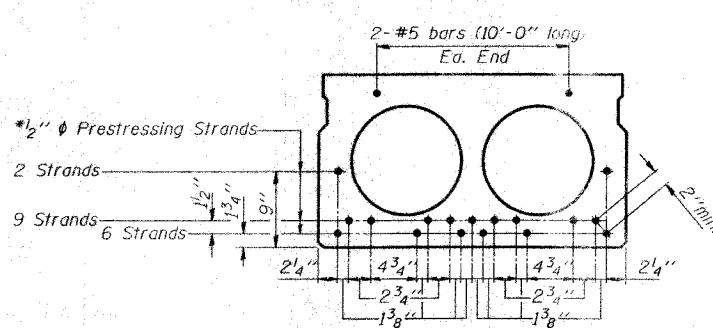
Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	3 3/8	6 3/8	9 5/8	13 3/8	16 3/4	20 3/4



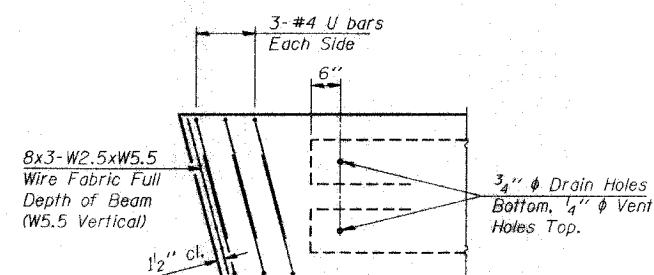
**CROSS SECTION**  
(35' SPAN)



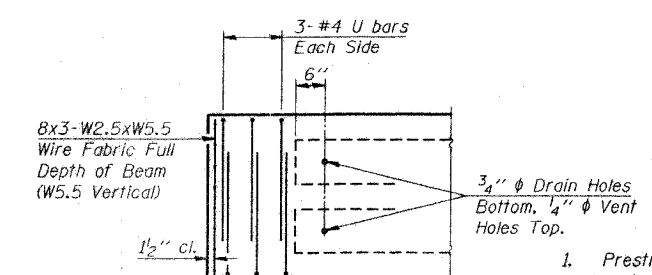
**CROSS SECTION**  
(40' SPAN)



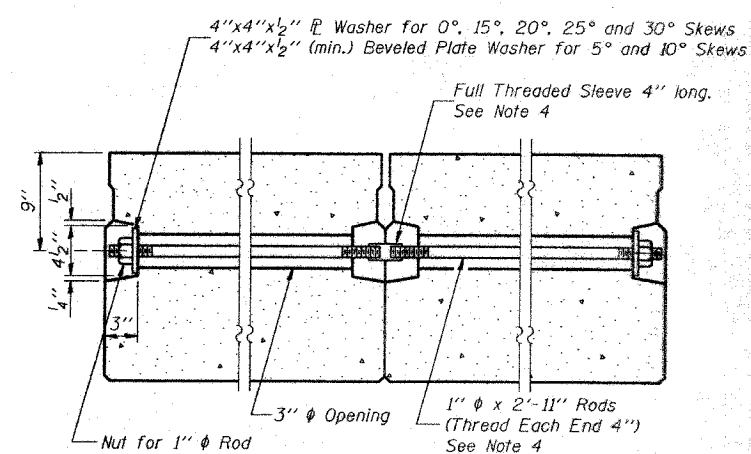
**CROSS SECTION**  
(50' SPAN)



**END REINFORCEMENT**  
(SKEWED)



**END REINFORCEMENT**  
(RIGHT ANGLE)



**SECTION ALONG TRANSVERSE TIE ASSEMBLY**  
(REQUIRED FOR 50' SPAN ONLY)

**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 OR M-302 Grade 60.
- On 0°, 5° and 10° skew angles, 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 (28,000 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.

**DESIGN STRESSES**

$f_c = 5,000$  p.s.i.  
 $f_{ci} =$  (See Required Release Strength Table) 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.

**REQUIRED RELEASE STRENGTH**

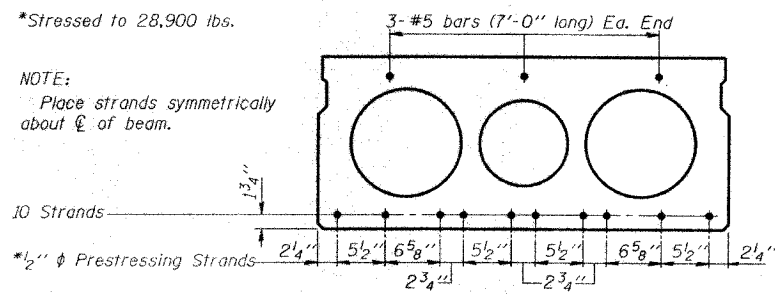
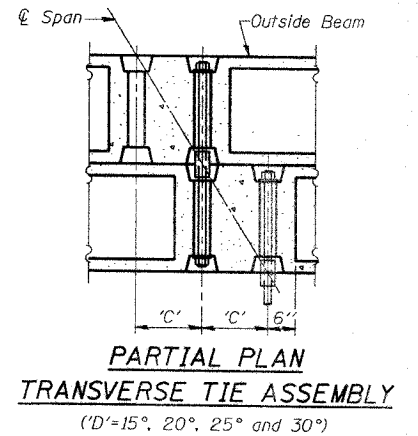
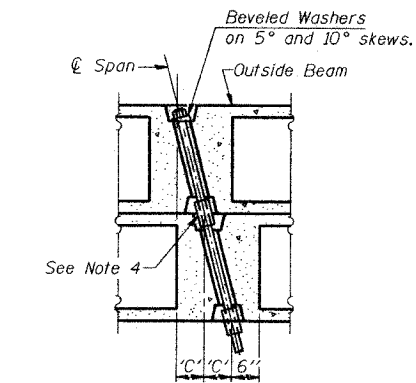
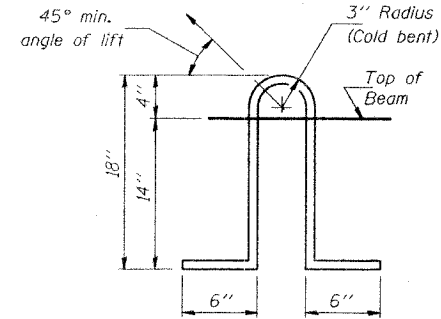
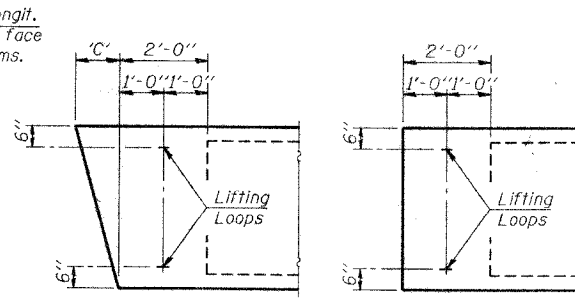
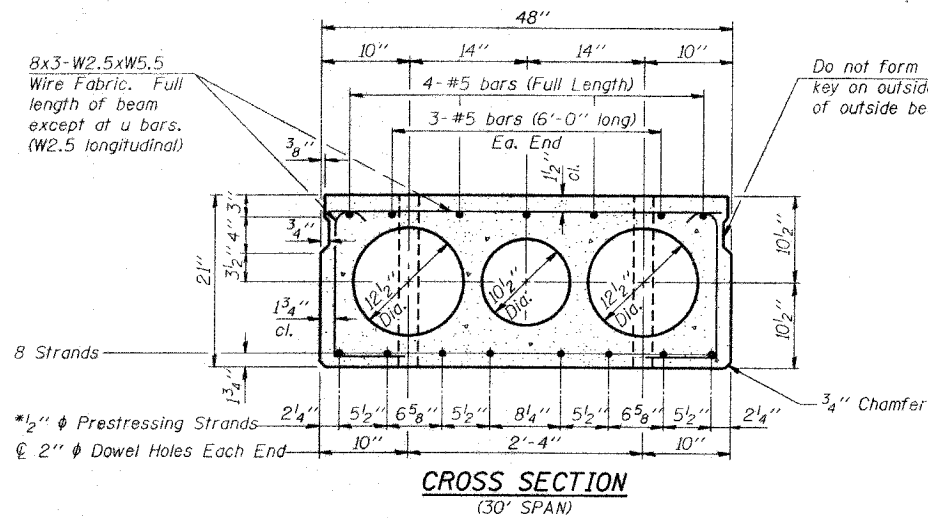
Span	$f_{ci}$ (psi)
30'	4,000
35'	4,000
40'	4,200
50'	4,100

Illinois Department of Transportation  
 PASSED NOVEMBER 1, 1995  
 [Signature]  
 Engineer of Bridge Design  
 APPROVED NOVEMBER 1, 1995  
 [Signature]  
 Engineer of Bridges and Structures

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

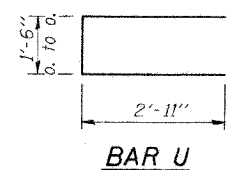
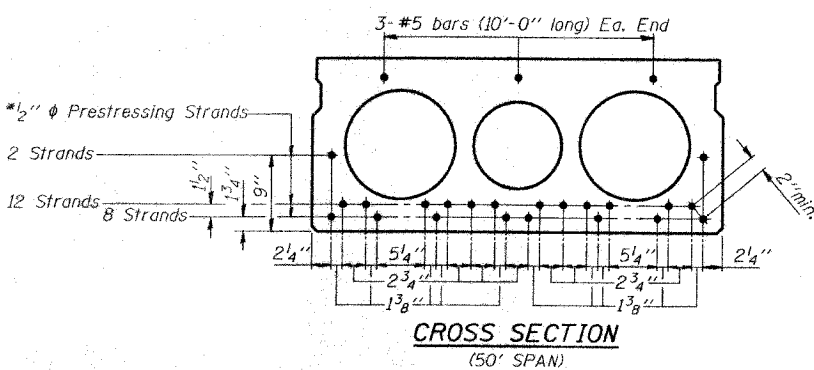
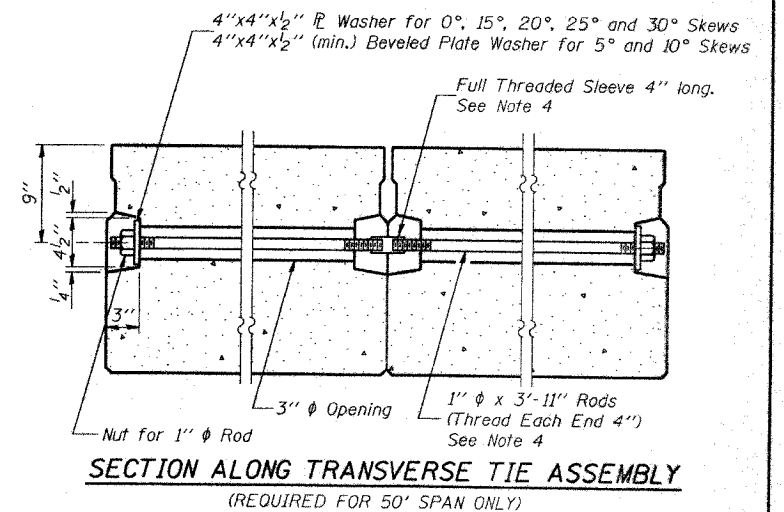
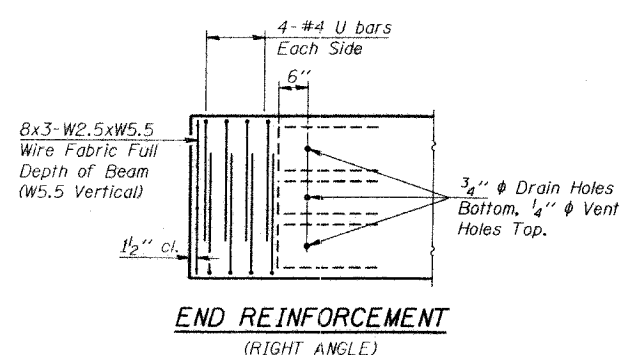
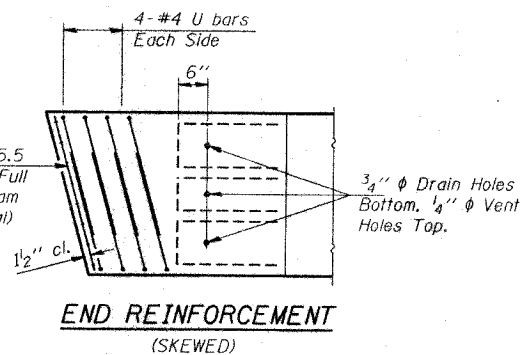
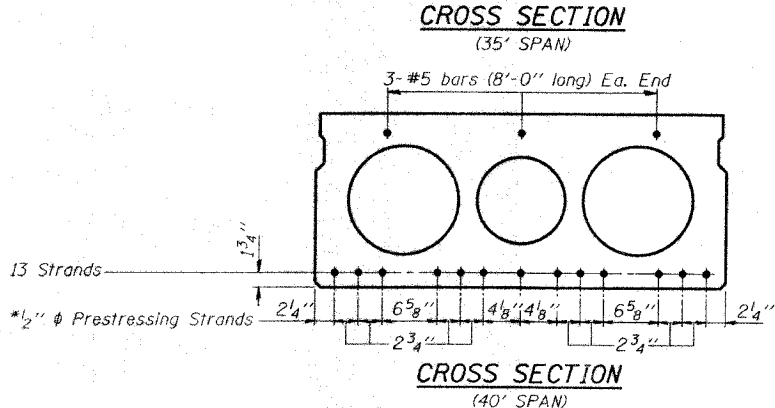
**P.P.C. DECK BEAM DETAILS**  
 24' ROADWAY      21" x 36" BEAMS  
 STANDARD CB-2421-36

F.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
93-0711B-00-BE	WAYNE		11	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	8205-191(51)	



**DIMENSION 'C'**

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



- 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 OR M-322, Grade 60.
  - On 0°, 5° and 10° skew angles, 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.

**DESIGN STRESSES**

$f'_c = 5,000$  p.s.i.  
 $f'_{ci} =$  (See Required Release Strength Table) 4000 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.

**REQUIRED RELEASE STRENGTH**

Span	$f'_{ci}$ (psi)
30'	4,000
35'	4,000
40'	4,000
50'	4,200

Illinois Department of Transportation

PASSED NOVEMBER 1, 1995

Engineer of Bridge Design

APPROVED NOVEMBER 1, 1995

Engineer of Bridges and Structures

**NOTE**

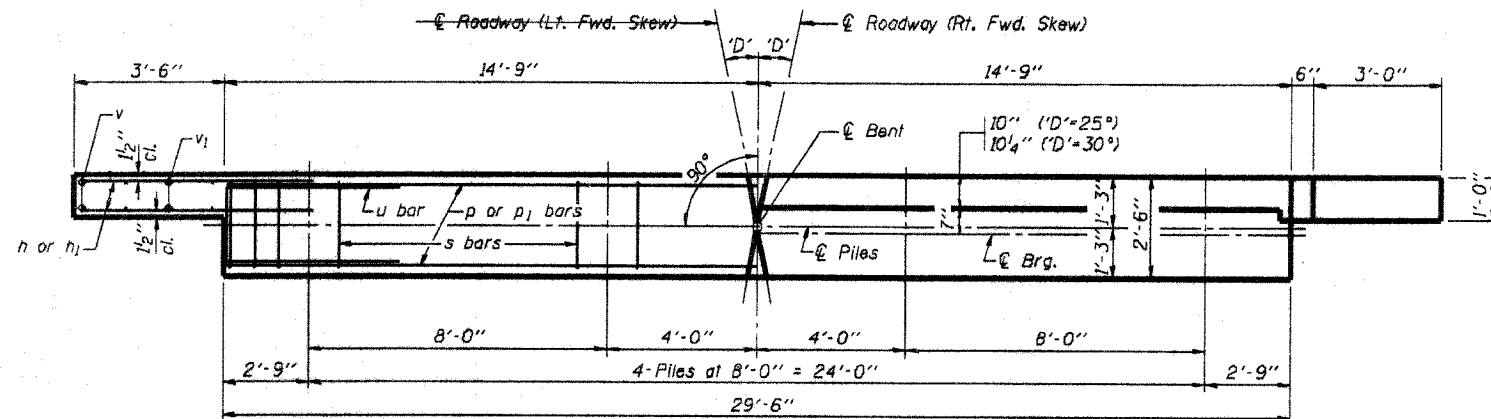
The std. reinf. shown on the 30' span cross section is typical for all spans, except as shown.

**P.P.C. DECK BEAM DETAILS**

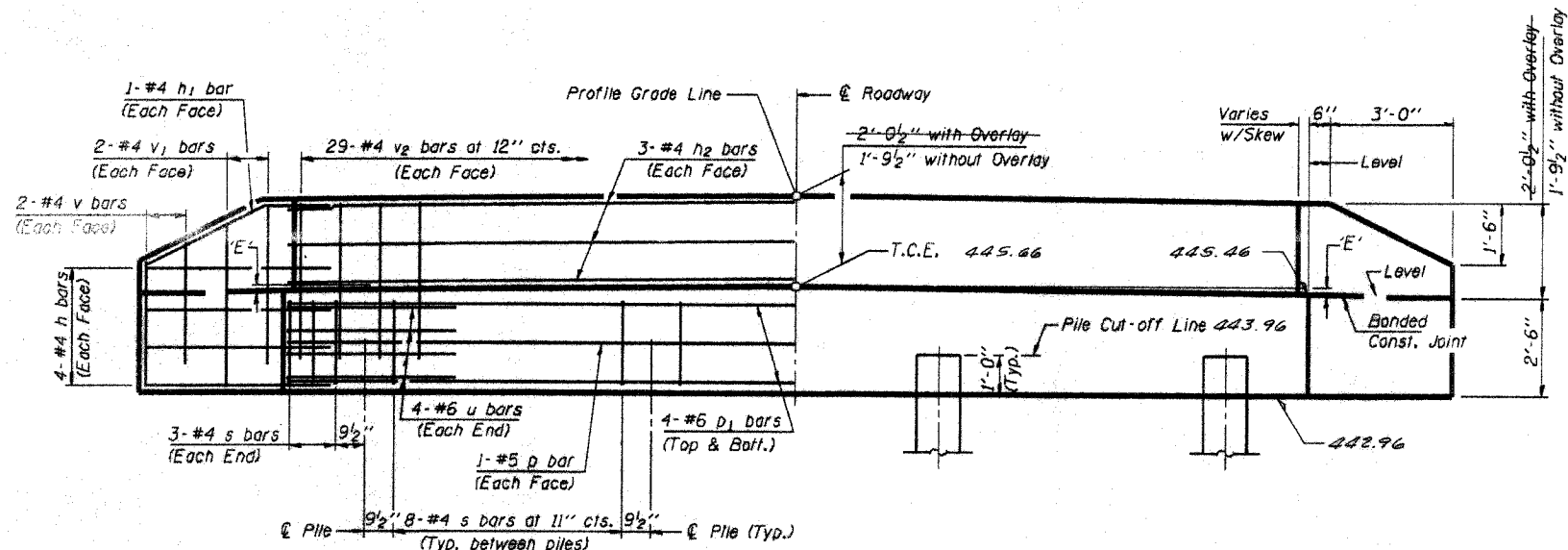
24' ROADWAY | 21" x 48" BEAMS

STANDARD CB-2421-48

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-0718-00-82	WAYNE	11	8	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	8205-191 (5)	



**PLAN**  
(D = Designated Skew Angle)



**ELEVATION**

**DIMENSION 'E'**

GRADE	'D' = 25°		'D' = 30°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 1/2"	2 1/2"	2 3/8"	2 3/8"
Over 0% to 1%	2 5/8"	2 7/8"	2"	2 7/8"
Over 1% to 2%	1 3/8"	3 5/8"	1"	3 3/4"
Over 2% to 3%	5/8"	4 3/8"	1/2"	4 5/8"
Over 3% to 4%	0"	5/8"		

**NOTES**

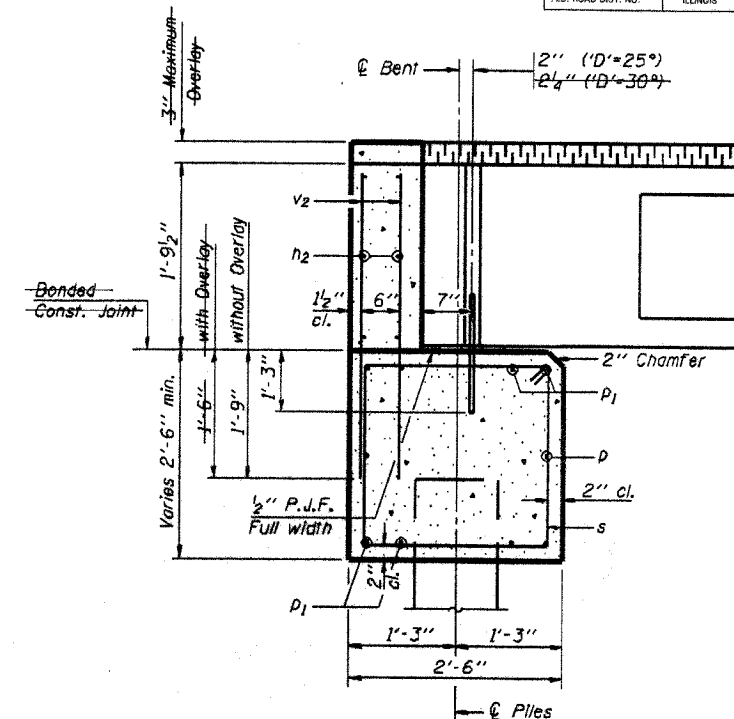
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31 OR M-322, Grade 60.

**MAXIMUM PILE LOADS**

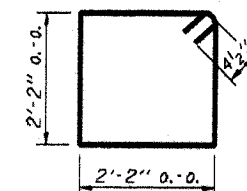
SPAN	TONS
30'	27
35'	30
40'	32
50'	37

**DESIGN STRESSES**

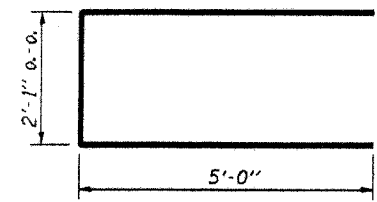
f'c = 3,500 psi  
fy = 60,000 psi



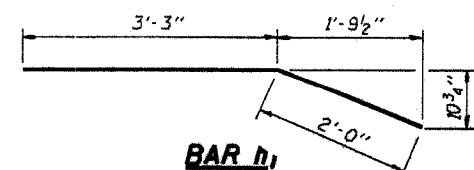
**SECTION THRU ABUTMENT**  
(At Right Angles)



**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	29'-2"	—
d	2	#5	29'-2"	—
d1	8	#6	29'-2"	—
s	30	#4	9'-5"	D
u	8	#6	12'-1"	U
v	8	#4	2'-8"	—
v1	8	#4	3'-8"	—
v2	58	#4	3'-5"	—
Concrete Structures			10.1 Cu. Yds.	
Reinforcement Bars			1100 Lbs.	

Illinois Department of Transportation  
 PASSED November 1, 1995  
 Approved November 1, 1995  
 Engineer of Bridges and Structures

**P.P.C. DECK BEAMS**  
**PILE BENT ABUTMENT**  
 24' RDWY. 21" BMS. 'D' = 25° OR 30°  
 STANDARD CA-2421-30



NOTES

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-0718-00-0R	WAYNE		11	9

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.

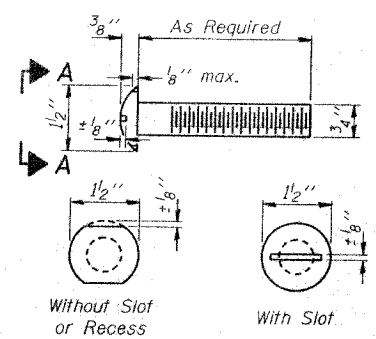
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing, Type S-1.

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

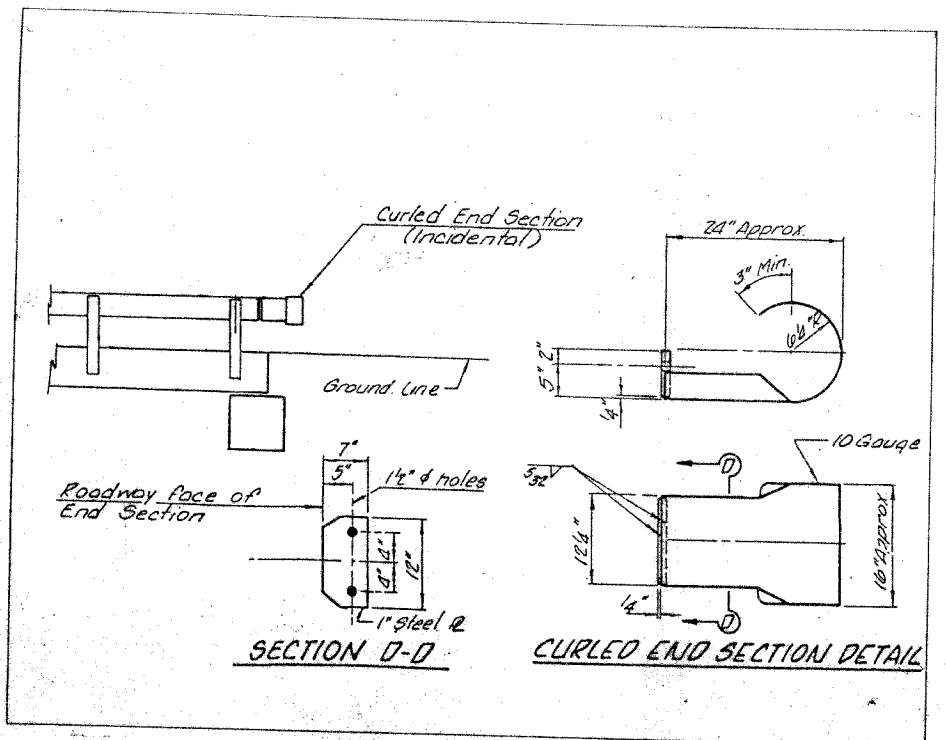
The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.

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) (2) 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.

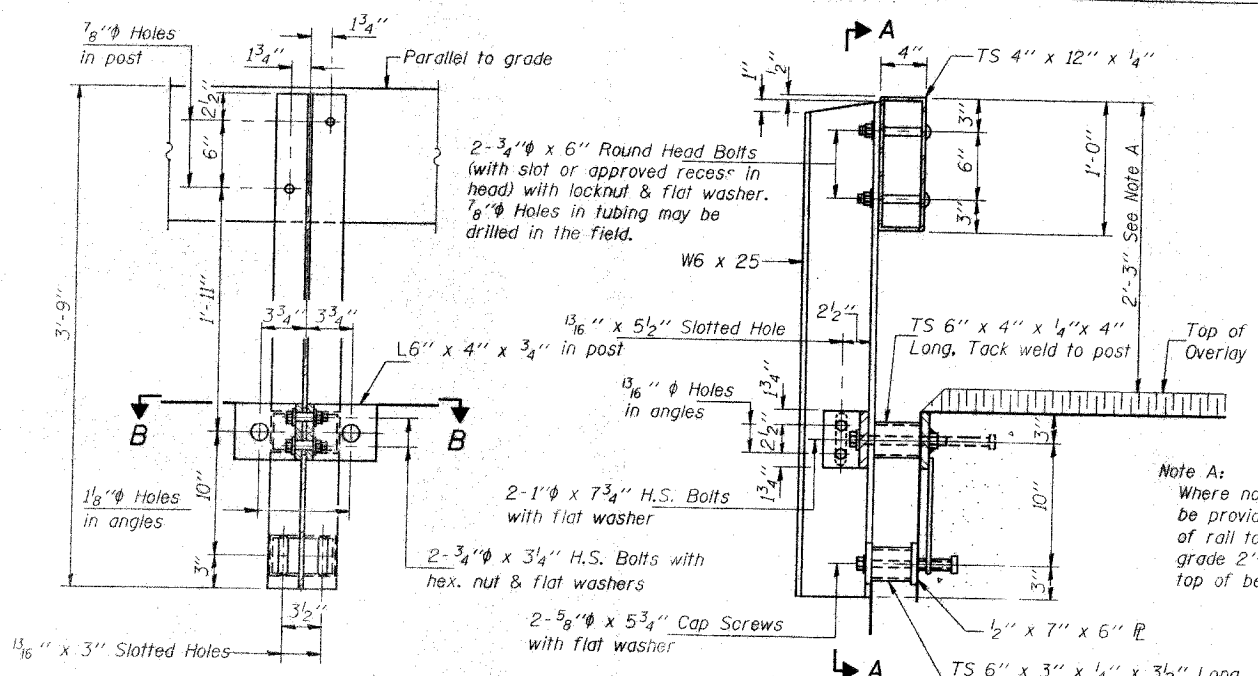
The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6"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



VIEW A-A  
ROUND HEAD BOLT



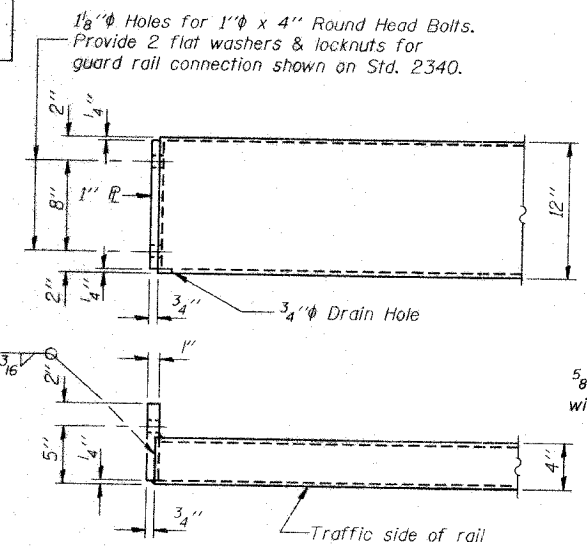
SECTION D-D  
CURLED END SECTION DETAIL



SECTION A-A

2-3/4" x 6" Round Head Bolts (with slot or approved recess in head) with locknut & flat washer. 7/8" holes in tubing may be drilled in the field.  
 W6 x 25  
 TS 4" x 12" x 1/4"  
 1" x 6" x 13"  
 13/16" x 5 1/2" Slotted Hole  
 L6" x 4" x 3/4" in post  
 13/16" holes in angles  
 2-1" x 7 3/4" H.S. Bolts with flat washer  
 2-3/4" x 3 1/4" H.S. Bolts with hex. nut & flat washers  
 2-5/8" x 5 3/4" Cap Screws with flat washer  
 1/2" x 7" x 6" PL  
 TS 6" x 3" x 1/4" x 3 1/2" Long. Tack weld to post & plate  
 Top of Overlay  
 2'-3" See Note A

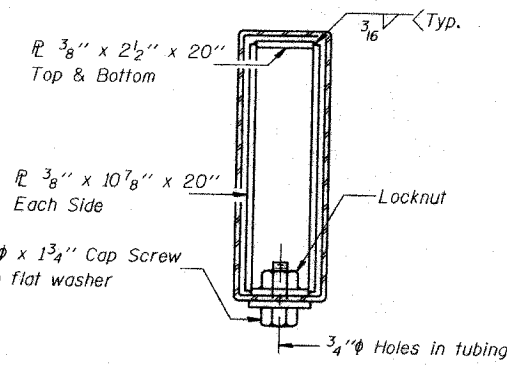
Note A:  
Where no overlay is to be provided adjust top of rail to lay parallel to grade 2'-5" max. above top of beam.



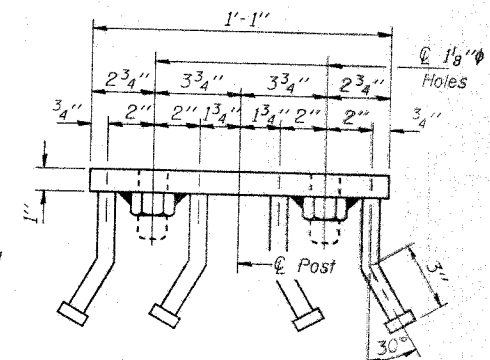
END OF RAIL DETAILS

\*\* 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".

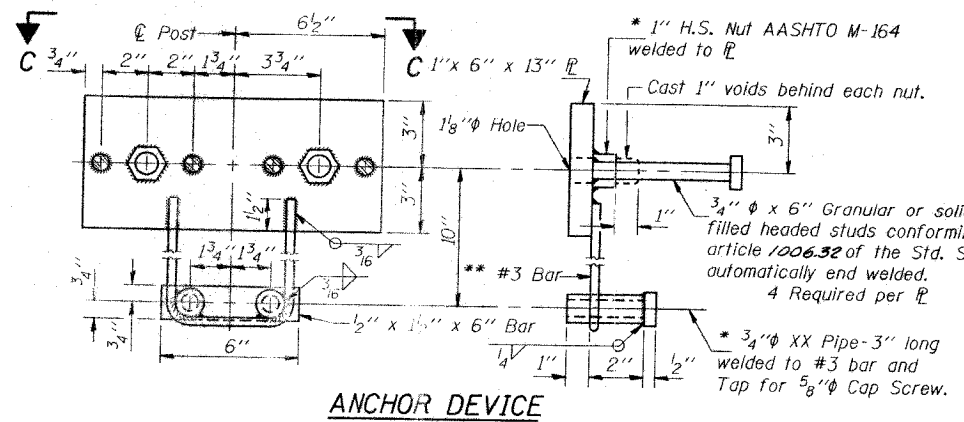
\* Threaded areas shall be plugged or blocked off during casting of beam.



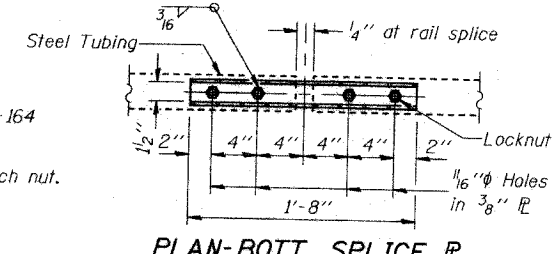
SECTION AT RAIL SPLICE



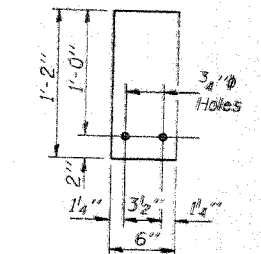
VIEW C-C



ANCHOR DEVICE



PLAN-BOTT. SPLICE PLATE TYPICAL

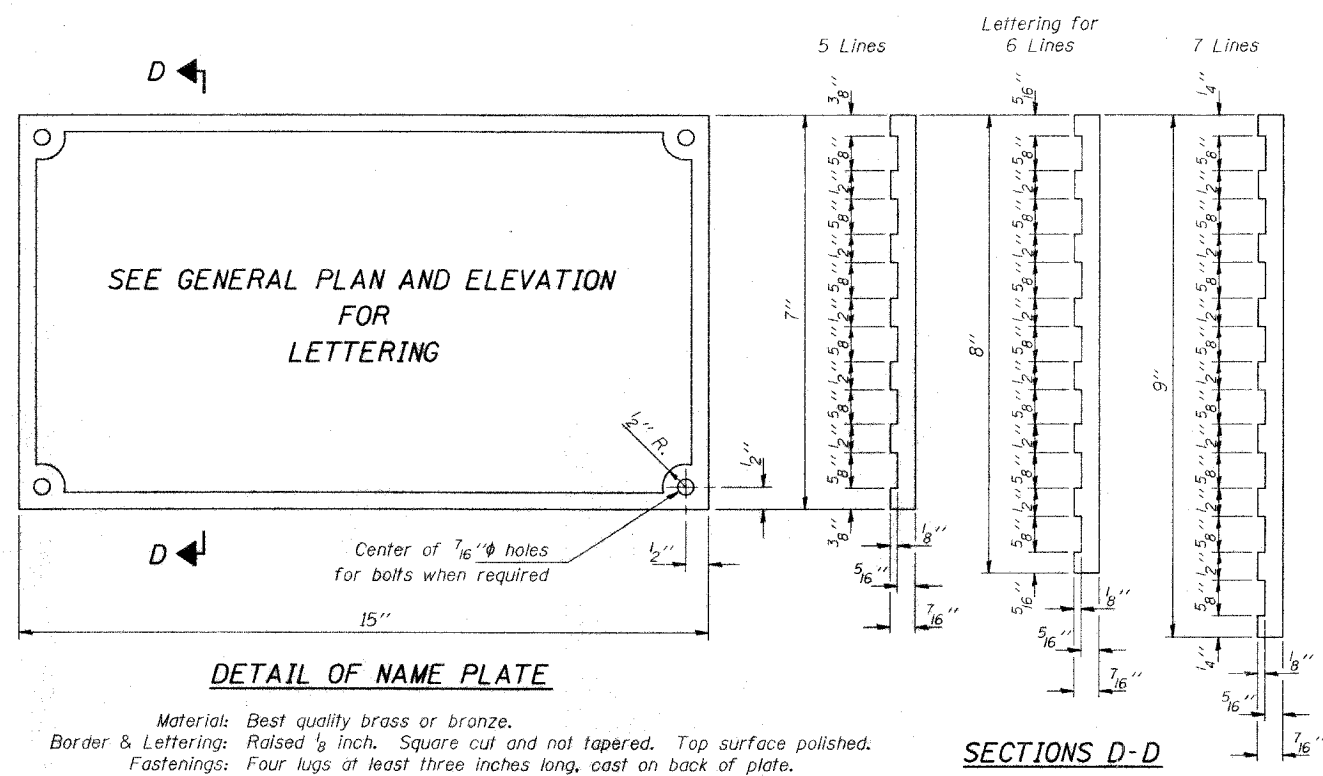


1/4" SHIM PLATE

Illinois Department of Transportation  
 PASSED November 1, 1995  
 Approved by: *Gregory J. Kasper*  
 Engineer of Bridge Design  
 APPROVED November 1, 1995  
 Approved by: *Ralph E. Anderson*  
 Engineer of Bridges and Structures

STEEL RAILING, TYPE S-1  
STANDARD CR-TS1

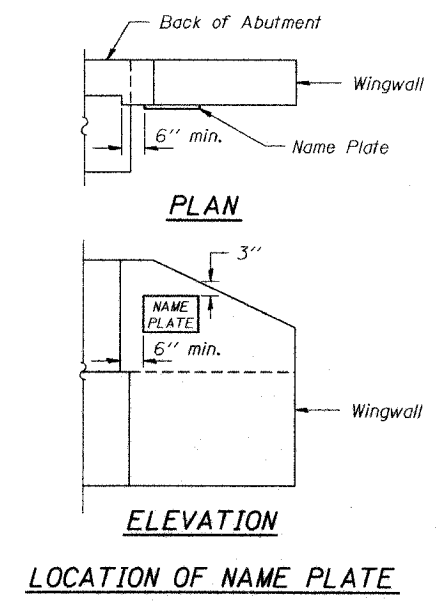
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-07118-00-BR	WAYNE		11	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BROS-191(5)	



**DETAIL OF NAME PLATE**

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.

**SECTIONS D-D**



**LOCATION OF NAME PLATE**

Illinois Department of Transportation

PASSED November 1, 1995  
*Gregory J. Kasper*  
 Engineer of Bridge Design

APPROVED November 1, 1995  
*Ralph E. Anderson*  
 Engineer of Bridges and Structures

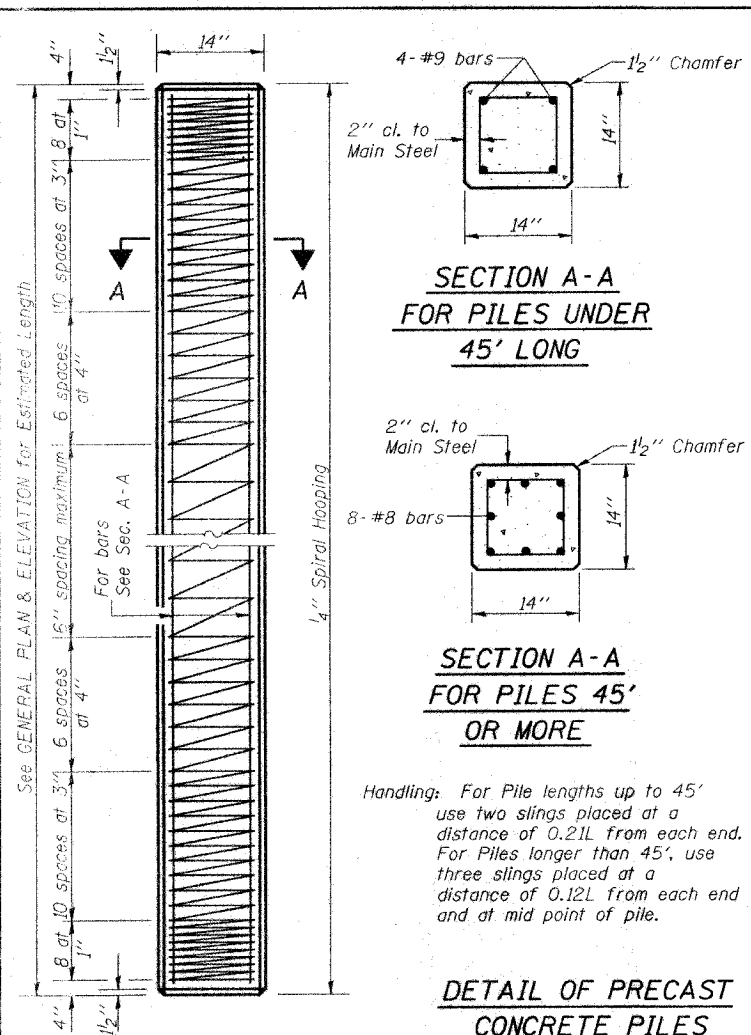
56-1-7.03155

**NAME PLATE**  
**STANDARD CN**

F.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
03-07118-00-82	WAYNE	11	11	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BROS-191(S)	

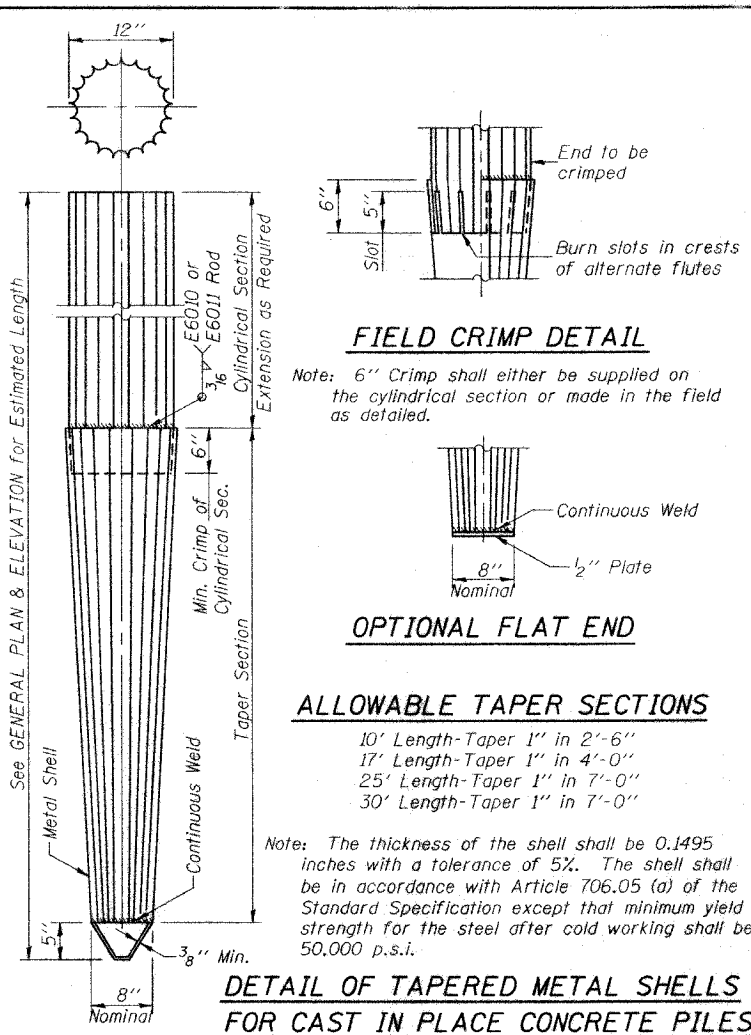
Reinforcement cage shall be omitted when Class ~~SI~~ Concrete Encasement is provided.

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

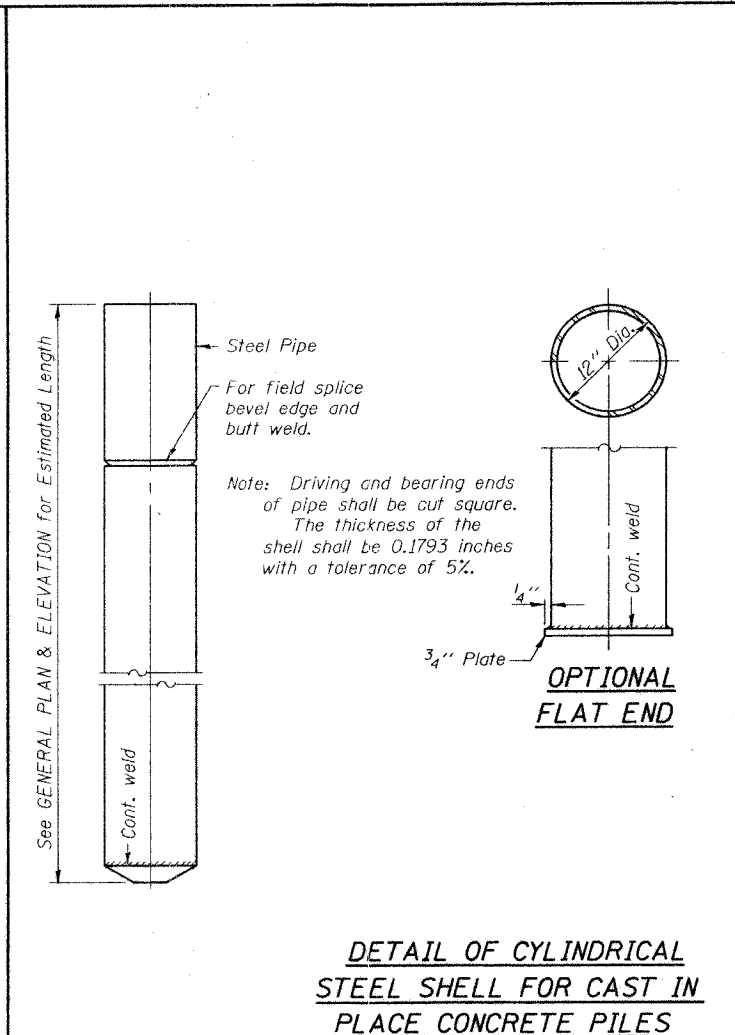


Handling: For Pile lengths up to 45' use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.

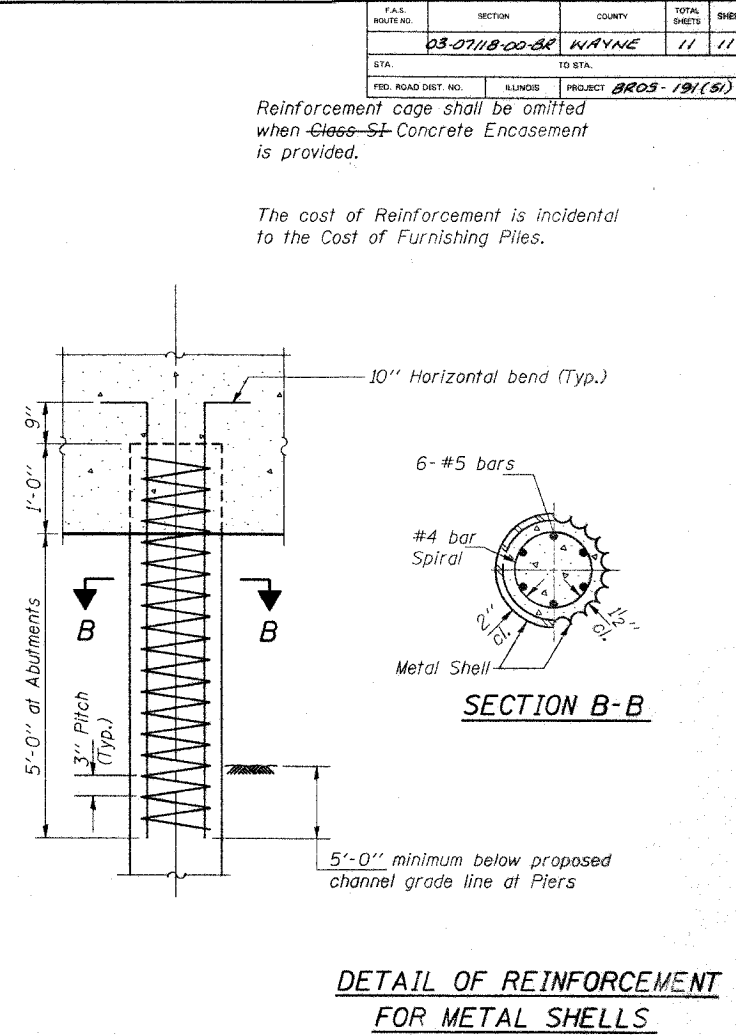
**DETAIL OF PRECAST CONCRETE PILES**



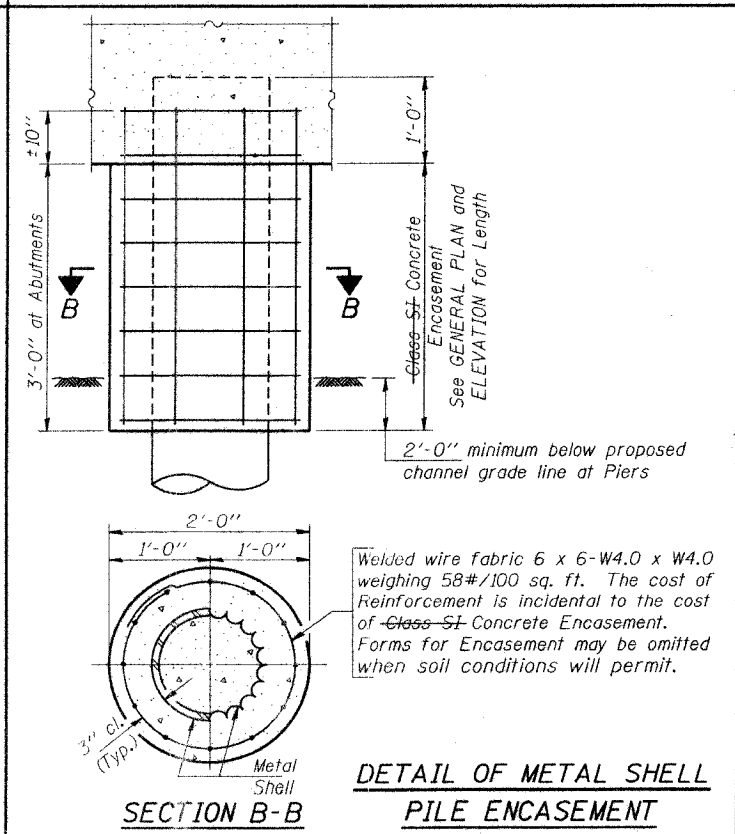
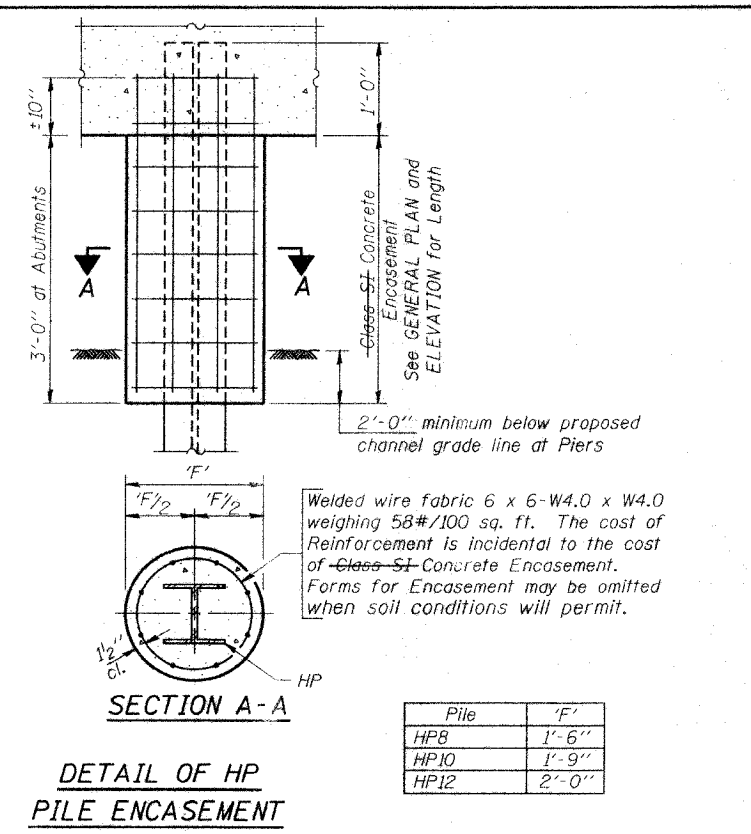
**DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES**



**DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES**



**DETAIL OF REINFORCEMENT FOR METAL SHELLS**



**QUANTITIES/LIN. FT. OF ENCASEMENT**

(STEEL PILES)

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

(METAL SHELL PILES)

Pile Size	Item	Quantity
12" Dia.	Class <del>SI</del> Concrete Encasement	0.087 C.Y.

<b>PILE DETAILS</b>
<b>STANDARD CX-1</b>

Illinois Department of Transportation

PASSED November 1, 1995

*Roy J. Kasper*  
Engineer of Bridge Design

APPROVED November 1, 1995

*Ralph E. Anderson*  
Engineer of Bridges and Structures

18-H 07551