

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
04-14106-00-BR	WAYNE	12	1
TOWNSHIP ROAD 331			
MARTIN CREEK BRIDGE CONTRACT NO. 95544			

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PLAN - PROFILE
3 - 4	CROSS SECTIONS
5 - 12	BRIDGE PLANS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR
PROPOSED LOCAL AGENCY IMPROVEMENT
FEDERAL-AID H.B.P. PROJECT

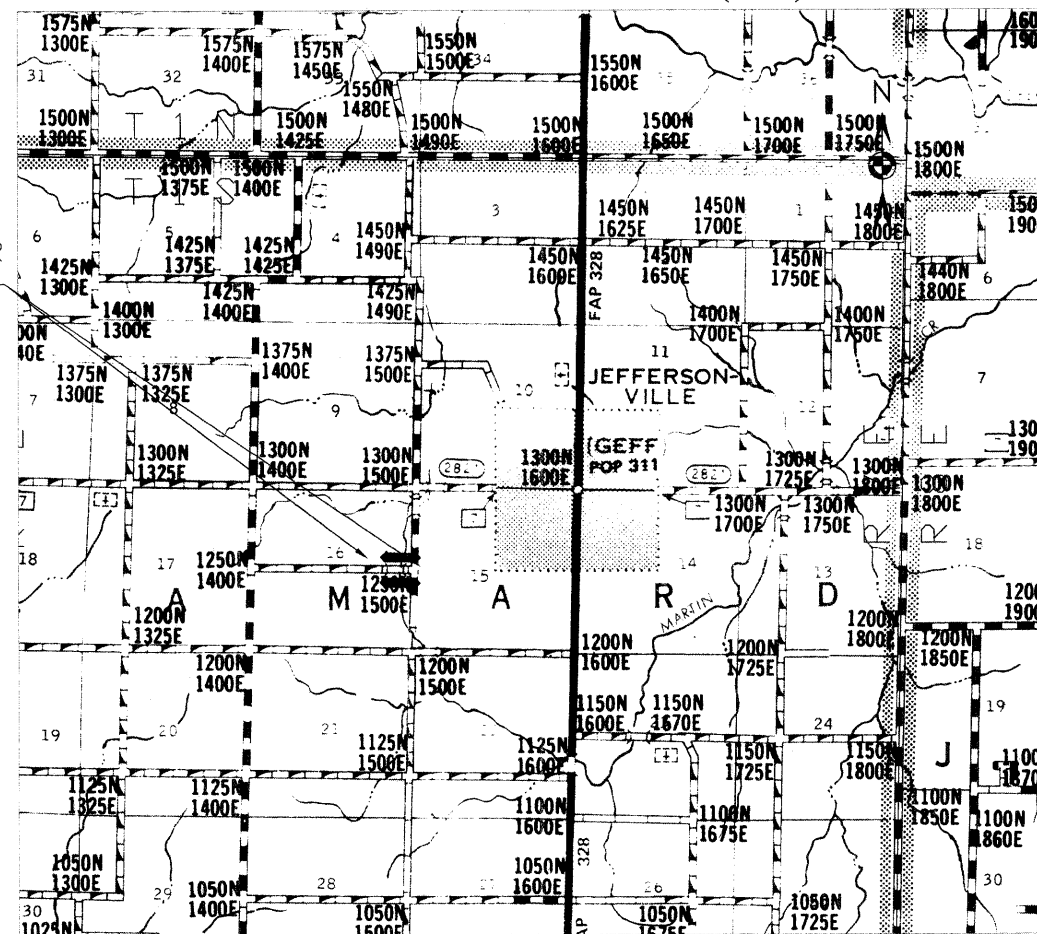
TOWNSHIP ROAD 331
SECTION 04-14106-00-BR
WAYNE COUNTY PROJECT
C-97-055-08
PROJECT # BROS-191(054)

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 12.

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 666001 RIGHT OF WAY MARKERS
- 701901 TRAFFIC CONTROL DEVICES
- BLR 21-7 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

SUMMARY OF QUANTITIES			X081-2A CODE NO.
QUANTITY	UNIT	ITEM	
0.11	ACRE	TREE REMOVAL, ACRES	20100500
680.00	CU YD	EARTH EXCAVATION	20200100
80.00	CU YD	CHANNEL EXCAVATION	20300100
450.00	CU YD	FURNISHED EXCAVATION	20400800
0.38	ACRE	SEEDING, CLASS 2 (SPECIAL)	25001000
220.00	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
170.00	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1.00	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
18.20	CU YD	CONCRETE STRUCTURES	50300225
2.10	CU YD	CONCRETE ENCASEMENT	50300280
1200.00	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS, (27" DEPTH)	50400505
2300.00	POUND	REINFORCEMENT BARS	50800105
100.00	FOOT	STEEL RAILING, TYPE S1	50900205
240.00	FOOT	DRIVING PILES	51202305
240.00	FOOT	FURNISHING STEEL PILES HP 10X42	51201400
1.00	EACH	NAME PLATES	51500100
60.00	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 18"	542D0223
8.00	EACH	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	66600105
1.00	L SUM	MOBILIZATION	67100100
1.00	L SUM	TRAFFIC CONTROL & PROTECTION, STANDARD BLR21	70101830

SECTION 04-14106-00-BR
BEGINS STA. 2+00
ENDS STA. 6+50
EX SN 096-3134
PRO SN 096-3444



BEFORE DIGGING IN ILLINOIS
...CALL JULIE FIRST AT 1-800-892-0123

JASPER WATER WORKS
BILL YOUNG, OPERATOR
CELL PHONE (618)237-0164
HOME PHONE (618)842-2918

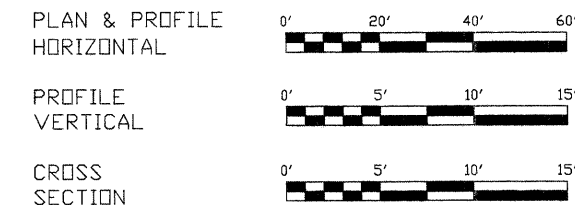
VERIZON
225 EAST CHESTNUT ST.
OLNEY, ILLINOIS
BRIAN VANGUNDY, ENGINEER
(618)395-6189

WAYNE / WHITE ELECTRIC COOP.
ROUTE 45 WEST
FAIRFIELD, ILLINOIS
AARON HAWLEY, ENGINEER
(618)-842-2196

FUNCTIONAL CLASS:
RURAL LOCAL ROAD
ADT = 25
DESIGN SPEED = 30 MPH
EXISTING STRUCTURE NO. 096-3134
PROPOSED STRUCTURE NO. 096-3444

CONTRACT NO. 95544

SCALES



GROSS LENGTH	450.00	FEET	0.085	MILES
OMISSIONS	00.0	FEET	00.00	MILES
NET LENGTH	450.00	FEET	0.085	MILES

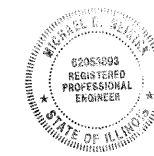
PLANS PREPARED BY:



Michael E. Neikirk
MICHAEL EUGENE NEIKIRK
ILL. REG. PROF. ENGINEER

062-053893
REG. NO.
EXPIRES 11-30-2009

2/25/08
DATE



APPROVED *2-25* 20 *08*

Arthur J. Hoebech
COUNTY ENGINEER

PASSED *2/28* 20 *08*

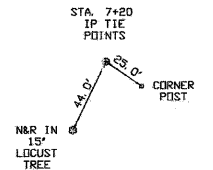
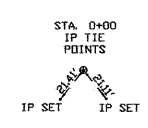
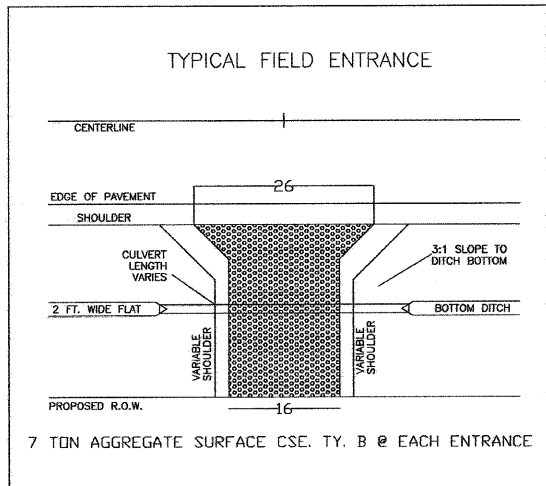
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS & STREETS

Releasing For
Bid Based on
Limited Review

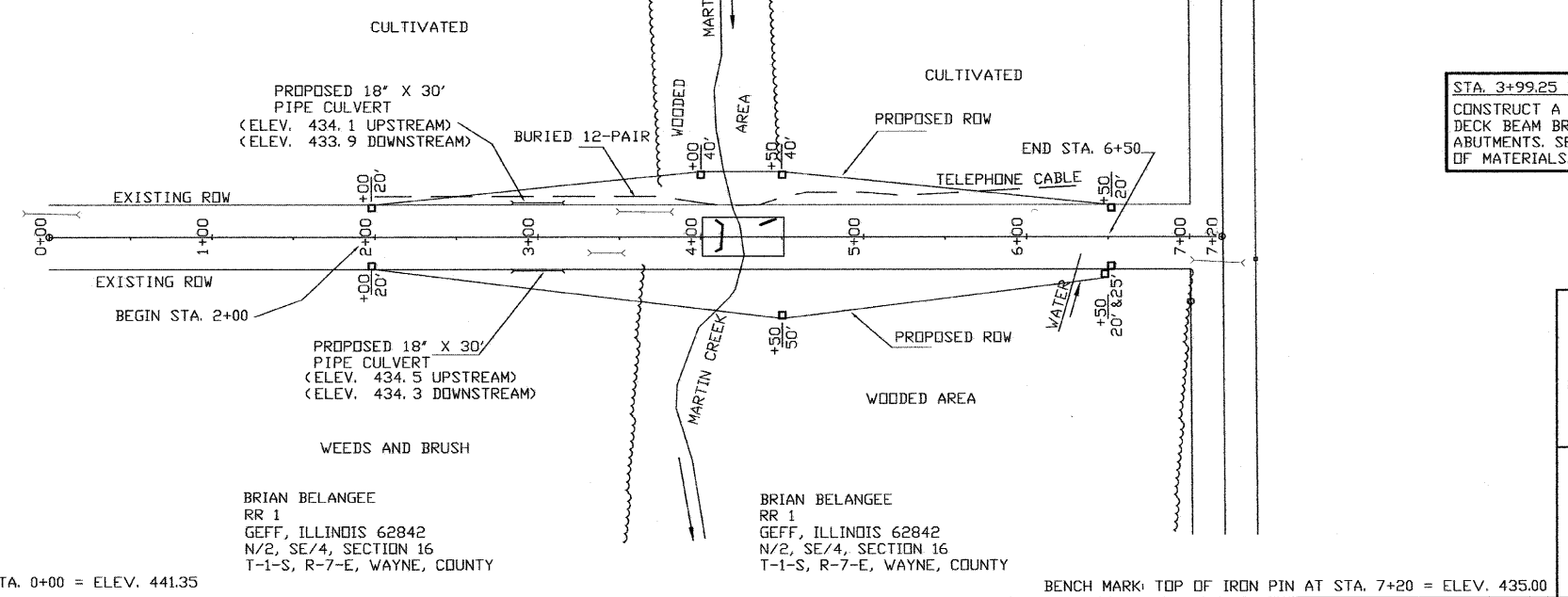
Charles W. Reed *2/28* 20 *08*
DEPUTY DIRECTOR OF HIGHWAYS,
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
04-14106-00-BR	WAYNE	12	2
TOWNSHIP ROAD 331			
MARTIN CREEK BRIDGE CONTRACT NO. 95544			



CYNTHIA CUTRIGHT
398 LEIGHTON COURT
LEHIGH, FL 33972
SE/4, NE/4, SECTION 16
T-1-S, R-7-E, WAYNE COUNTY

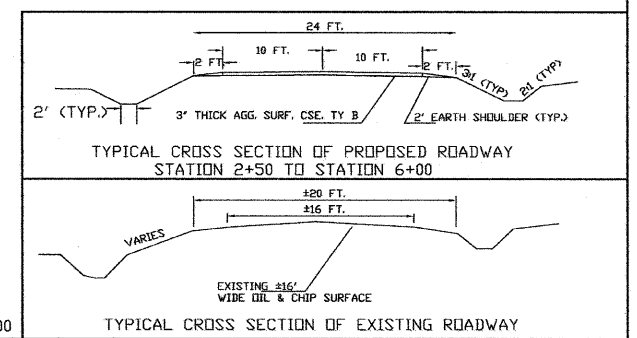


STA. 3+99.25 TO STA. 4+50.75 PROP. SN 096-3444
CONSTRUCT A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE WITH CONCRETE, PILE BENT, SPILL THRU ABUTMENTS. SEE SHEETS 5 - 12 FOR BRIDGE DETAILS AND BILL OF MATERIALS.

UTILITIES
WAYNE-WHITE ELECTRIC COOP.
ROUTE 45 WEST
FAIRFIELD, ILLINOIS
(618)842-2196
ERIN HANLEY, ENGINEER

BOYLESTON WATERWORKS
BILL YOUNG, OPERATOR
CELL PHONE (618)237-0164
HOME (618)842-2918

WABASH TELEPHONE CO.
TODD A. FENDER
PHONE (618)665-3311
LOUISVILLE, ILLINOIS

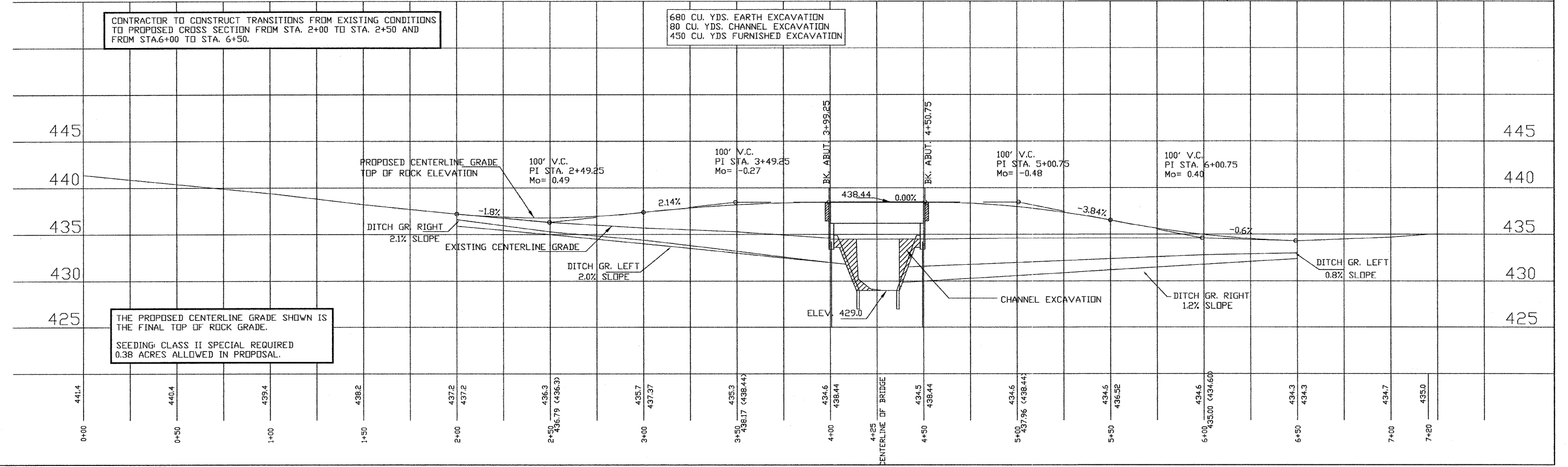


BENCH MARK: TOP OF IRON PIN AT STA. 0+00 = ELEV. 441.35

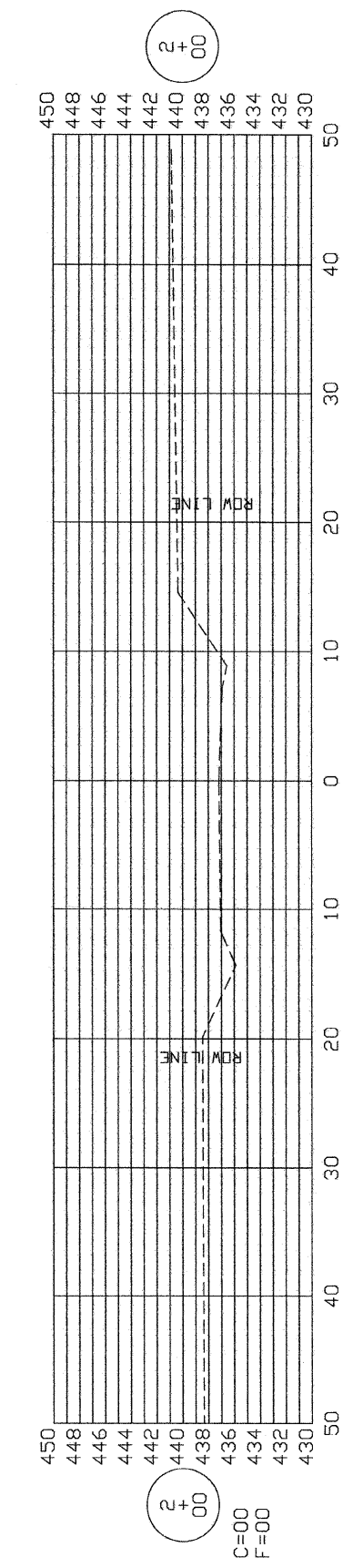
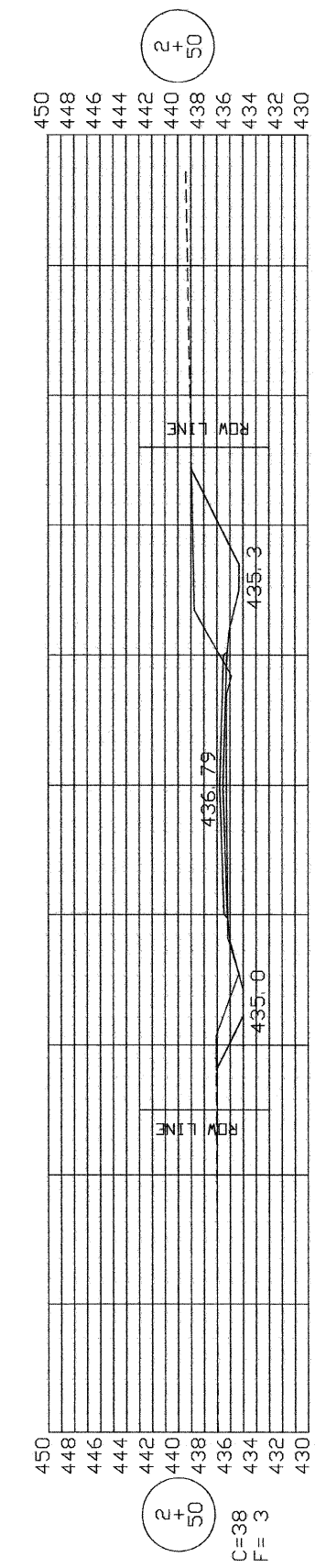
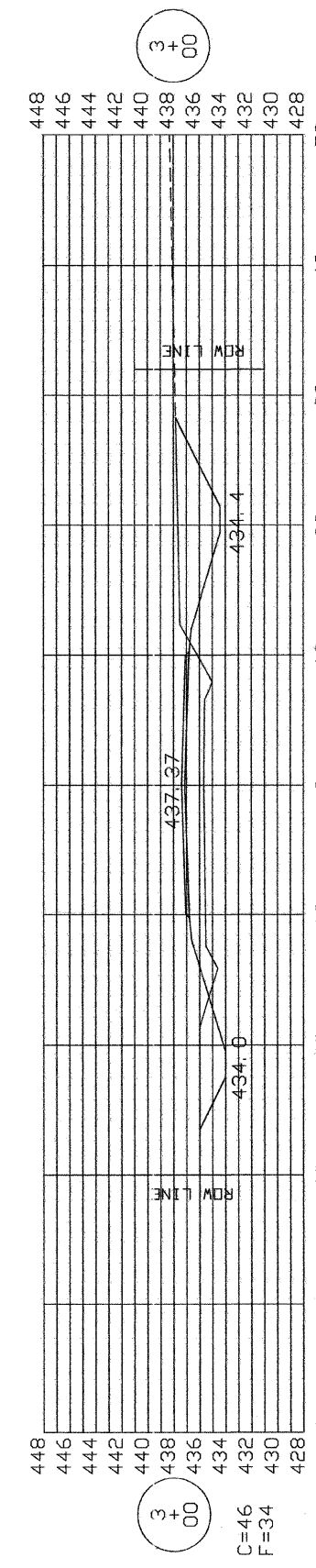
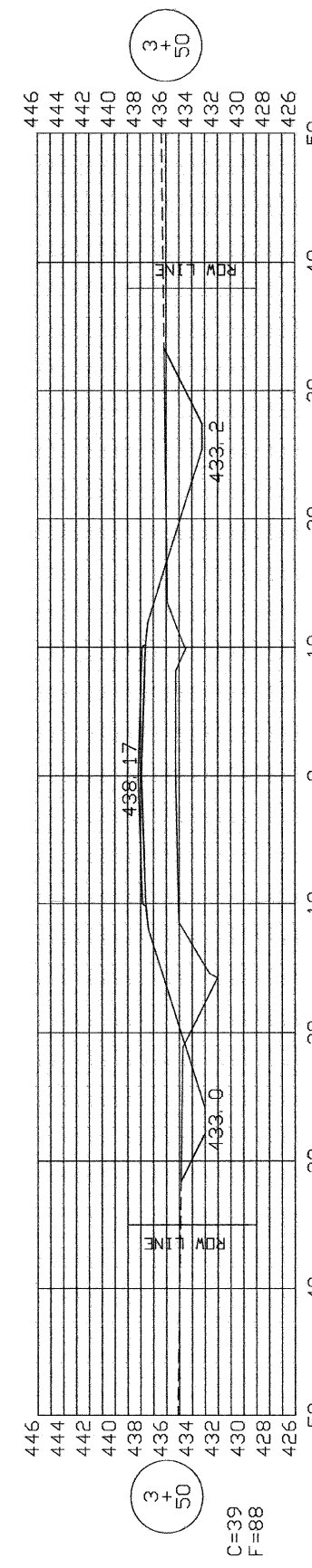
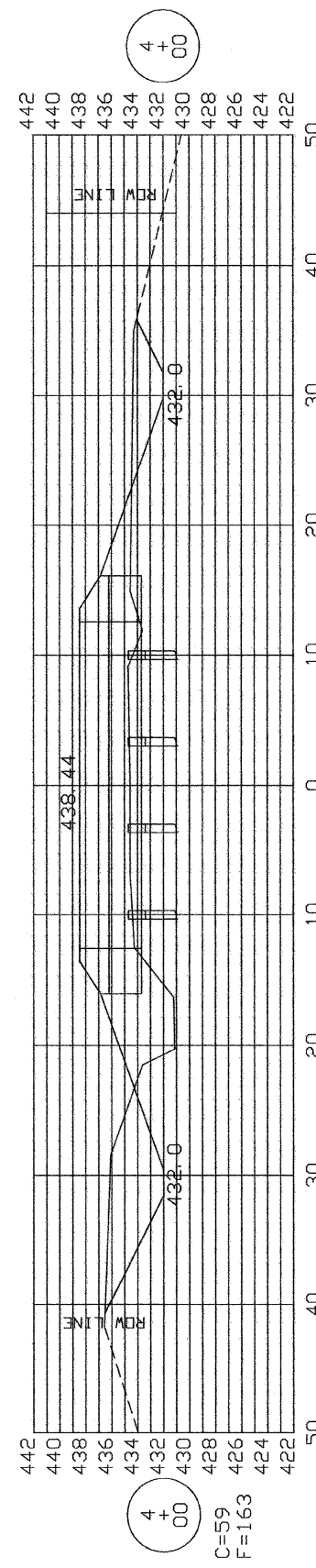
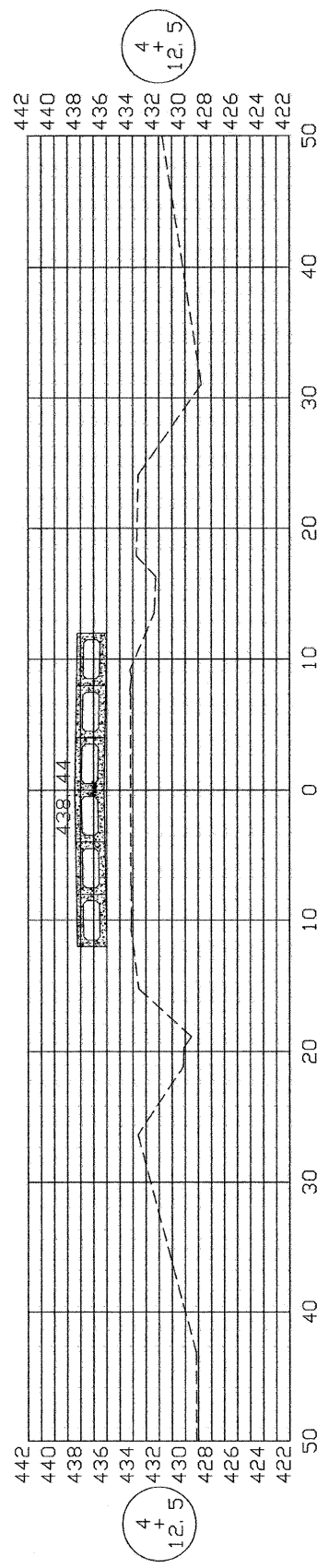
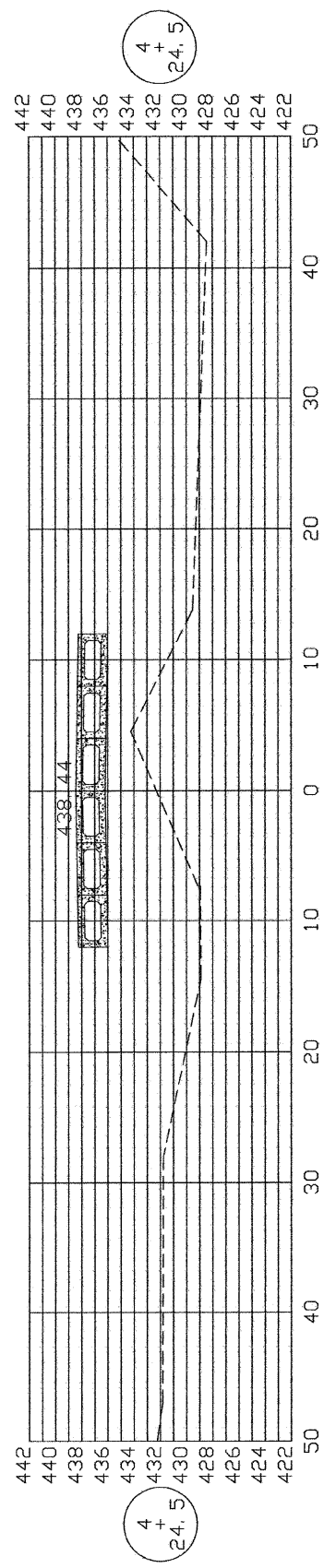
BENCH MARK: TOP OF IRON PIN AT STA. 7+20 = ELEV. 435.00

CONTRACTOR TO CONSTRUCT TRANSITIONS FROM EXISTING CONDITIONS TO PROPOSED CROSS SECTION FROM STA. 2+00 TO STA. 2+50 AND FROM STA. 6+00 TO STA. 6+50.

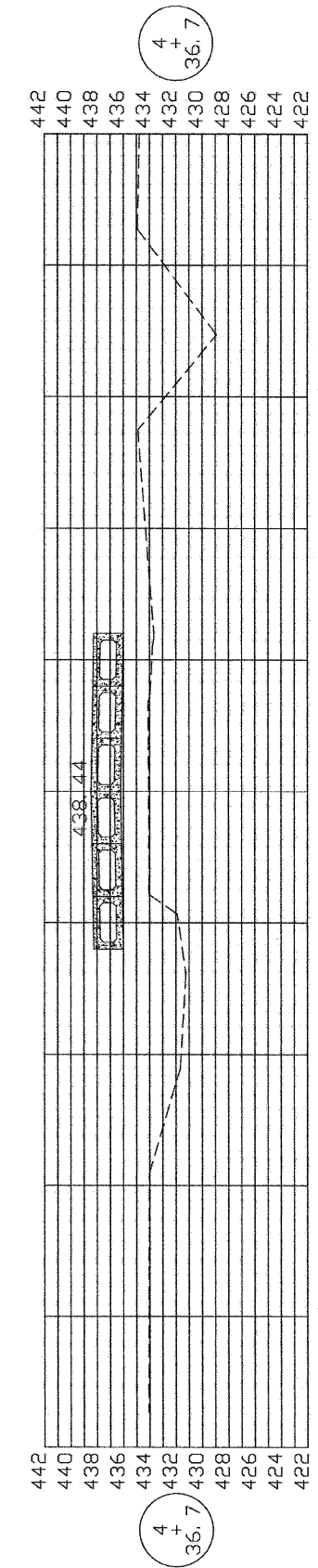
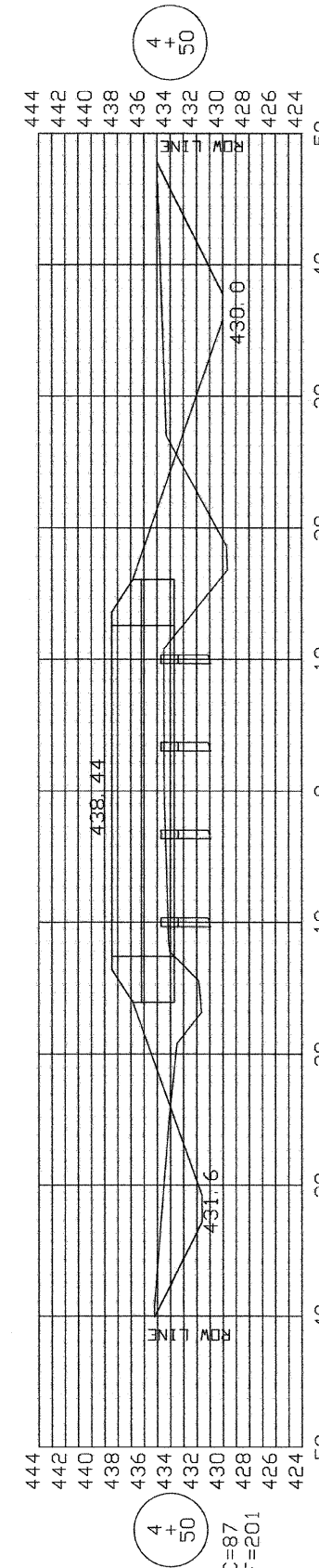
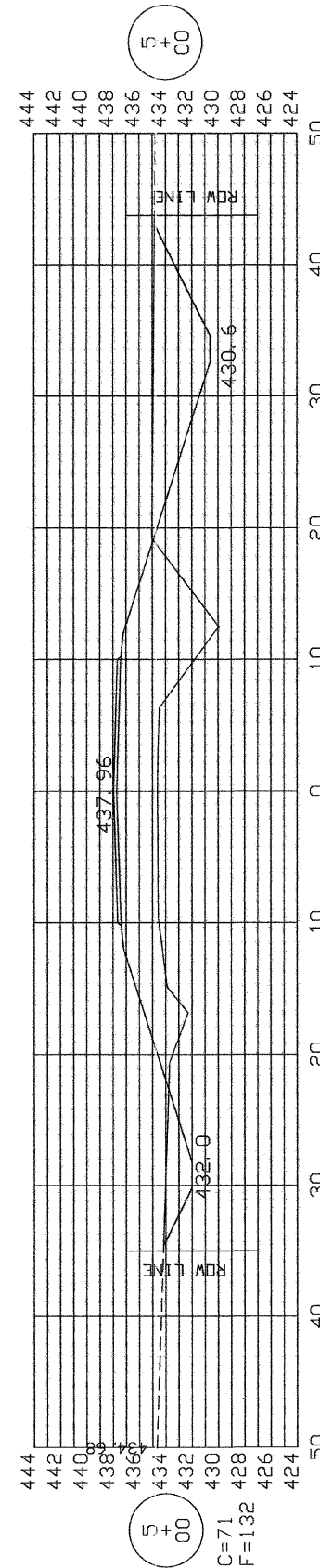
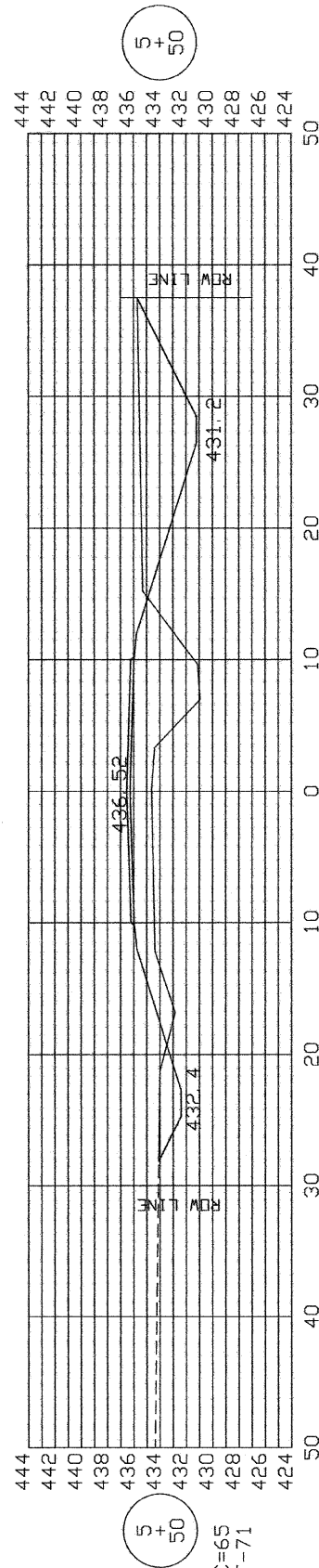
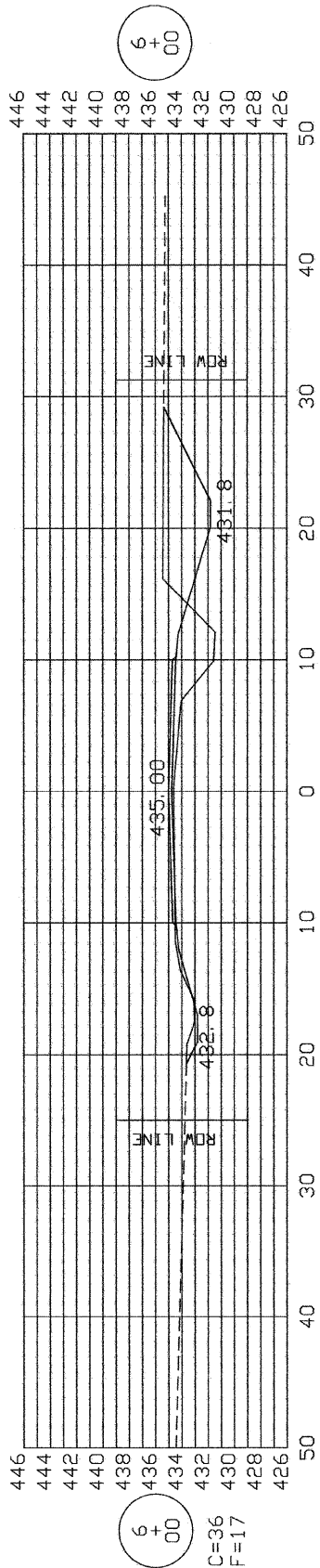
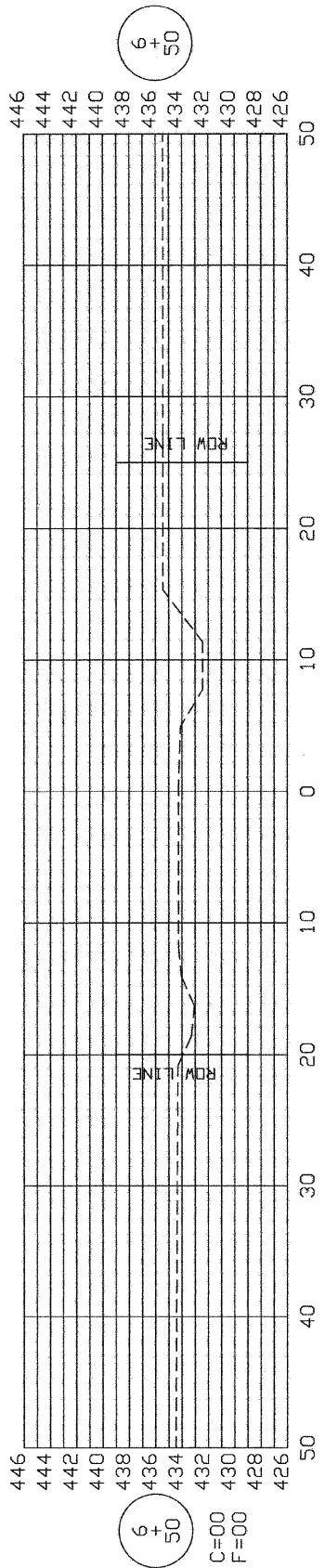
680 CU. YDS. EARTH EXCAVATION
80 CU. YDS. CHANNEL EXCAVATION
450 CU. YDS. FURNISHED EXCAVATION



THE PROPOSED CENTERLINE GRADE SHOWN IS THE FINAL TOP OF ROCK GRADE.
SEEDING: CLASS II SPECIAL REQUIRED
0.38 ACRES ALLOWED IN PROPOSAL.



SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
04-14106-00-BR	WAYNE	12	4
MARTIN CREEK BRIDGE			
CONTRACT NO. 95544			



6+50
C=00
F=00

6+00
C=36
F=17

5+50
C=65
F=71

5+00
C=71
F=132

4+50
C=87
F=201

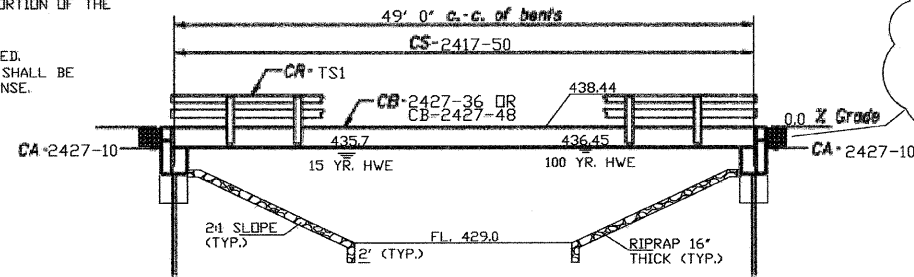
4+36.7
C=36.7

B.M. TOP OF IRON PIN @ STA. 0+00 = ELEV. 441.35
TOP OF IRON PIN @ STA. 7+20 = ELEV. 435.00

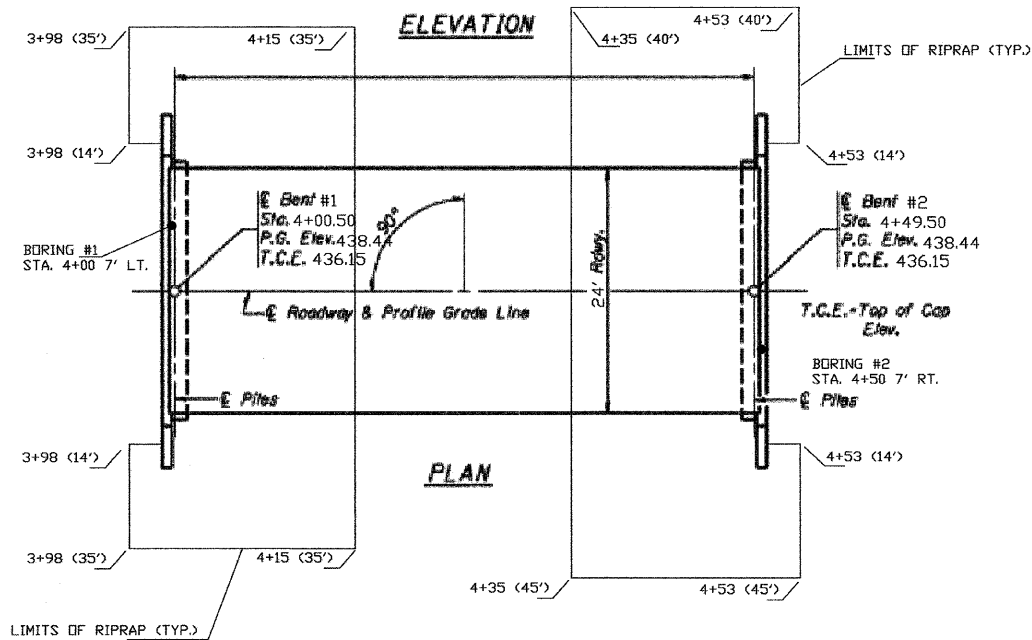
Existing Structure - THE EXISTING BRIDGE HAS COLLAPSED. THE DECK AND STRINGERS HAVE BEEN REMOVED TO CLEAR THE STREAMBED. THE WEST CONCRETE ABUTMENT AND A PORTION OF THE EAST ABUTMENT STILL REMAIN.

Salvage - NO SALVAGE OF THE EXISTING BRIDGE IS ANTICIPATED. THEREFORE DISPOSAL OF ALL EXISTING BRIDGE MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE. (AS PER ART. 202.03 OF THE STANDARD SPECIFICATIONS)

CHANNEL EXCAVATION (80 CU. YDS. ALLOWED IN PROPOSAL) THIS MATERIAL IS TO BE EXCAVATED WITHIN THE LIMITS OF THE PROPOSED BRIDGE AND TAPERED TO MATCH THE EXISTING CHANNEL AT THE DITCH LINE.



GRANULAR MATERIAL TO BE PLACED BEHIND EACH ABUTMENT MUDWALL (2'X2'X24" EACH END OF BRIDGE) 14 TON OF AGGREGATE SURFACE CSE. TY. B ALLOWED IN PROPOSAL.



LIMITS OF RIPRAP MAY BE ADJUSTED TO MEET CONDITIONS IN THE FIELD. THE ENGINEER SHALL APPROVE THE LAYOUT & GRADE PRIOR TO THE PLACEMENT OF ANY RIPRAP. 220 TON ALLOWED IN PROPOSAL.

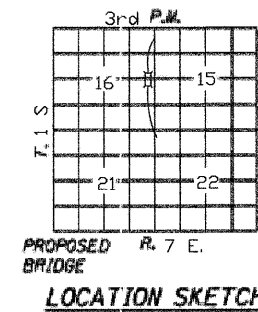
DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications - 17th ed.

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-ABUTS.)
Type HP 10X42 STEEL PILE
NOMINAL REQUIRED BEARING 335 kips
ALLOWABLE RESISTANCE AVAILABLE 112 kip
Estimated Length 30 Feet
Number Required 8 (Includes 1 Foot Pile located in Bent #1)
PILE CUTOFF ELEV. 434.65

STATION 4+25.00
MARTIN CREEK
SEC. 04-14106-00-BR BUILT 20
LAMARD ROAD-DIST. TOWNSHIP
WAYNE COUNTY
LOADING HS20
STR. NO. 096-3444
LETTERING FOR NAME PLATE
Locate Name Plate at S.W. Corner of Bridge (See Std. CN)



WATERWAY INFORMATION

Drainage Area		Low Grade Elev. *429.00		Sta. 4+30					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.			
Design	15	1055	79.6	220.00	435.7	2.86	0	435.62	435.71
Base	100	1710	79.6	232.65	436.45	3.31	0.45	436.1	436.45
Overlapping									
Max. Calc.	500								

TR-331	WAYNE	12	5
SECTION 04-14106-00-BR CONTRACT # 95544			

GENERAL NOTES

- The Contractor shall drive 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 Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

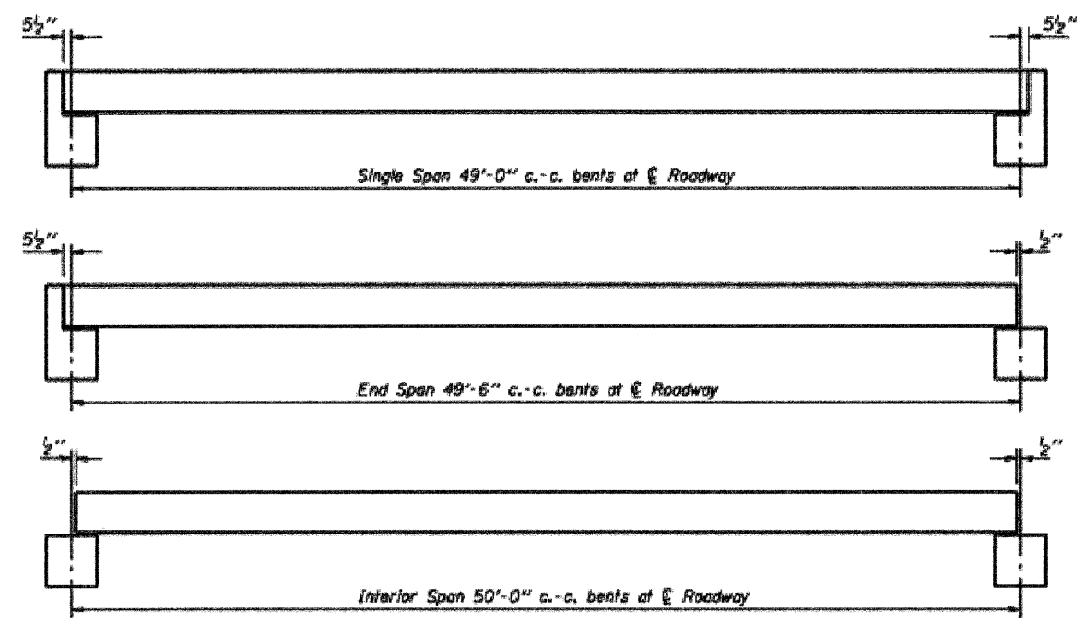
TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each				1
Bituminous Concrete Surface Course, Superpave	Ton				
Waterproofing Membrane System	Sq. Yd.				
Concrete Structures	Cu. Yd.			18.2	18.2
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1200			1200
Steel Bridge Rail Type SW	Foot				
Steel Rolling, Type S-1	Foot	100			100
Reinforcement Bars	Pound			2300	2300
Furnishing HP 10X42 STEEL PILE	Foot			240	240
Driving HP 10X42 STEEL PILE	Foot			240	240
Test Piles	Each				
Name Plates	Each			1	1
Concrete Encasement Class S1	Cu. Yd.			2.1	2.1
Portland Cement Mortar Facing Course	Foot				

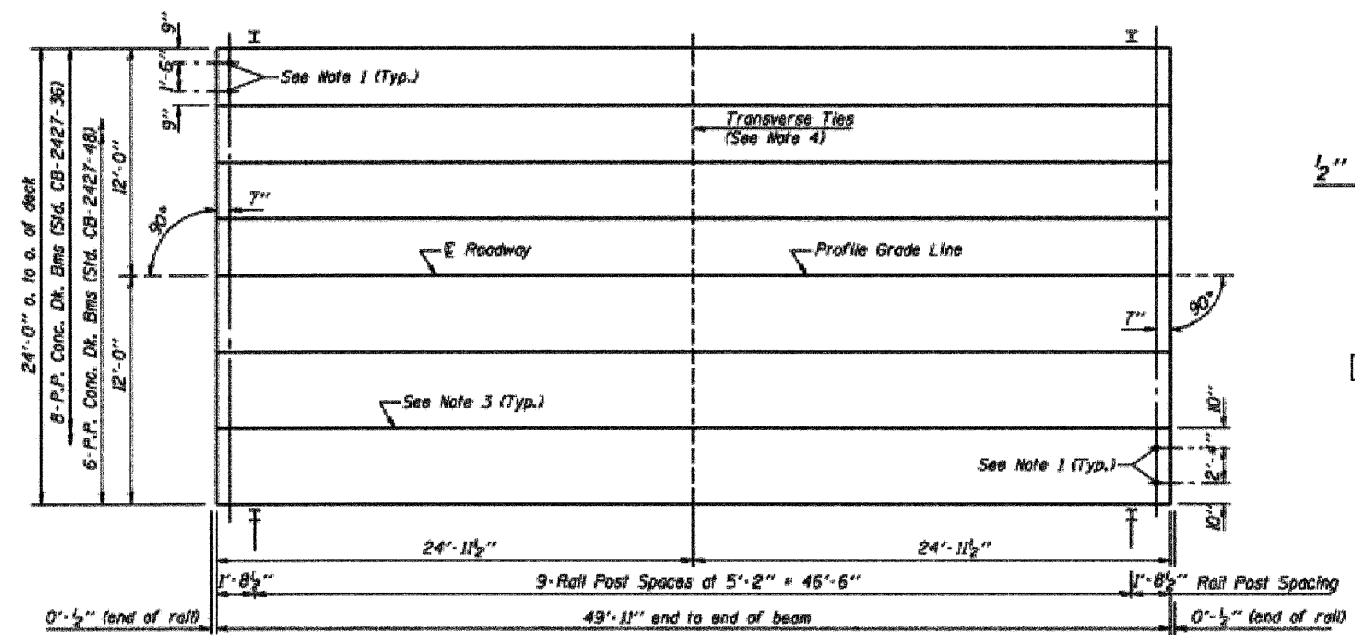
INDEX OF SHEETS

- 5 General Plan & Elevation
- 6 Standard CS-2427-50
- 7 Standard CB-2427-36
- 8 Standard CB-2427-48
- 9 Standard CA-2427-10
- 10 Standard CR-TS1
- 11 Standard CN
- 12 Standard CX-1

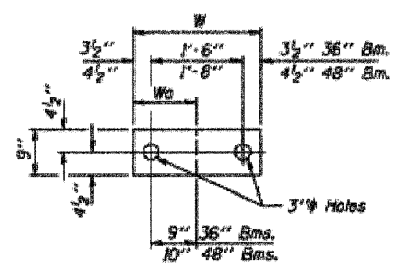
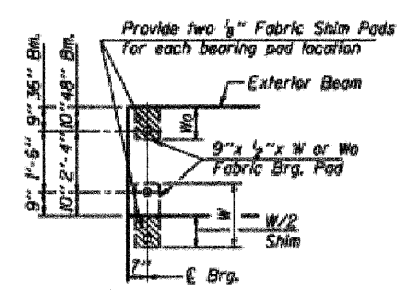
GENERAL PLAN & ELEVATION	
TR	ROUTE 331
OVER MARTIN CREEK	
SECTION	04-14106-00-BR
	WAYNE COUNTY
STATION	4+25.00



TYPICAL ELEVATIONS

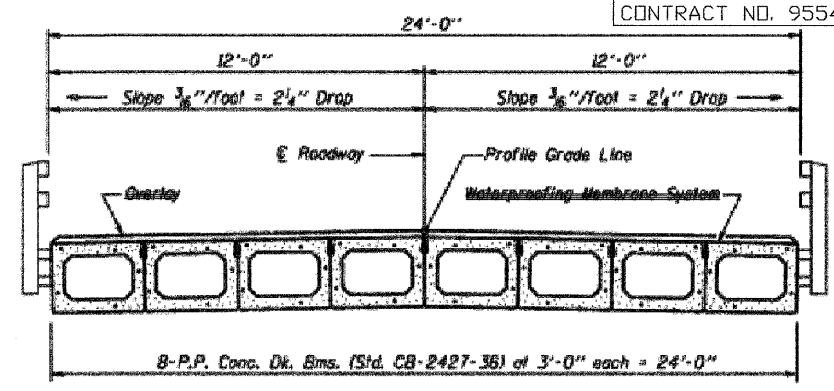


PLAN

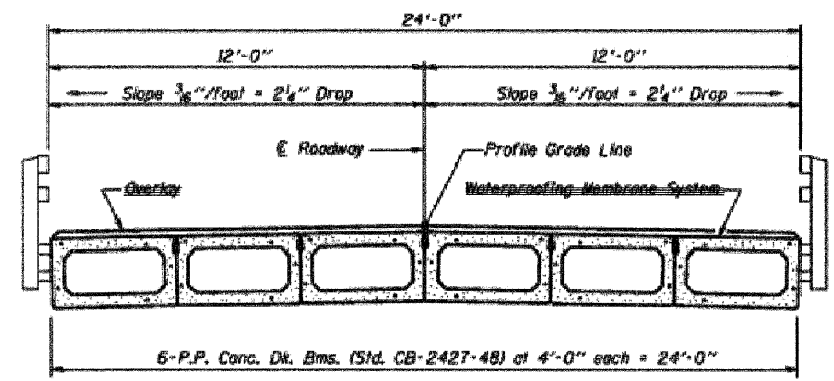


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

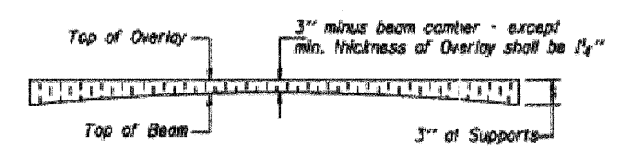
1/2" FABRIC BRG. PAD DETAILS



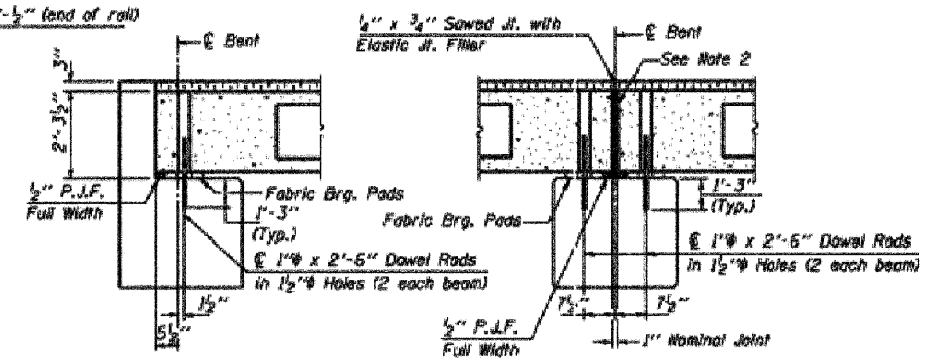
CROSS SECTION



CROSS SECTION



PROFILE OF OVERLAY



SECTION AT ABUTS.
(Along E Beams)

SECTION AT PIERS
(Along E Beams)

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 E Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.
4. The 1" 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.

QUANTITIES FOR ONE SPAN

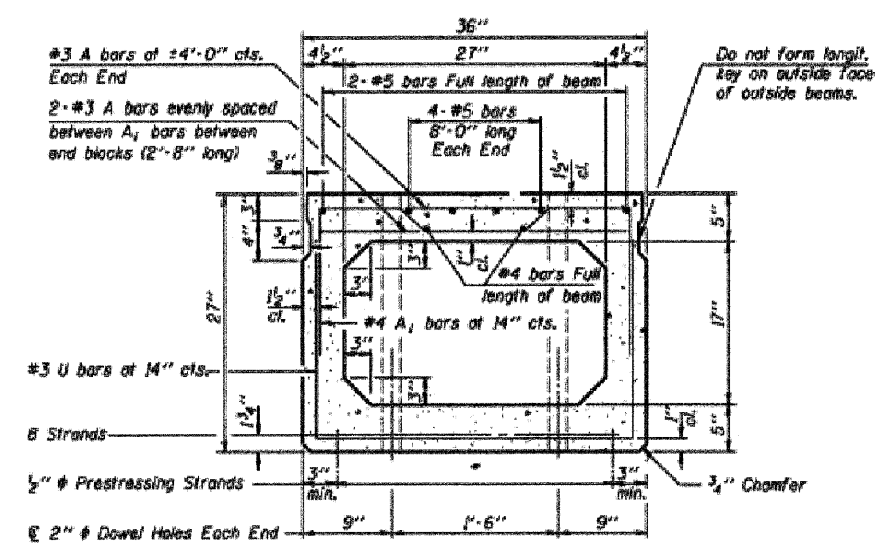
P.P. Conc. Dk. Bm. 27" Dp.	1200 Sq. Ft.
Steel Purling	100 Ft.
Waterproofing Membrane System	133.7 Sq. Yds.
Portland Cement Mortar	350 Ft. 36"
Falring Course	250 Ft. 48"

Note: Quantity of overlay for one span = 18.2 Tons.

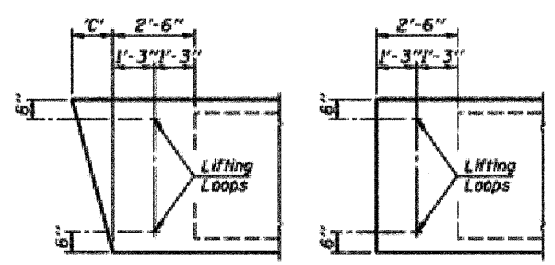
P.P.C. DECK BEAM
SUPERSTRUCTURE

24' RDWY.	27" BMS.	50' SPAN	0° SKEW
STANDARD CS-2427-50			

Illinois Department of Transportation
PASSED APRIL 4, 2005
THOMAS S. NEASE, JR.
Engineer of Bridge Design
APPROVED APRIL 4, 2005
RALPH F. CARLSON
Engineer of Bridges and Structures

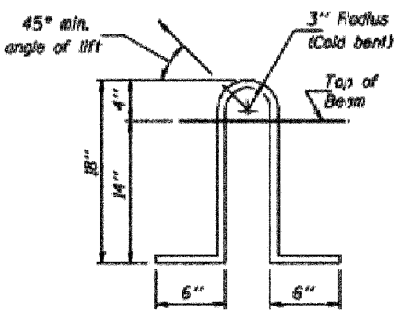


CROSS SECTION
(40' SPAN)



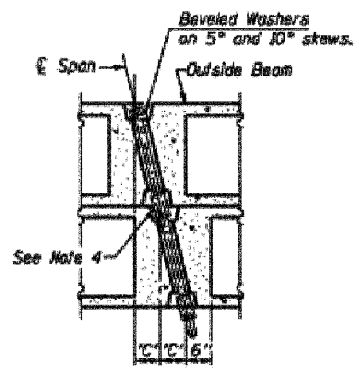
END BLOCK DETAILS

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

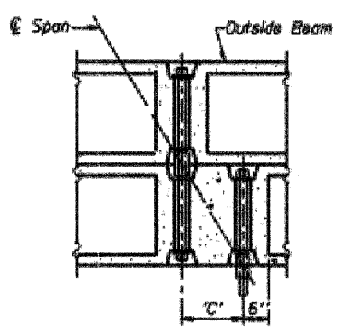


LIFTING LOOP DETAIL

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



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



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

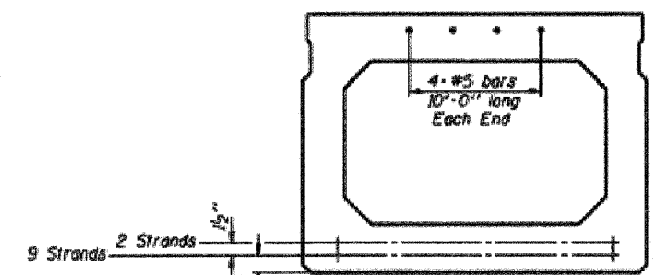
DIMENSION 'C'

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

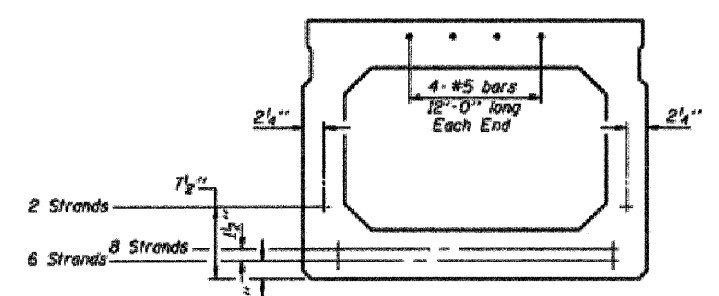
*** TRANSVERSE STRAND PLACEMENT GUIDELINES**

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".

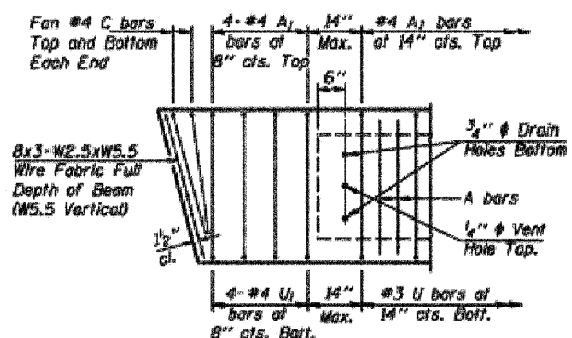
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



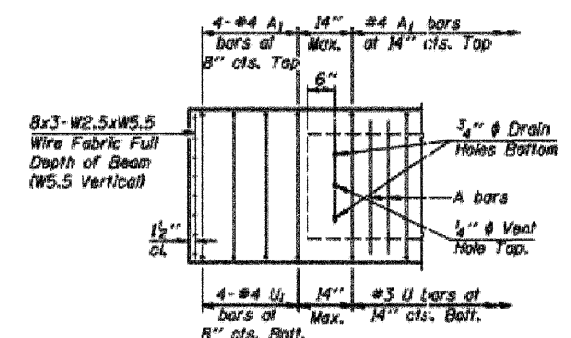
CROSS SECTION
(50' SPAN)



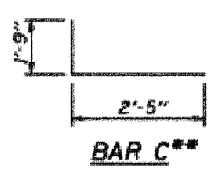
CROSS SECTION
(60' SPAN)



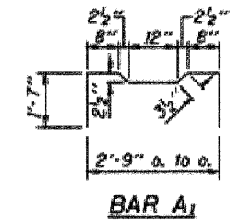
END REINFORCEMENT (SKEWED)



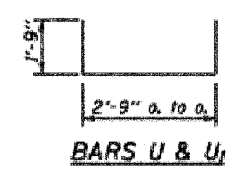
END REINFORCEMENT (RIGHT ANGLE)



BAR C**



BAR A1



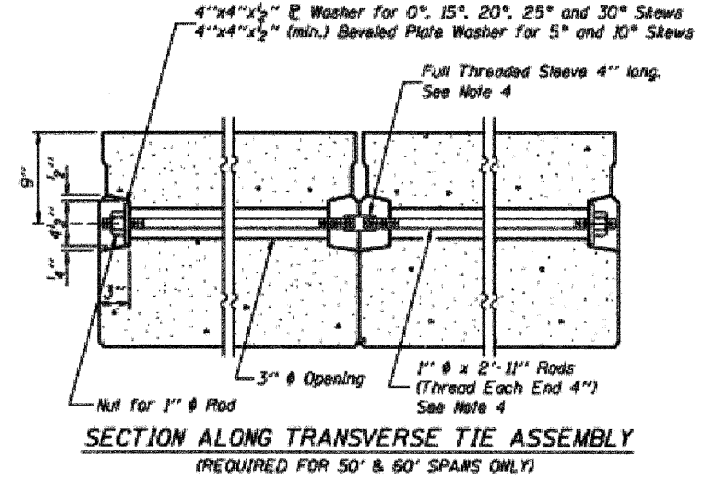
BARS U & U1

DESIGN STRESSES

- $f_c = 5,000$ p.s.i.
- $f_t = 4,000$ p.s.i.
- $f_s = 270,000$ p.s.i. (1/2" # Strand)
- $f_{st} = 201,980$ p.s.i. (1/2" # Strand)
- $f_y = 60,000$ p.s.i.

MIN. BAR LAP

- #4 bars = 1'-4"
- #5 bars = 1'-8"



SECTION ALONG TRANSVERSE TIE ASSEMBLY
(REQUIRED FOR 50' & 60' SPANS ONLY)

NOTES

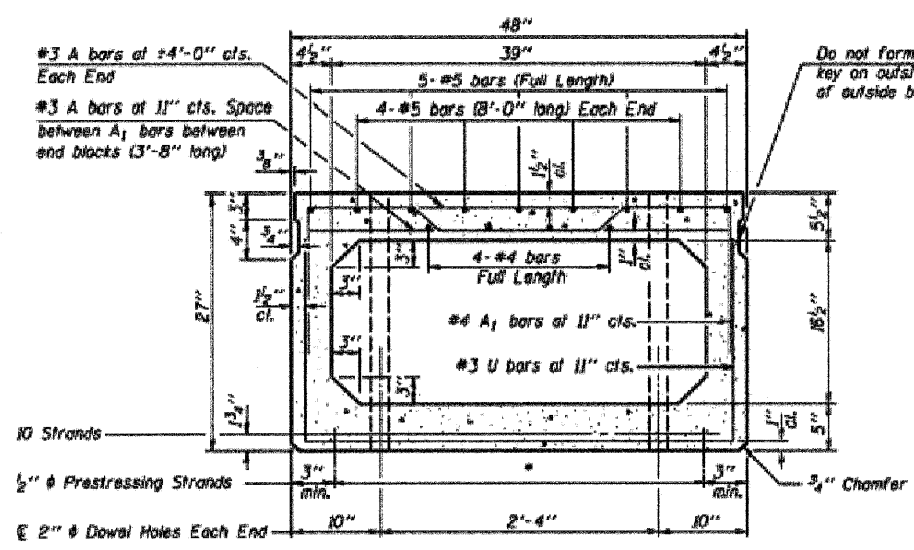
1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-32, Grade 60.
4. On 0°, 5° and 10° skews, alternate approved transverse tie rods of increased segmental length are acceptable.
5. Roll Post anchor devices shall be cast into outside beam as elsewhere specified.
6. 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".
7. 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 APRIL 4, 2005
THOMAS S. [Signature]
Engineer of Bridge Design
APPROVED APRIL 4, 2005
[Signature]
Engineer of Bridges and Structures

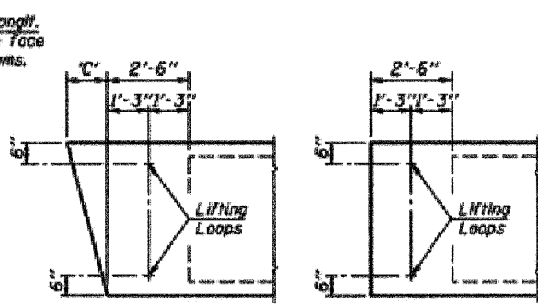
NOTE:
The std. reinf. and dimensions shown on the 40' span cross section is typical for all spans, except as shown.

****NOTE:**
The following number of C bars shall be used:
Stew No.
5° and 10° — 1
15° and 20° — 2
25° and 30° — 3

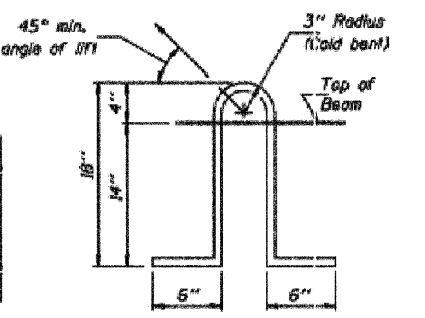
P.P.C. DECK BEAM DETAILS	
24' ROADWAY	27" x 36" BEAMS
STANDARD CB-2427-36	



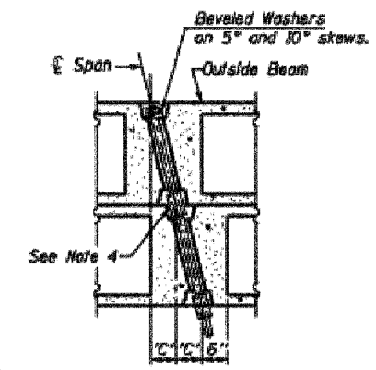
CROSS SECTION
(40' SPAN)



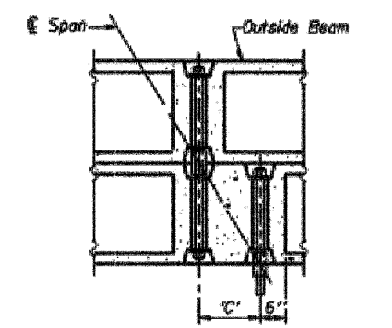
END BLOCK DETAILS
Each beam shall have four Lifting Loops, two at each end of beam cast in locations shown above. Loops shall be burned off after beams have been erected.



LIFTING LOOP DETAIL
Lifting loops shall be 3/8" φ - 270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.



PARTIAL PLAN TRANSVERSE TIE ASSEMBLY
(0°-0°, 5° and 10°)



PARTIAL PLAN TRANSVERSE TIE ASSEMBLY
(0°-15°, 20°, 25° and 30°)

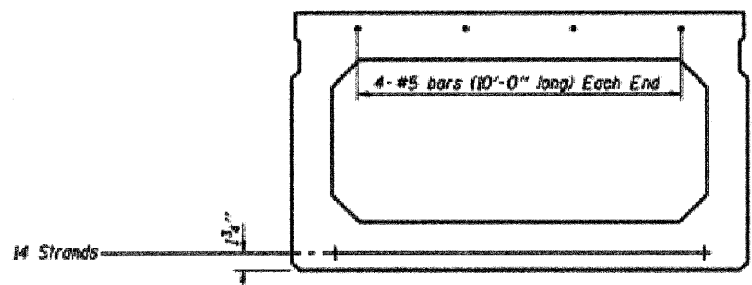
DIMENSION 'C'

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

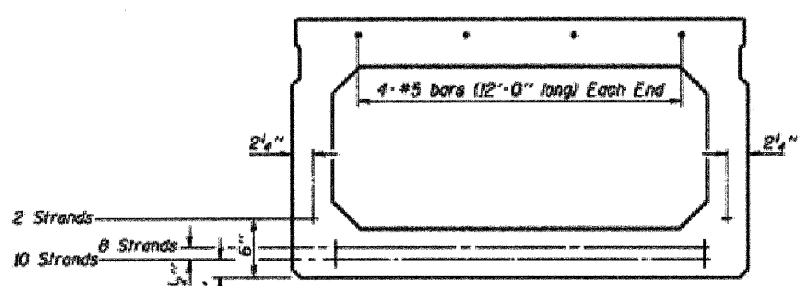
*** TRANSVERSE STRAND PLACEMENT GUIDELINES**

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".

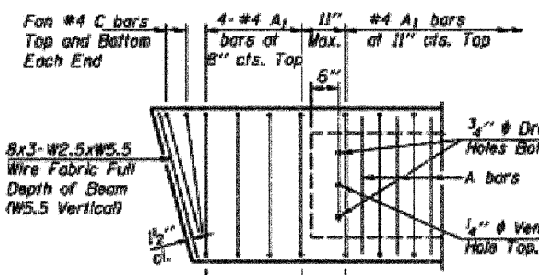
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



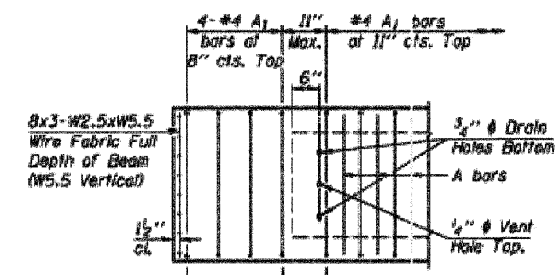
CROSS SECTION
(50' SPAN)



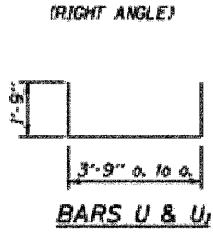
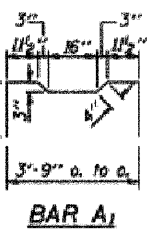
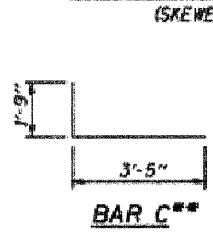
CROSS SECTION
(60' SPAN)



END REINFORCEMENT
(SKEWED)



END REINFORCEMENT
(RIGHT ANGLE)

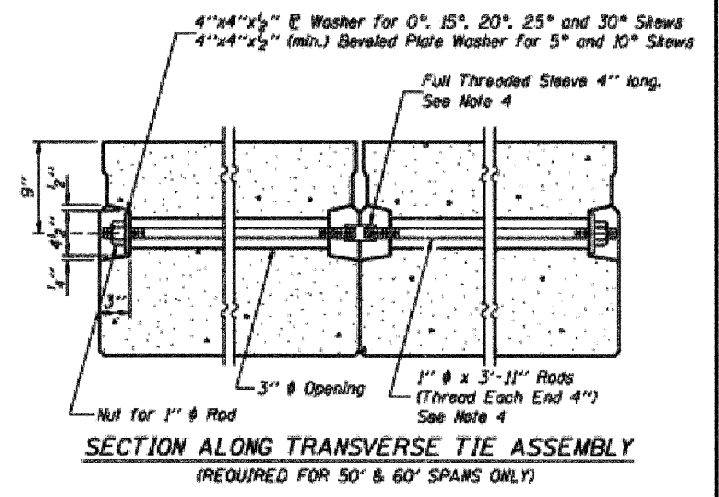


DESIGN STRESSES

- $f_c = 5,000$ p.s.i.
- $f_{ci} = 4,000$ p.s.i.
- $f_s = 270,000$ p.s.i. (1/2" φ Strand)
- $f_{st} = 201,960$ p.s.i. (1/2" φ Strand)
- $f_y = 60,000$ p.s.i.

MIN. BAR LAP

- #4 bars = 1'-4"
- #5 bars = 1'-8"



SECTION ALONG TRANSVERSE TIE ASSEMBLY
(REQUIRED FOR 50' & 60' SPANS ONLY)

NOTES

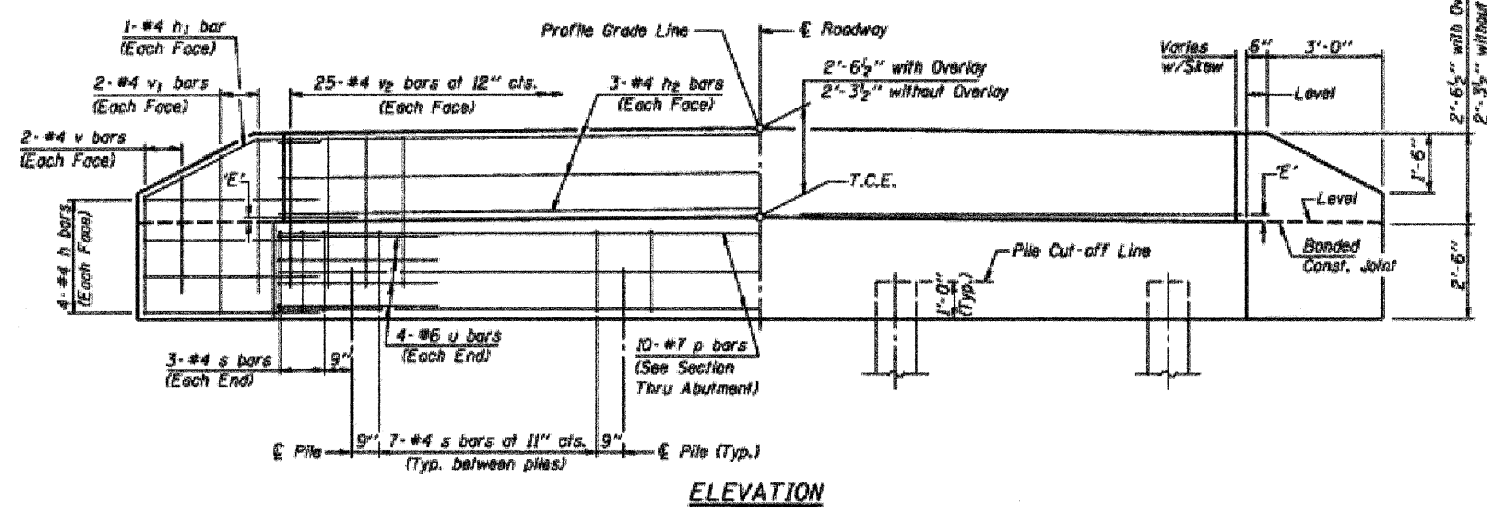
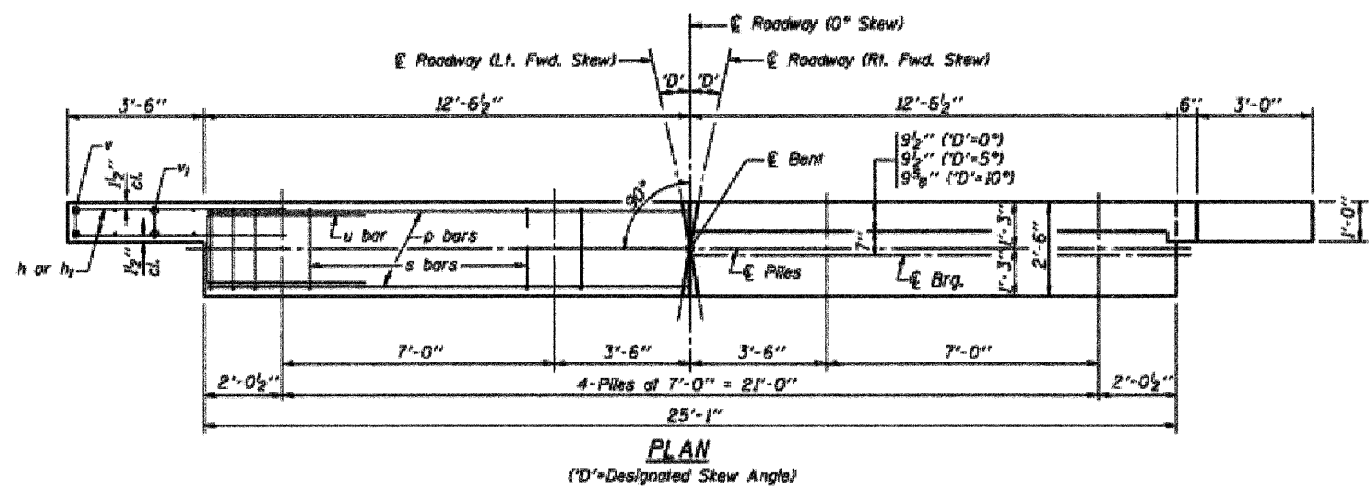
1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
4. On 0°, 5° and 10° skews, alternate approved transverse tie rods of increased segmental length are acceptable.
5. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
6. 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".
7. 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 APRIL 4, 2005
THOMAS J. HANNAN, III
Engineer of Bridge Design
APPROVED APRIL 4, 2005
RALPH E. CARLSON
Engineer of Bridges and Structures

NOTE
The std. reinf. and dimensions shown on the 40' span cross section is typical for all spans, except as shown.

****NOTE:**
The following number of C bars shall be used:
Skew No.
5° and 10° — 1
15° and 20° — 2
25° and 30° — 3

P.P.C. DECK BEAM DETAILS	
24' ROADWAY	27" x 48" BEAMS
STANDARD CB-2427-48	



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 1/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 3/8"	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

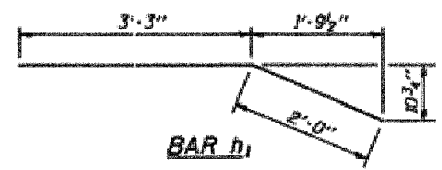
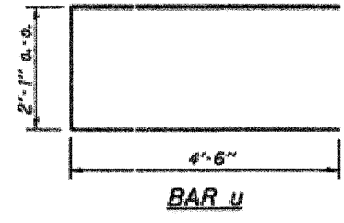
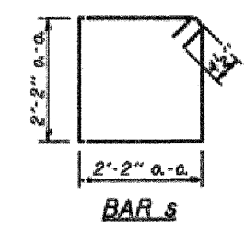
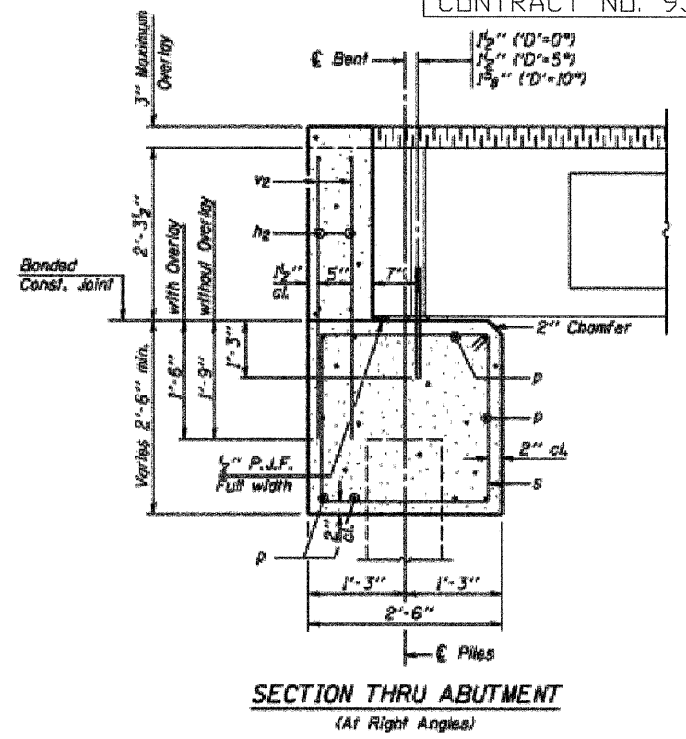
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-51 or M-322, Grade 60.
- Space reinforcement in cop to miss anchor balls.

MAXIMUM PILE LOADS

SPAN	TONS
40'	34
50'	38
60'	43

DESIGN STRESSES

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



BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
he	6	#4	24'-9"	—
p	10	#7	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	—
v	8	#4	3'-2"	—
v1	8	#4	4'-2"	—
v2	50	#4	3'-11"	—
Concrete Structures				9.1 Cu. Yds.
Reinforcement Bars				1150 Lb.

P.P.C. DECK BEAMS PILE BENT ABUTMENT		
24' RDWY.	27" BMS.	D=0°, 5° OR 10°
STANDARD CA-2427-10		

Illinois Department of Transportation
PASSED APRIL 4, 2005
THOMAS J. [Signature]
Engineer of Bridge Design
APPROVED APRIL 4, 2005
RALPH E. [Signature]
Engineer of Bridges and Structures

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-III and ASTM A 385. Galvanized rail shall not be painted.

Rolling 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.

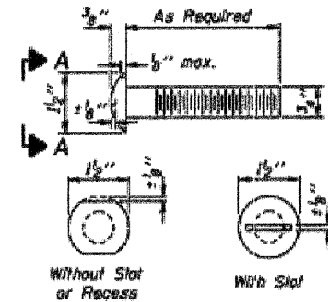
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

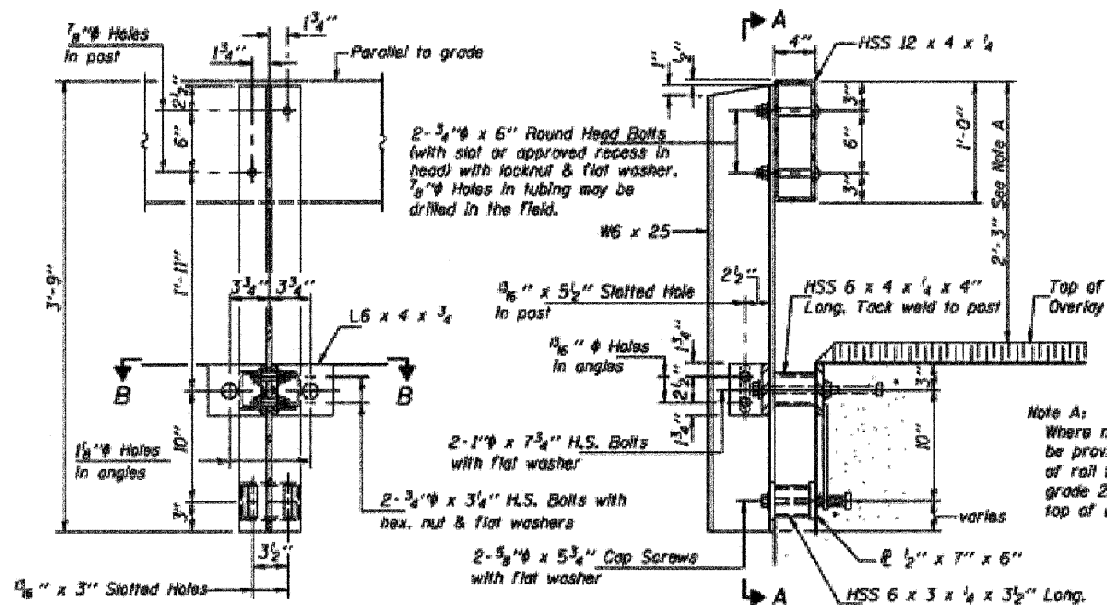
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/2" fabric bearing pads shall be placed between the plates and concrete.

The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04 (IX2) 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 1/2 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

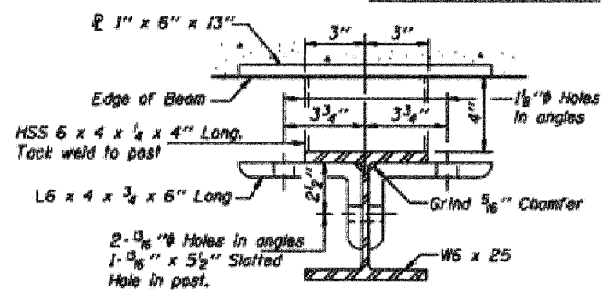
The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spacings of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



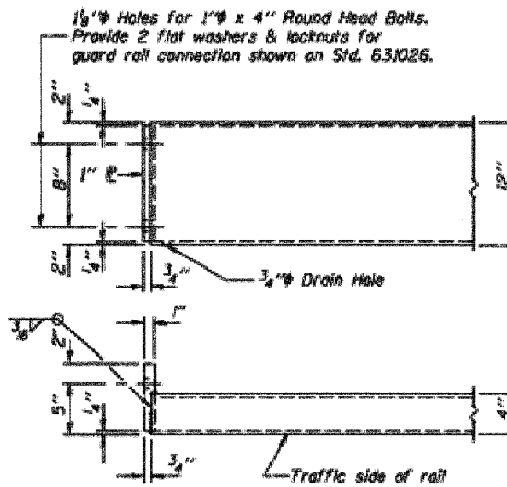
**VIEW A-A
ROUND HEAD BOLT**



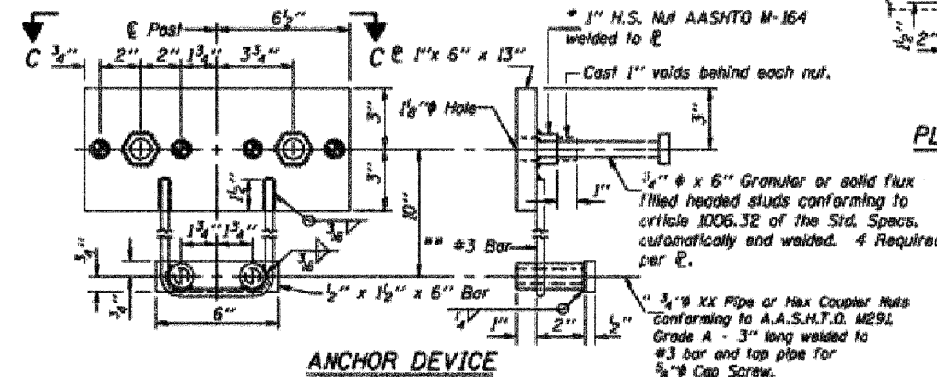
SECTION A-A



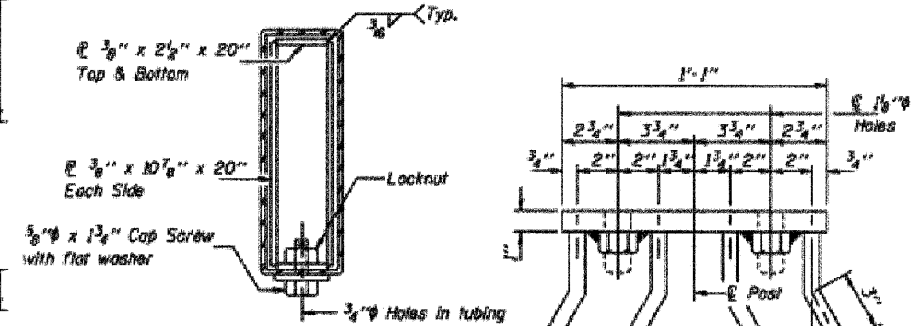
SECTION B-B



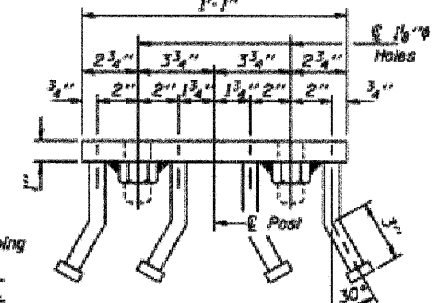
END OF RAIL DETAILS



ANCHOR DEVICE



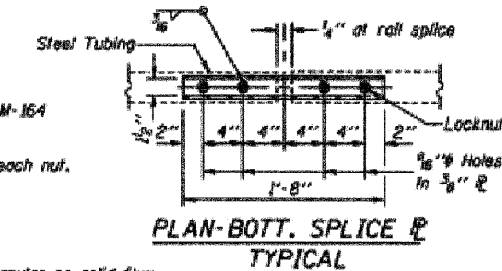
SECTION AT RAIL SPLICE



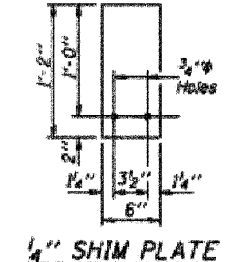
VIEW C-C

* 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 inch.



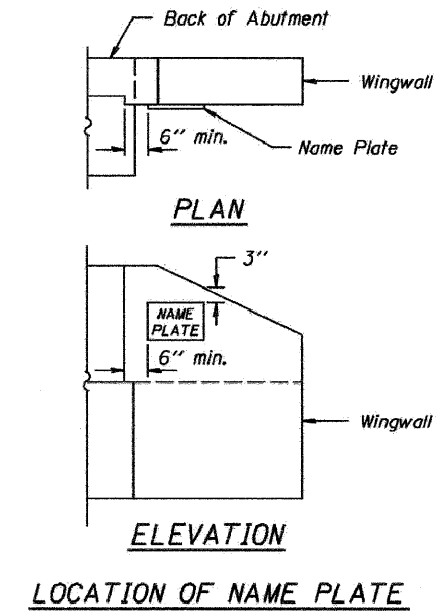
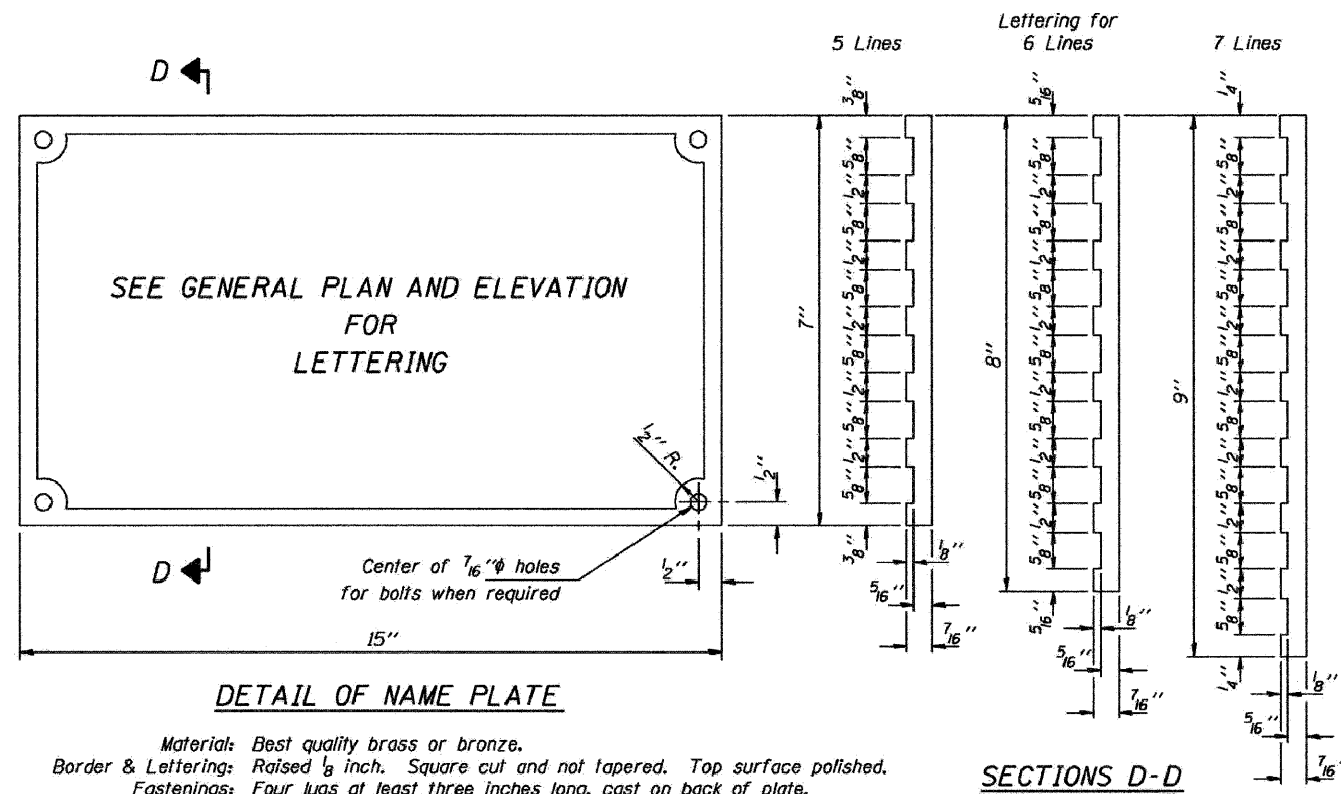
PLAN-BOTT. SPLICE & TYPICAL



1/4 SHIM PLATE

Illinois Department of Transportation
PASSED APRIL 4, 2005
THOMAS J. WOODWARD
Engineer of Bridge Design
APPROVED APRIL 4, 2005
RALPH E. ANDERSON
Engineer of Bridges and Structures

**STEEL RAILING, TYPE S-1
STANDARD CR-TS1**



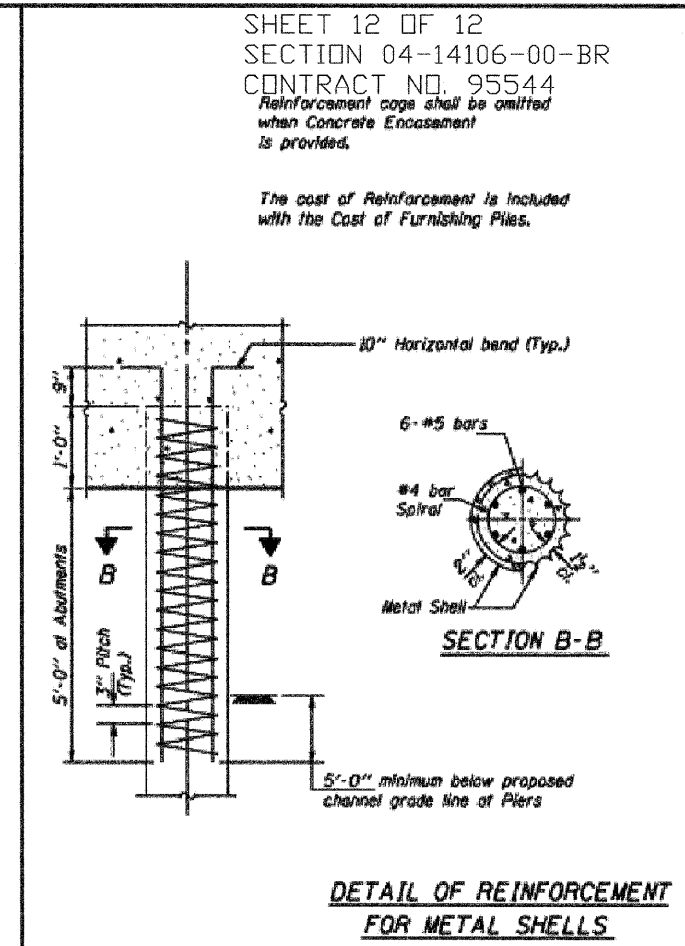
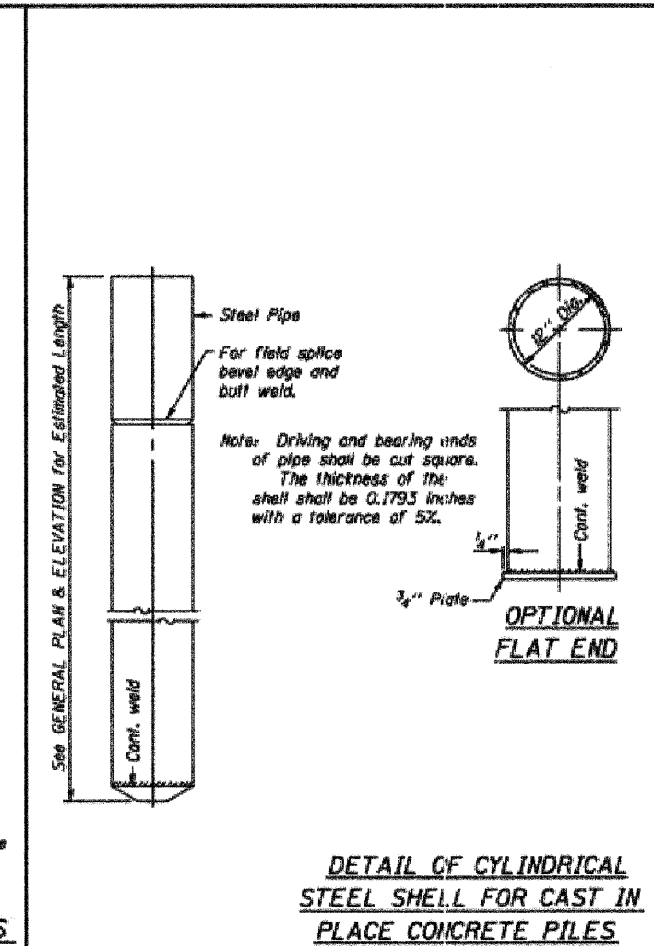
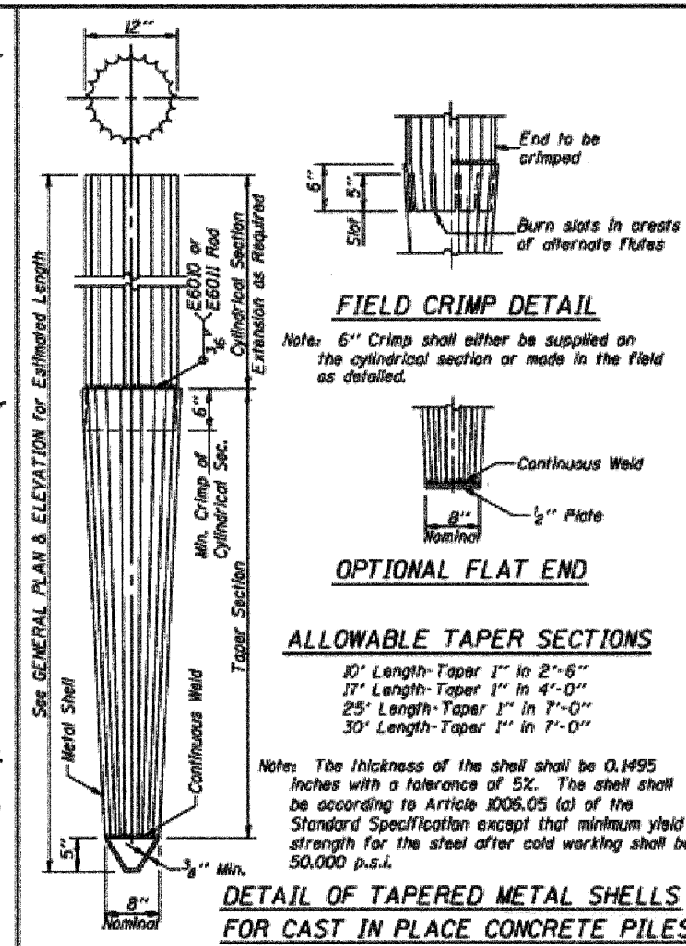
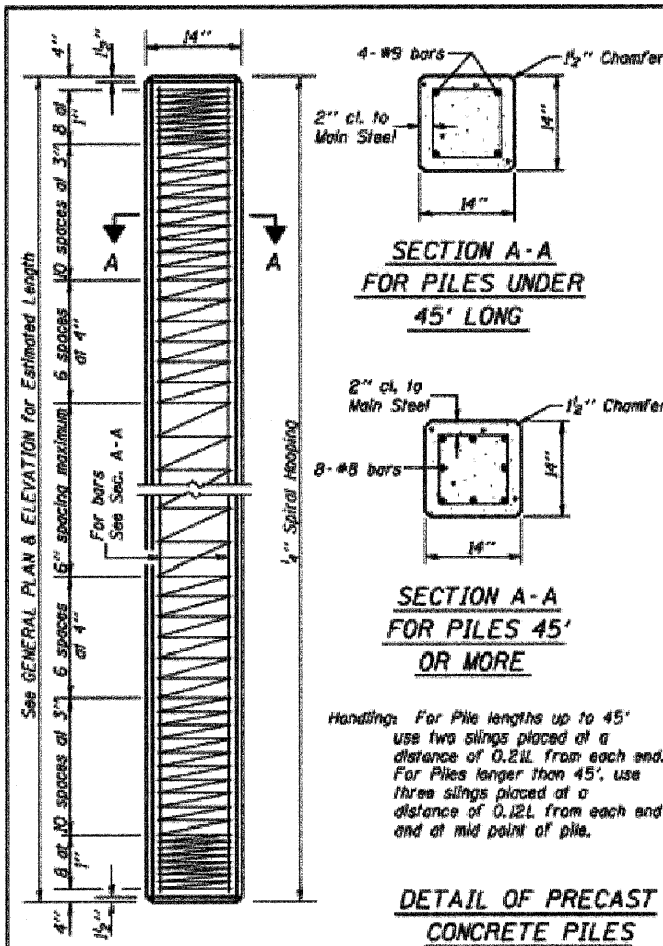
Illinois Department of Transportation

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

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

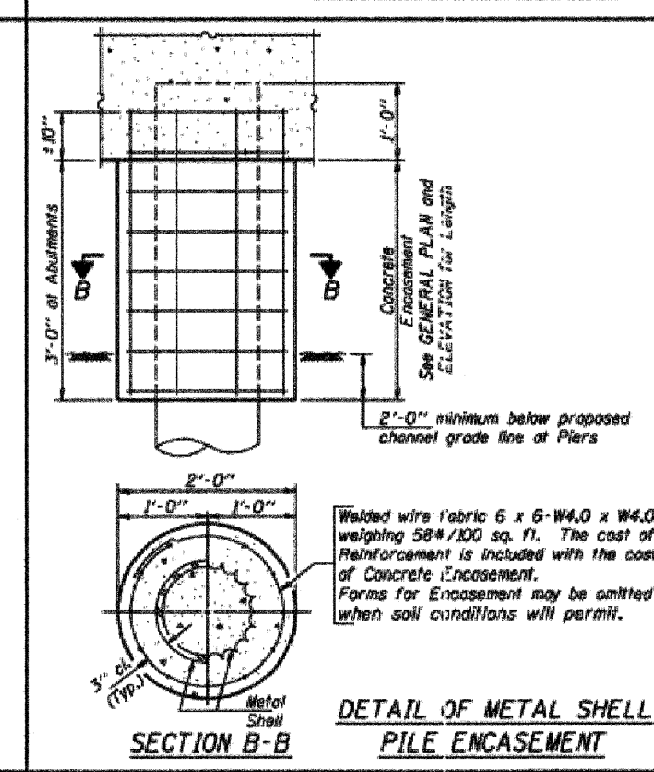
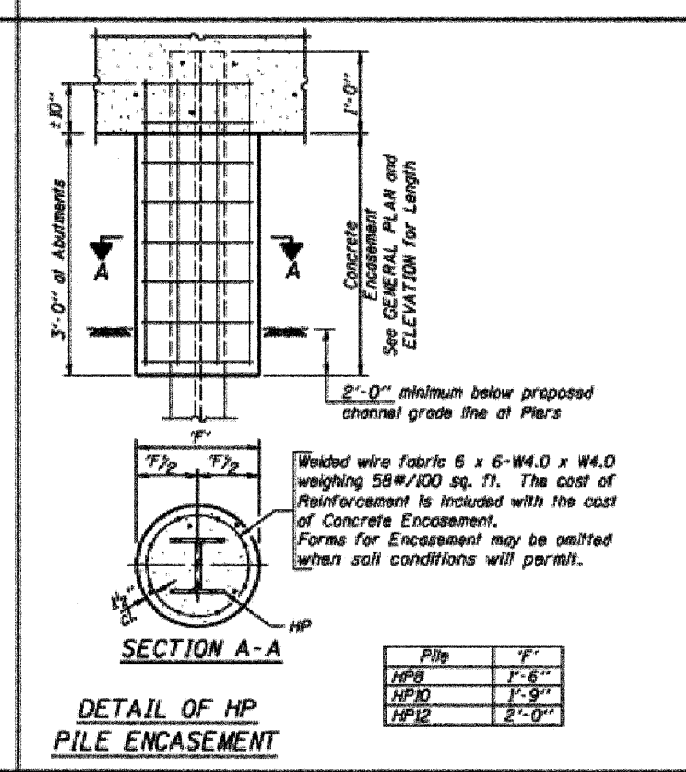
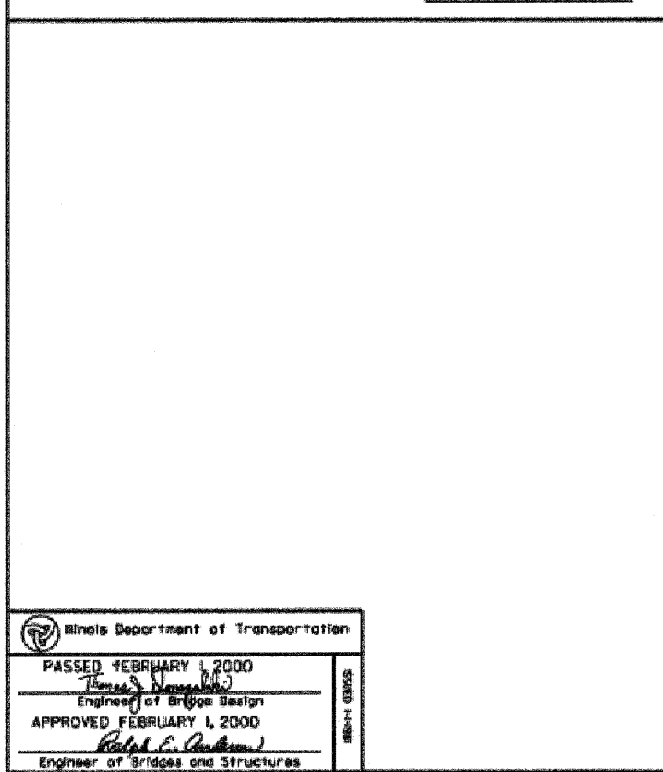
ISSUED 7-1-99

NAME PLATE
STANDARD CN



SHEET 12 OF 12
SECTION 04-14106-00-BR
CONTRACT NO. 95544
Reinforcement cage shall be omitted when Concrete Encasement is provided.

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



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.

FILE DETAILS

STANDARD CX-1

Illinois Department of Transportation

PASSED FEBRUARY 1, 2000

Engineer of Bridge Design

APPROVED FEBRUARY 1, 2000

Engineer of Bridges and Structures