9-21-07 Letting, Item 058

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 206	05-02121-00-BR	JASPER	13	1
FOX ROAD DISTRICT		ILLINOIS	PROJECT BROS-079(134)	

CONTRACT NO. 95511

Joint Utility Locating Information for Excavators

JULIE 1-800-892-0123

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

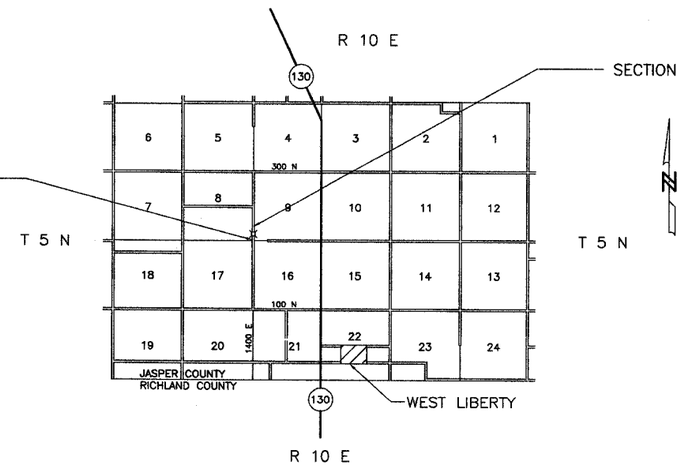
SECTION 05-02121-00-BR JASPER COUNTY
PROJECT BROS-079(134)
JOB NO. C-97-061-07
FOX ROAD DISTRICT
T.R. 206

INDEX OF SHEETS

PLAN	0 50' 100'
PROFILE HOR.	0 50' 100'
PROFILE VERT.	0 5' 10'
CROSS SECTIONS	
HOR.	0 5' 10'
VERT.	0 5' 10'

SECTION 05-02121-00-BR BEGINS STA. 0+50.00

SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE
76'-6" BK.- BK. ABUTMENTS
STEEL PILE / SPILLTHROUGH ABUTMENTS
27' DECK
30° SKEW
EXISTING STRUCTURE NO. 040-3098
PROPOSED STRUCTURE NO. 040-3255



FUNCTIONAL CLASSIFICATION - LOCAL ROAD
ADT = 75
DESIGN SPEED = 30 MPH

NET LENGTH SECTION 05-02121-00-BR = 700.00 Ft. = 0.132 Mi.

MICHAEL R. BRIDGES
39292
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS
4-3-2007
LIC EXP. 11-30-07

CHARLESTON ENGINEERING INC.
105 N. KITCHELL
P.O. BOX 397
OLNEY, ILLINOIS 62450
PH. 618-392-0736

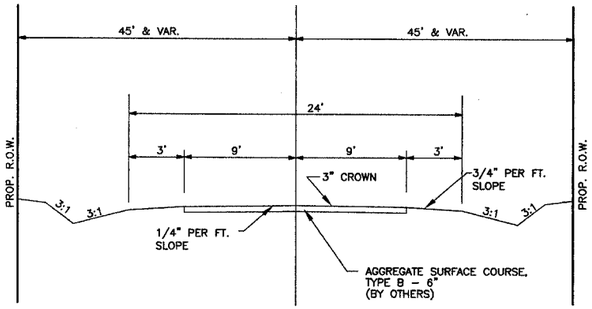
APPROVED April 3 2007
Richard D Patterson
COUNTY ENGINEER

PASSED 4/10 2007
Maureen E Kastl
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS AND STREETS

Releasing For Bid Based on Limited Review 4/10 2007
Christine M Reed
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER

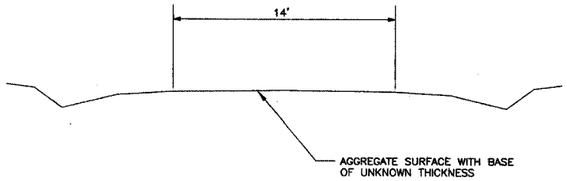
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 206	05-02121-00-BR	JASPER	13	2
CONTRACT NO. 95511		ILLINOIS	PROJECT BROS-079(134)	



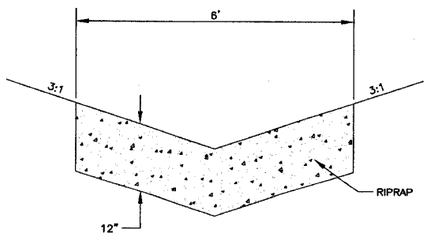
TYPICAL SECTION

PROPOSED



TYPICAL SECTION

EXISTING



STONE RIPRAP DITCH DETAIL

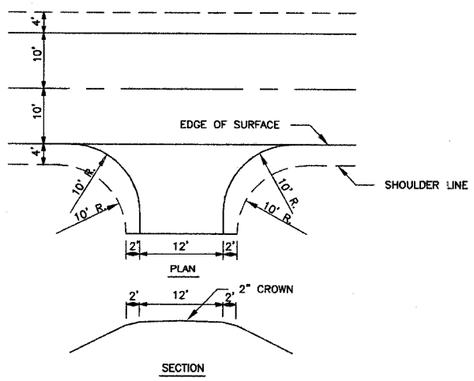
LT. STA. 2+50 TO 4+50

DESIGN DATA

LOCAL ROAD
ADT = 75

GENERAL NOTES

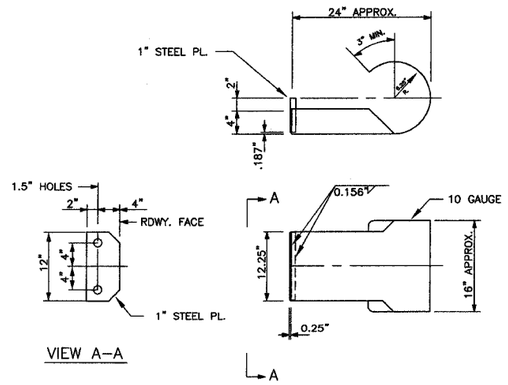
1. SEEDING: THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 250 OF THE STANDARD SPECIFICATIONS AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR SEEDING CLASS 2 (SPECIAL).
   A. SPRING SEEDING SHALL EXTEND FROM JANUARY 1 TO JUNE 30
      FALL SEEDING SHALL EXTEND FROM JULY 1 TO DECEMBER 31
   B. FERTILIZER NUTRIENTS SHALL BE APPLIED AT THE RATE OF 100 LB/ACRE
   C. MULCHING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 251 OF THE STANDARD SPECIFICATIONS AND SHALL BE DONE BY METHOD 2, PROCEDURE 2 AT THE RATE OF 2 TONS PER ACRE.
2. NO PAYMENT FOR OVERHAUL WILL BE MADE ON THIS SECTION.



FIELD ENTRANCE DETAIL

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	179
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	18
20200100	EARTH EXCAVATION	CU YD	235
20300100	CHANNEL EXCAVATION	CU YD	280
20400800	FURNISHED EXCAVATION	CU YD	2410
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.95
28000300	TEMPORARY DITCH CHECKS	EACH	4
28000900	FENCE (EROSION CONTROL)	FOOT	280
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	260
28102600	STONE RIPRAP DITCH	TON	65
35101400	AGGREGATE BASE COURSE, TYPE B	TON	60
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	24.8
50300280	CONCRETE ENCASEMENT	CU YD	2.6
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2025
50800105	REINFORCEMENT BARS	POUND	2980
50900205	STEEL RAILING, TYPE S1	FOOT	150
51201400	FURNISHING STEEL PILES HP 10X42	FOOT	315
51202305	DRIVING PILES	FOOT	315
51203400	TEST PILE STEEL HP 10X42	EACH	1
51500100	NAME PLATES	EACH	1
54200223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	40
67100100	MOBILIZATION	L. SUM	1



CURLED END SECTION DETAILS

4 REQUIRED - COST INCLUDED IN "STEEL RAILING, TYPE S-1"

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 206	05-02121-00-BR	JASPER	13	3
CONTRACT NO. 95511		ILLINOIS		

SCALES:
1" = 50' HOR
1" = 5' VER

STA. 5+00.00 EXISTING STRUCTURE NO. 040-3098
SINGLE SPAN STEEL BEAM BRIDGE
42' BK.- BK. ABUTMENTS
CLOSED CONCRETE ABUTMENTS
16' CONCRETE DECK

ROGER & GEORGIA CARTER

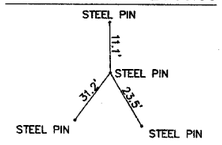
LAWRENCE PILLMAN

LT. STA. 4+40
CONSTRUCT F.E.
PIPE CULVERT 40' X 18" ø
U.S.F.L. 462.50
D.S.F.L. 461.80

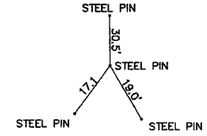
ABANDONED OIL LINE
PLAINS MARKETING
OLNEY, ILLINOIS 62417
618-945-9334

℄ SURVEY & CONSTRUCTION T.R. 359

TIES P.O.T. STA. 2+00.00



TIES P.O.T. STA. 8+00.00



SECTION 05-02121-00-BR BEGINS STA. 0+50.00

SECTION 05-02121-00-BR ENDS STA. 7+50.00

STA. 4+96.00 PROPOSED STRUCTURE NO. 040-3255
SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE
76'-6" BK.- BK. ABUTMENTS
PILE BENT / SPILLTHROUGH ABUTMENTS
27' DECK
30° SKEW LT. FWD.

ROGER & GEORGIA CARTER

DONNA McCRILLIS & SANDRA LAYMAN

B.M. RT. STA. 4+50
SPIKE IN TREE
ELEV. 465.31

TRANSITION EXISTING ROADWAY TO PROPOSED ROADWAY
STA. 0+00 TO 0+50 AND STA. 7+50 TO 8+00
QUANTITIES FOR THE ABOVE ARE INCLUDED IN THOSE LISTED

STONE RIPRAP DITCH — TON
LT. STA. 2+50 TO 4+50 — 65

EARTHWORK — CU. YD.

CHANNEL EXCAVATION	280*
EARTH EXCAVATION	235
EMBANKMENT	2590
FURNISHED EXCAVATION	2410

*IT IS ESTIMATED THAT 50% OF THE CHANNEL EXCAVATION WILL BE SUITABLE FOR USE IN THE EMBANKMENT. UNSUITABLE MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR.

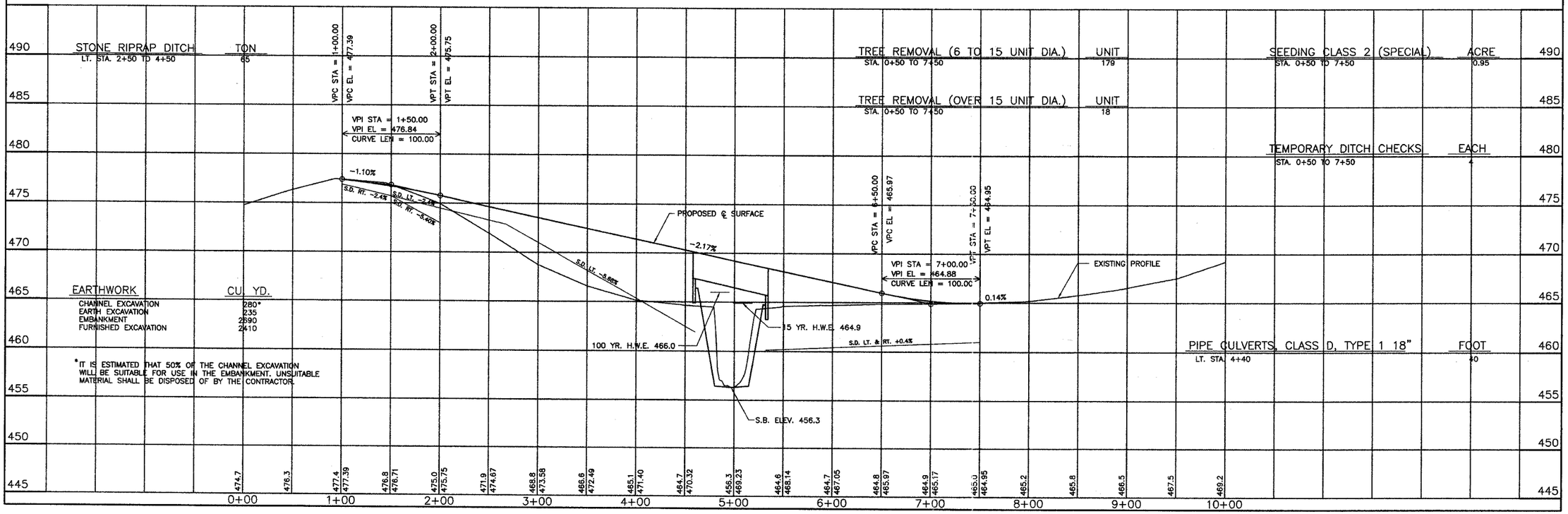
TREE REMOVAL (6 TO 15 UNIT DIA.) — UNIT
STA. 0+50 TO 7+50 — 179

TREE REMOVAL (OVER 15 UNIT DIA.) — UNIT
STA. 0+50 TO 7+50 — 18

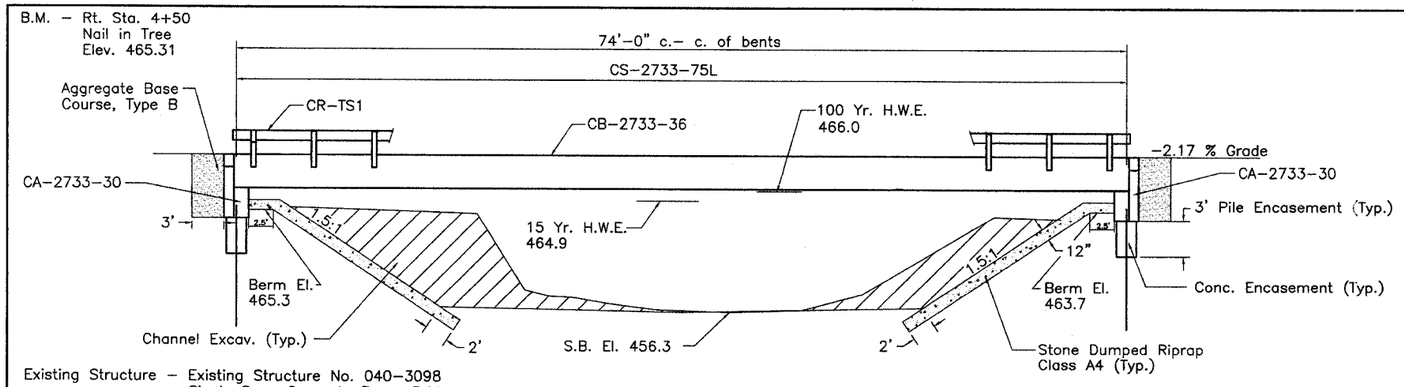
SEEDING CLASS 2 (SPECIAL) — ACRE
STA. 0+50 TO 7+50 — 0.95

TEMPORARY DITCH CHECKS — EACH
STA. 0+50 TO 7+50 — 4

PIPE CULVERTS, CLASS D, TYPE 1 18" — FOOT
LT. STA. 4+40 — 40

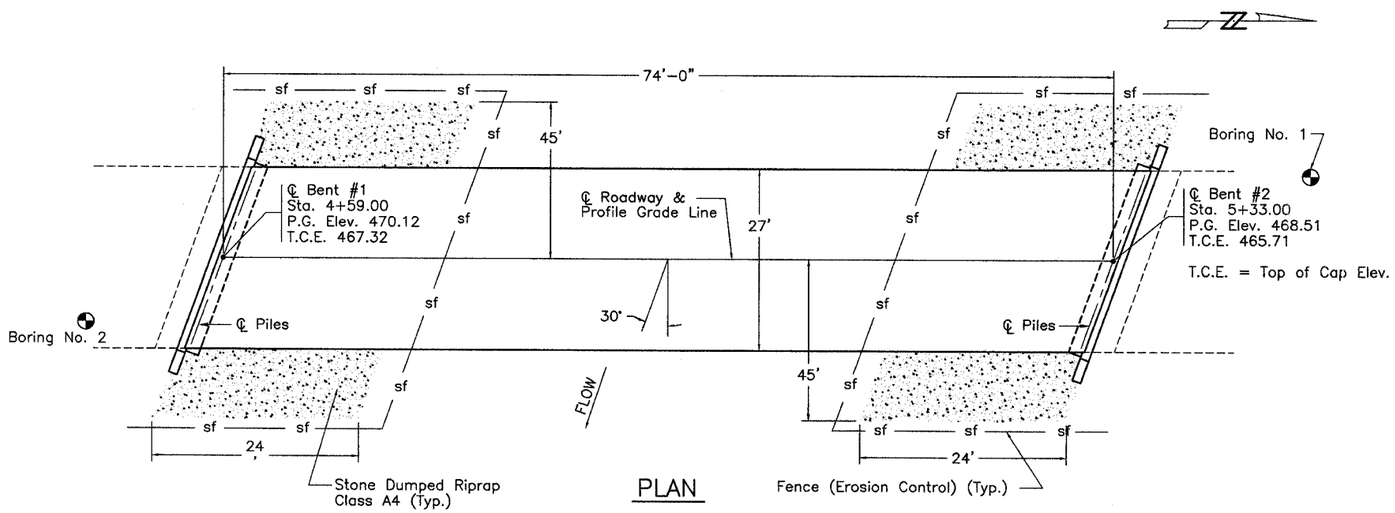


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 206	05-02121-00-BR	JASPER	13	4
CONTRACT NO. 95511		ILLINOIS	PROJECT BROS-079(134)	



Existing Structure – Existing Structure No. 040-3098
Single Span Concrete Beam Bridge
42' Bk. – Bk. Abuts.
Closed Concrete Abutments
16' Concrete Deck

ELEVATION



PLAN

Salvage – Any material deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of the Fox Road District Commissioner. The Contractor shall dispose of all remaining material.

PILE DATA (2–ABUTS.)

Type:	HP 10 X 42
Nominal Required Bearing:	335 Kips
Allowable Resistance Available:	82 Kips
Estimated Length:	35'
Number Required:	10 Includes 1 Test Pile In Bent #2

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) = A
Bedrock Acceleration Coefficient (A) = 7.5% g
Site Coefficient (S) =

STATION 4+96.00
RICHLAND CREEK
SEC. 05-02121-00-BR BUILT 200
JASPER COUNTY
PROJECT BROS-079(134)
LOADING HS20
STR. NO. 040-3255

LETTERING FOR NAME PLATE

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

WATERWAY INFORMATION

Drainage Area = 4.6 Sq. Mi. Low Grade Elev. = 464.95 @ Sta. 7+50

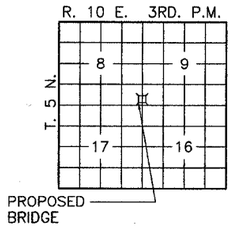
Flood	Freq. Yr.	Q ft³/s	Opening ft² Exist.	Opening ft² Prop.	Nat. H.W.E.	Head – ft Exist.	Head – ft Prop.	Headwater Exist.	Headwater Prop.
Design	15	1095	261	411	464.9	0.3	0.1	465.2	465.0
Base	100	1790	261	485	466.0	0.2	0.1	466.2	466.1
Overtopping									
Max. Calc.	500								

GENERAL NOTES

1. See Special Provisions for boring logs.
2. Channel Excavation: This material shall be excavated as shown within the limits of the proposed bridge then tapered to the existing channel at the Roadway R.O.W. It is estimated that 50% of the Channel Excavation will be suitable for use in the embankment. Unsuitable material shall be disposed of by the Contractor.
3. The Contractor shall drive 1 test pile as specified in Bent #2 before ordering the remaining piles. The test pile shall be driven to 110% of the Nominal Required Bearing indicated in the pile data information.
4. The Steel H–Piles shall be according to AASHTO M270 Grade 50.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Piers	Sub. Abuts.	Total
Removal of Existing Structures	Each				1
Concrete Structures	Cu.Yds.			24.8	24.8
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq.Ft.	2025			2025
Steel Railing, Type S-1	Foot	150			150
Reinforcement Bars	Pound			2980	2980
Furnishing Steel Piles HP 10 X 42	Foot			315	315
Driving Steel Piles	Foot			315	315
Test Pile Steel HP 10 X 42	Each			1	1
Name Plates	Each			1	1
Concrete Encasement	Cu.Yds.			2.6	2.6
Aggregate Base Course, Type B	Tons			60	60
Stone Dumped Riprap, Class A-4	Tons			260	260
Channel Excavation	Cu.Yds.			280	280
Fence (Erosion Control)	Foot			280	280

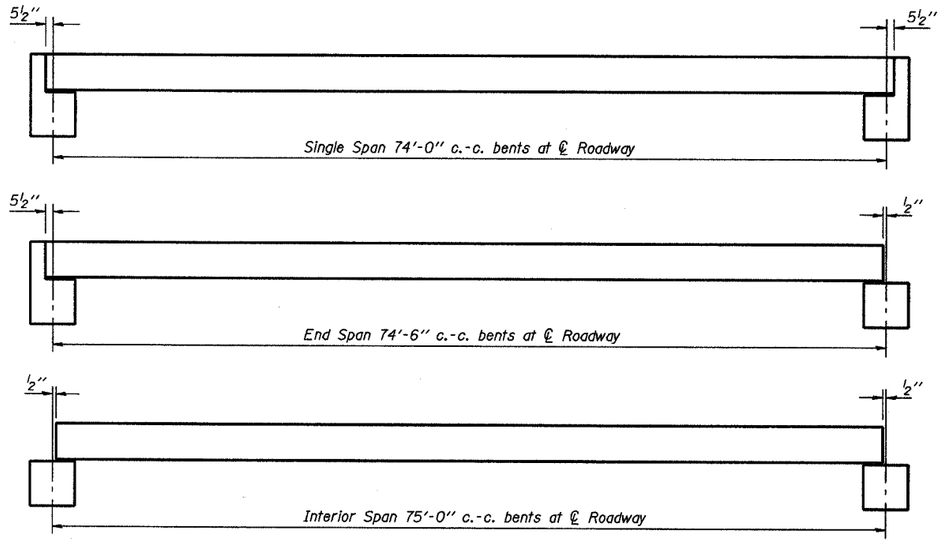


LOCATION SKETCH

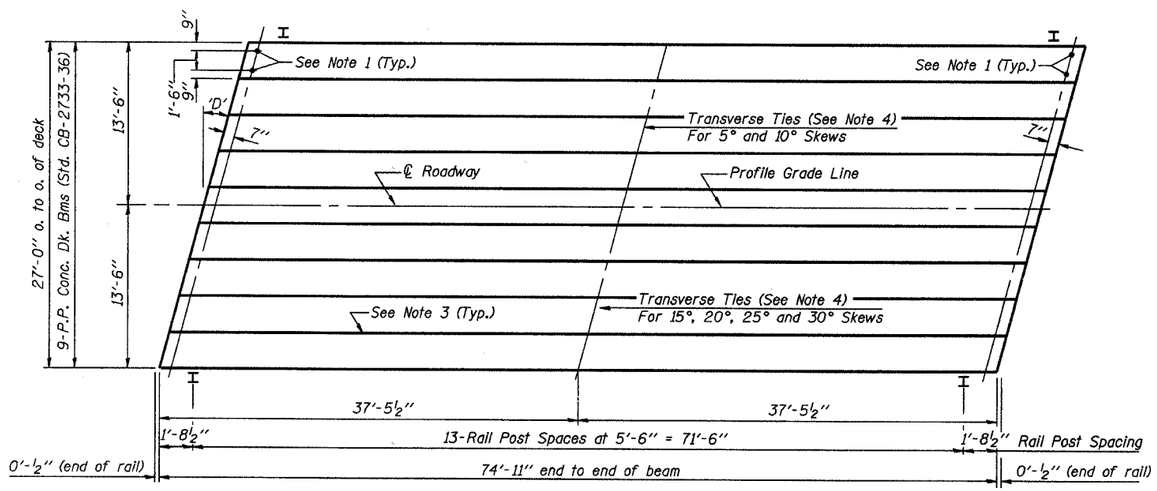
INDEX OF SHEETS

GENERAL PLAN & ELEVATION
T.R. ROUTE 206
OVER RICHLAND CREEK
SECTION 05-02121-00-BR
JASPER COUNTY
STATION 4+96.00

CONTRACT NO. 95511

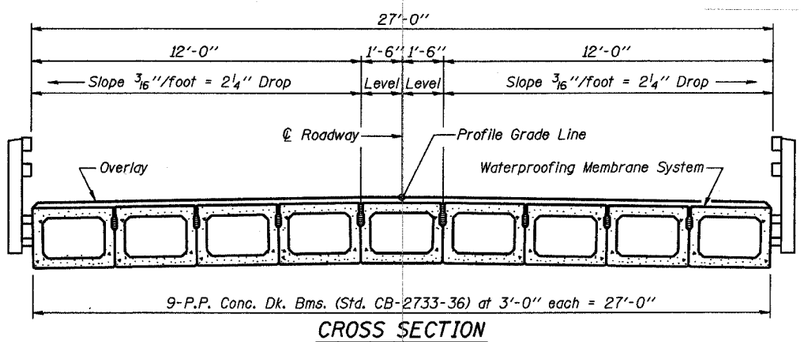


TYPICAL ELEVATIONS

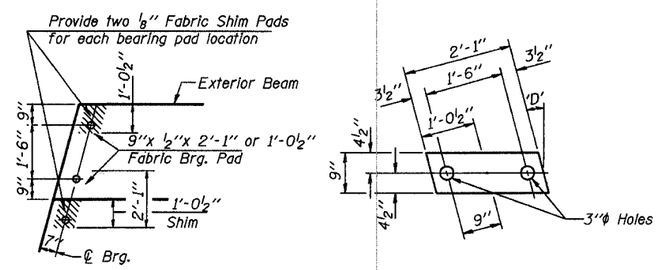


PLAN

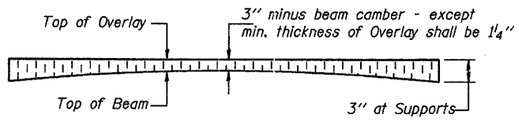
('D' = Designated Skew Angle)



CROSS SECTION



½" FABRIC BRG. PAD DETAILS



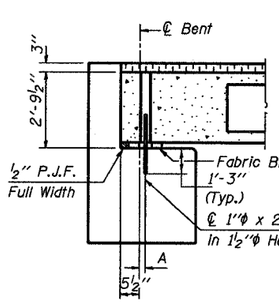
PROFILE OF OVERLAY

DIMENSIONS 'A' AND 'B'

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

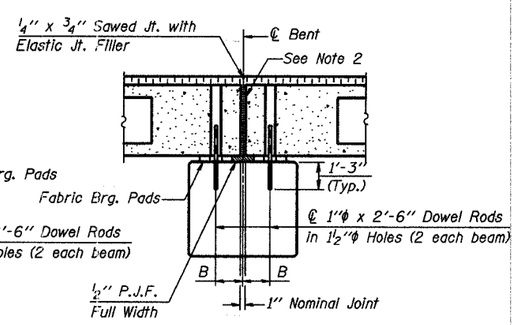
NOTES

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



SECTION AT PIERS

(Along ℄ Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 33" Dp.	2025 Sq. Ft.
Steel Railing	150 Ft.
~~Waterproofing Membrane System~~	~~225.0 Sq. Yds.~~
~~Portland Cement Mortar Fairing Course~~	~~600 Ft.~~

Note: Quantity of overlay for one span = 26.4 Tons

Illinois Department of Transportation

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

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

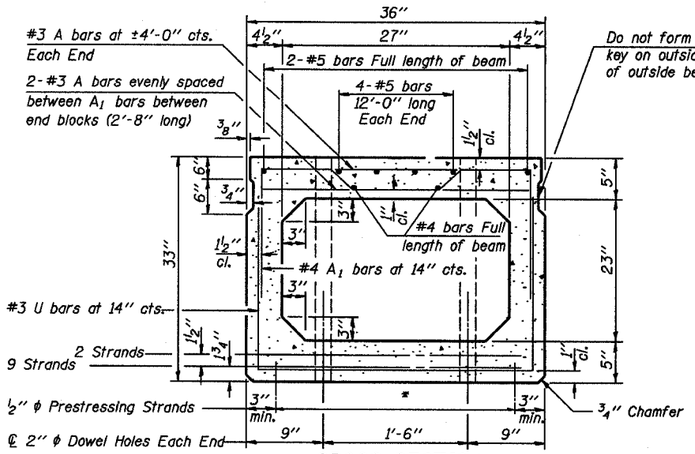
ISSUED 1-1-85

P.P.C. DECK BEAM SUPERSTRUCTURE

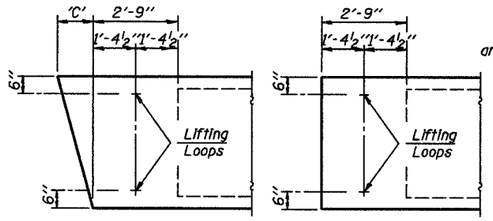
27' RDWY.	33" BMS.	75' SPAN	LEFT

STANDARD CS-2733-75L

CONTRACT NO. 95511

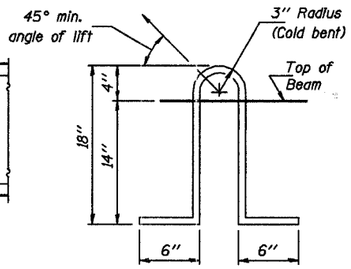


CROSS SECTION
(60' SPAN)



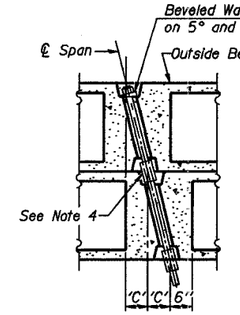
END BLOCK DETAILS

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.

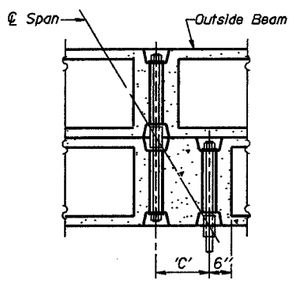


LIFTING LOOP DETAIL

Lifting loops shall be 3, ½"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°)

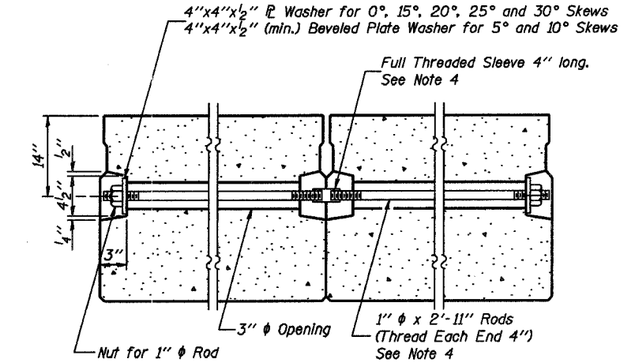
DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	3⅛	6⅜	9⅝	13⅛	16¾	20¾

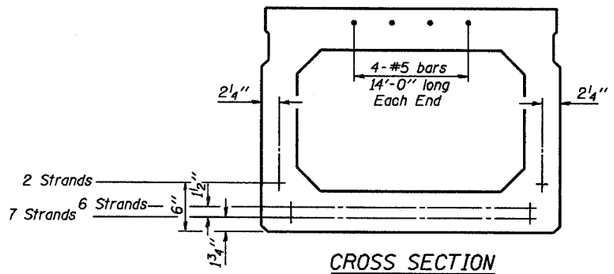
* TRANSVERSE STRAND PLACEMENT GUIDELINES

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 ½".
4. The minimum clearance from strand to void shall be 1½".

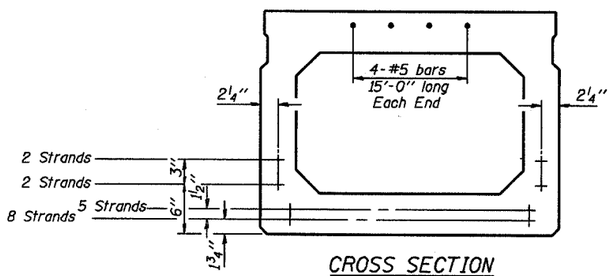
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



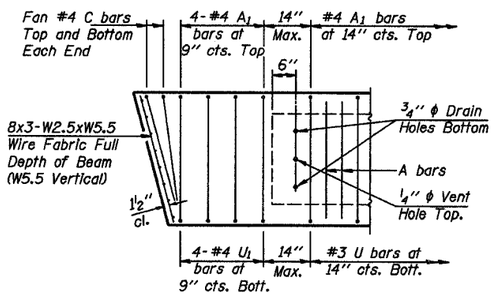
SECTION ALONG TRANSVERSE TIE ASSEMBLY



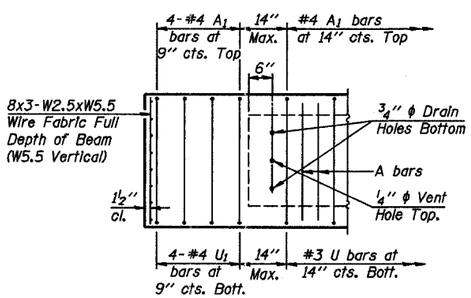
CROSS SECTION
(70' SPAN)



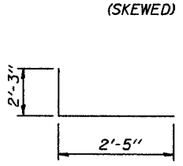
CROSS SECTION
(75' SPAN)



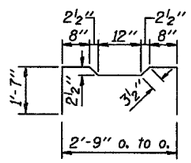
END REINFORCEMENT
(SKEWED)



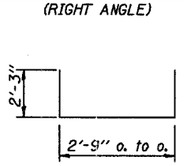
END REINFORCEMENT
(RIGHT ANGLE)



BAR C**



BAR A1



BARS U & U1

NOTES

1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be ½" 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 appoved 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 ¼".
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.

NOTE:
The std. reinf. and dimensions shown on the 60' 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

DESIGN STRESSES

f'_c = 5,000 p.s.i.
f'_{ci} = 4,000 p.s.i.
f'_s = 270,000 p.s.i. (½" ϕ Strand)
f_{si} = 201,960 p.s.i. (½" ϕ Strand)
f_y = 60,000 p.s.i.

MIN. BAR LAP
#4 bars = 1'-4"
#5 bars = 1'-8"

Illinois Department of Transportation
PASSED APRIL 4, 2005
Thomas D. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4, 2005
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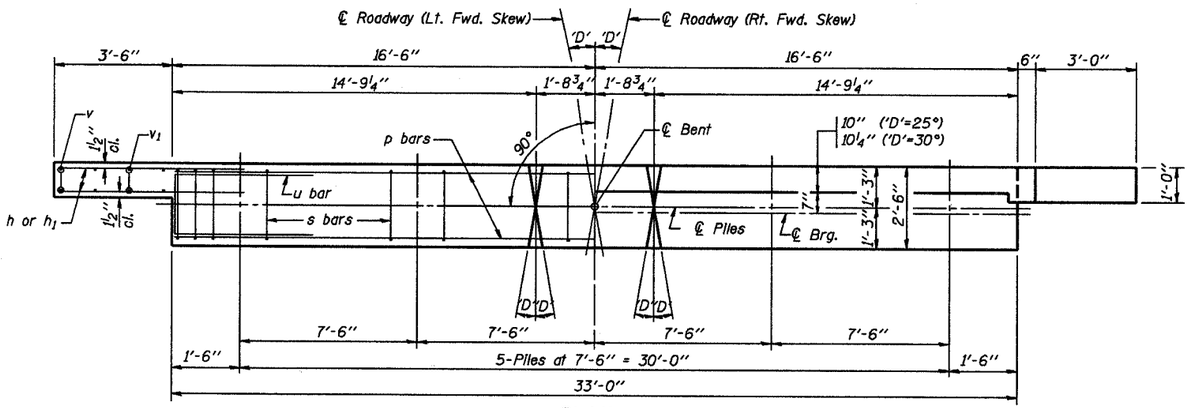
Engineer of Bridges and Structures
ISSUED 4-4-2005

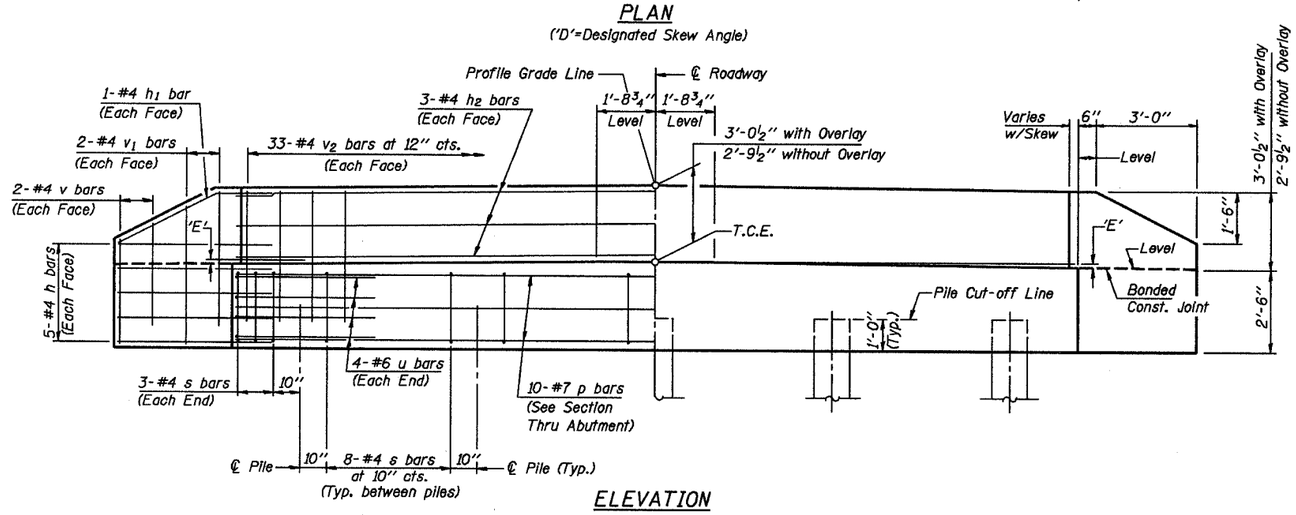
P.P.C. DECK BEAM DETAILS
27' ROADWAY | 33" x 36" BEAMS
STANDARD CB-2733-36

CONTRACT NO. 95511

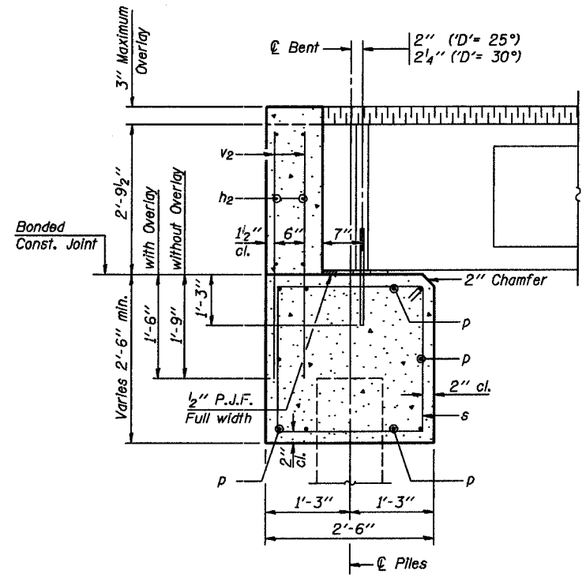


PLAN

('D'=Designated Skew Angle)



ELEVATION



SECTION THRU ABUTMENT

(At Right Angles)

DIMENSION 'E'

GRADE	'D'=25°		'D'=30°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2½"	2½"	2⅜"	2⅜"
Over 0% to 1%	2⅛"	2⅞"	2"	2⅞"
Over 1% to 2%	1⅜"	3⅝"	1"	3¾"
Over 2% to 3%	⅝"	4⅜"	⅛"	4⅝"
Over 3% to 4%	0"	5⅛"	——	——

NOTES

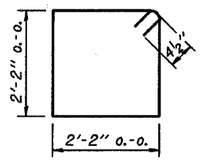
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
3. Space reinforcement in cap to miss anchor bolts.

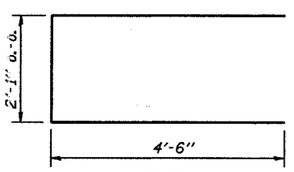
MAXIMUM PILE LOADS

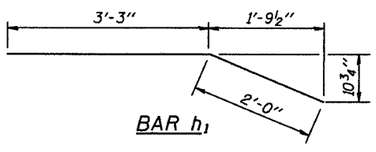
SPAN	TONS
60'	37
70'	40
75'	41

DESIGN STRESSES

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







BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	20	#4	5'-0"	——
h1	4	#4	5'-3"	——
h2	6	#4	32'-8"	——
p	10	#7	32'-8"	——
s	38	#4	9'-5"	□
u	8	#6	11'-1"	⊏
v	8	#4	3'-8"	——
v1	8	#4	4'-8"	——
v2	66	#4	4'-5"	——
Concrete Structures			12.4 Cu. Yds.	
Reinforcement Bars			1490 Lb.	

Illinois Department of Transportation

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

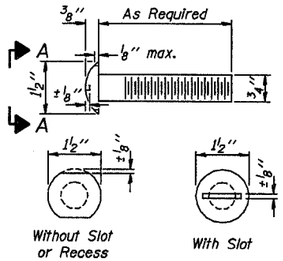
ISSUED 4-4-2005

P.P.C. DECK BEAMS
PILE BENT ABUTMENT

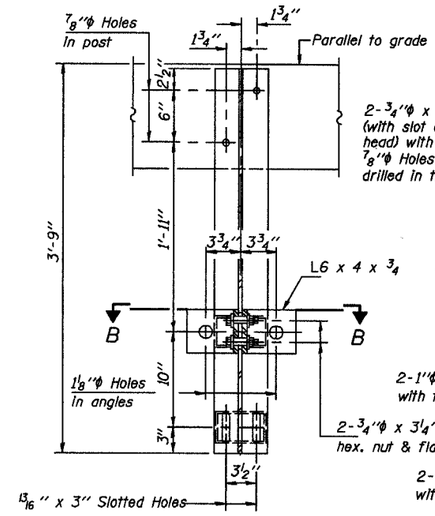
27' RDWY.	33" BMS.	'D'=25° OR 30°

STANDARD CA-2733-30

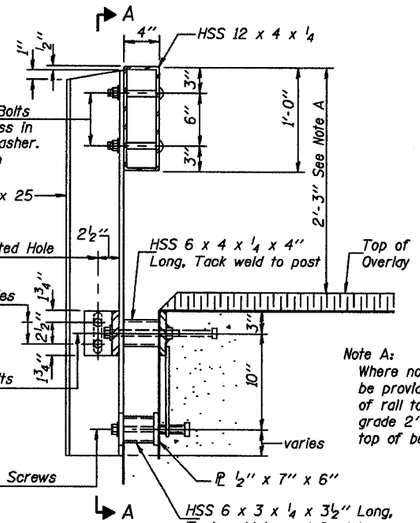
CONTRACT NO. 95511



VIEW A-A
ROUND HEAD BOLT

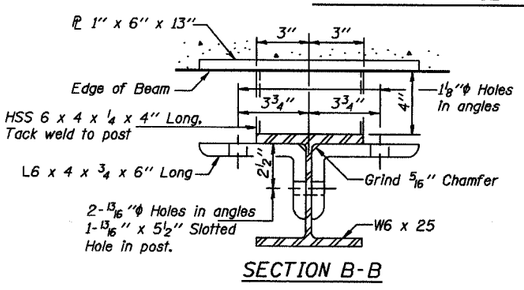


SECTION A-A



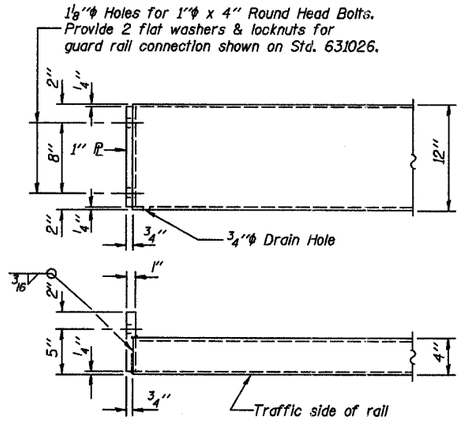
SECTION AT RAIL POST

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



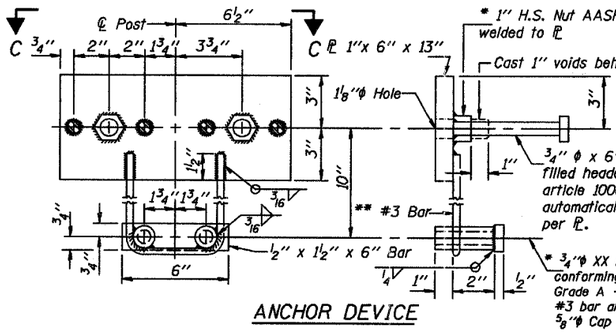
SECTION B-B

1 1/8"ϕ Holes for 1"ϕ x 4" Round Head Bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Std. 631026.



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".



ANCHOR DEVICE

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

NOTES

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

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

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

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

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

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

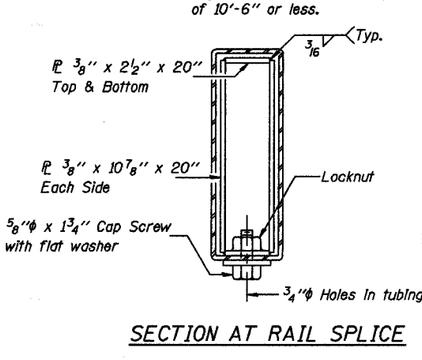
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

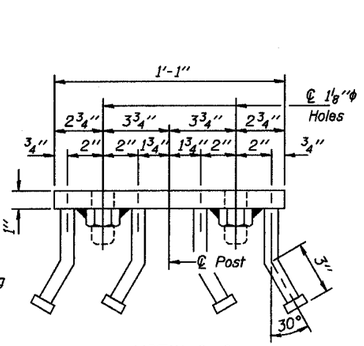
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

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

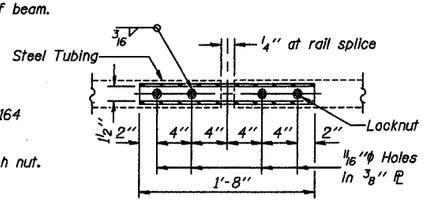
The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6"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



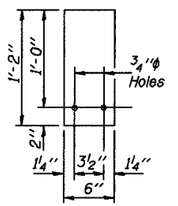
SECTION AT RAIL SPLICE



VIEW C-C



PLAN-BOTT. SPLICE PL
TYPICAL



1/4" SHIM PLATE

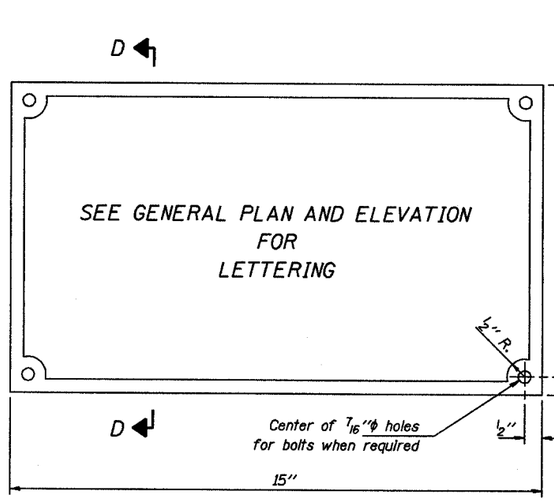
Illinois Department of Transportation

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

ISSUED 1-1-1986

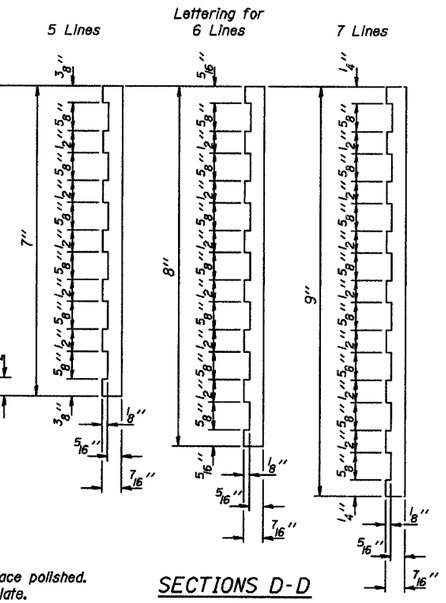
STEEL RAILING, TYPE S-1
STANDARD CR-TS1

CONTRACT NO. 95511

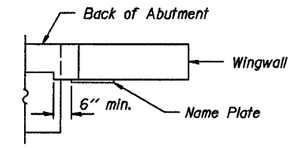


DETAIL OF NAME PLATE

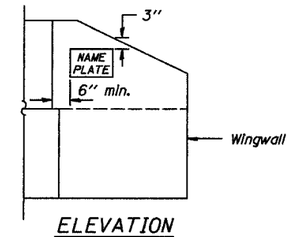
Material: Best quality brass or bronze.
Border & Lettering: Raised 1/8 inch. Square cut and not tapered. Top surface polished.
Fastenings: Four lugs at least three inches long, cast on back of plate.



SECTIONS D-D



PLAN



ELEVATION

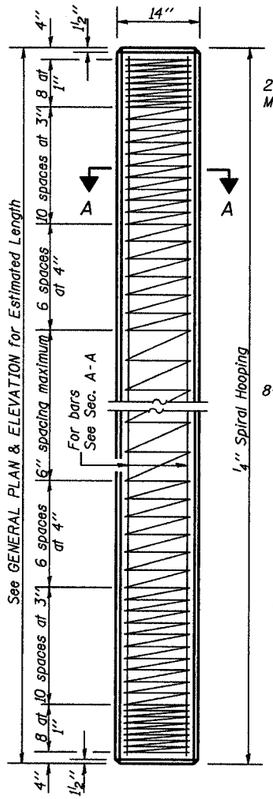
LOCATION OF NAME PLATE

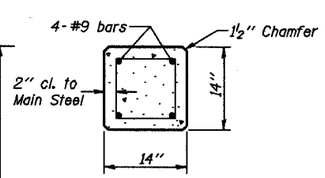
Illinois Department of Transportation

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

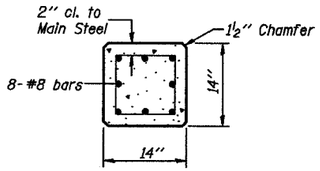
ISSUED 7-1-1999

NAME PLATE
STANDARD CN





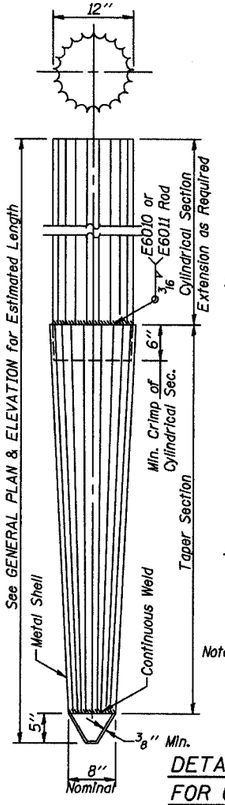
SECTION A-A
FOR PILES UNDER 45' LONG

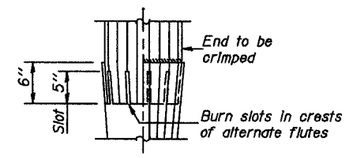


SECTION A-A
FOR PILES 45' OR MORE

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

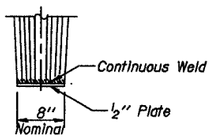
DETAIL OF PRECAST CONCRETE PILES





FIELD CRIMP DETAIL

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



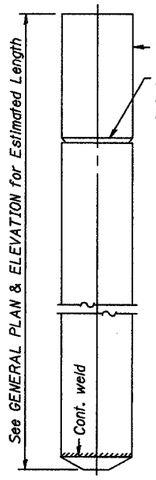
OPTIONAL FLAT END

ALLOWABLE TAPER SECTIONS

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

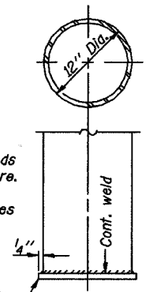
Note: The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be according to Article 1006.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 p.s.i.

DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



For field splice bevel edge and butt weld.

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



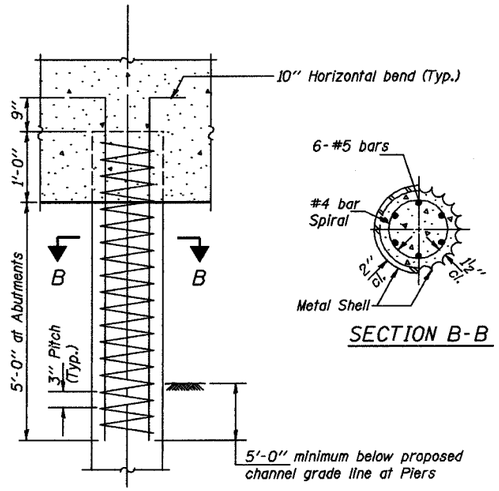
OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

CONTRACT NO. 95511

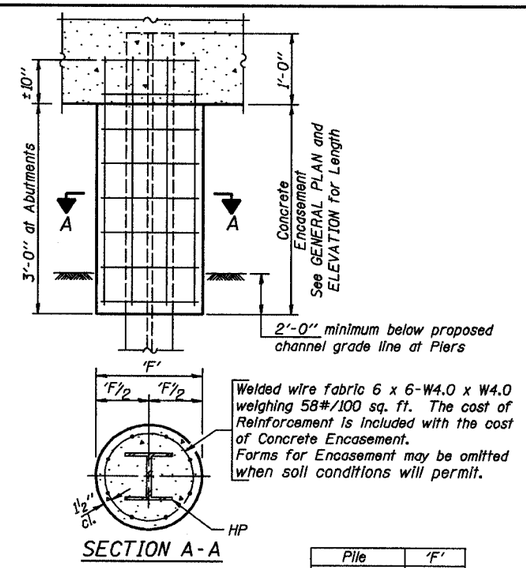
Reinforcement cage shall be omitted when Concrete Encasement is provided.

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



SECTION B-B

DETAIL OF REINFORCEMENT FOR METAL SHELLS

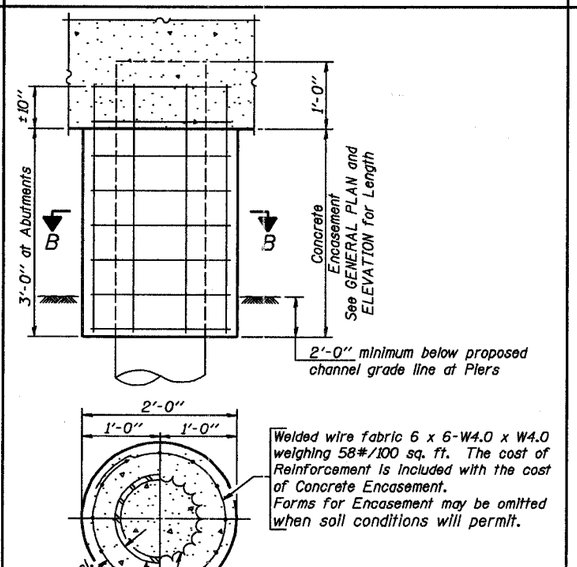


Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Reinforcement is included with the cost of Concrete Encasement. Forms for Encasement may be omitted when soil conditions will permit.

SECTION A-A

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

DETAIL OF HP PILE ENCASEMENT



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

SECTION B-B

DETAIL OF METAL SHELL PILE ENCASEMENT

QUANTITIES/FT. OF ENCASEMENT

(STEEL PILES)

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

(METAL SHELL PILES)

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

Illinois Department of Transportation

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

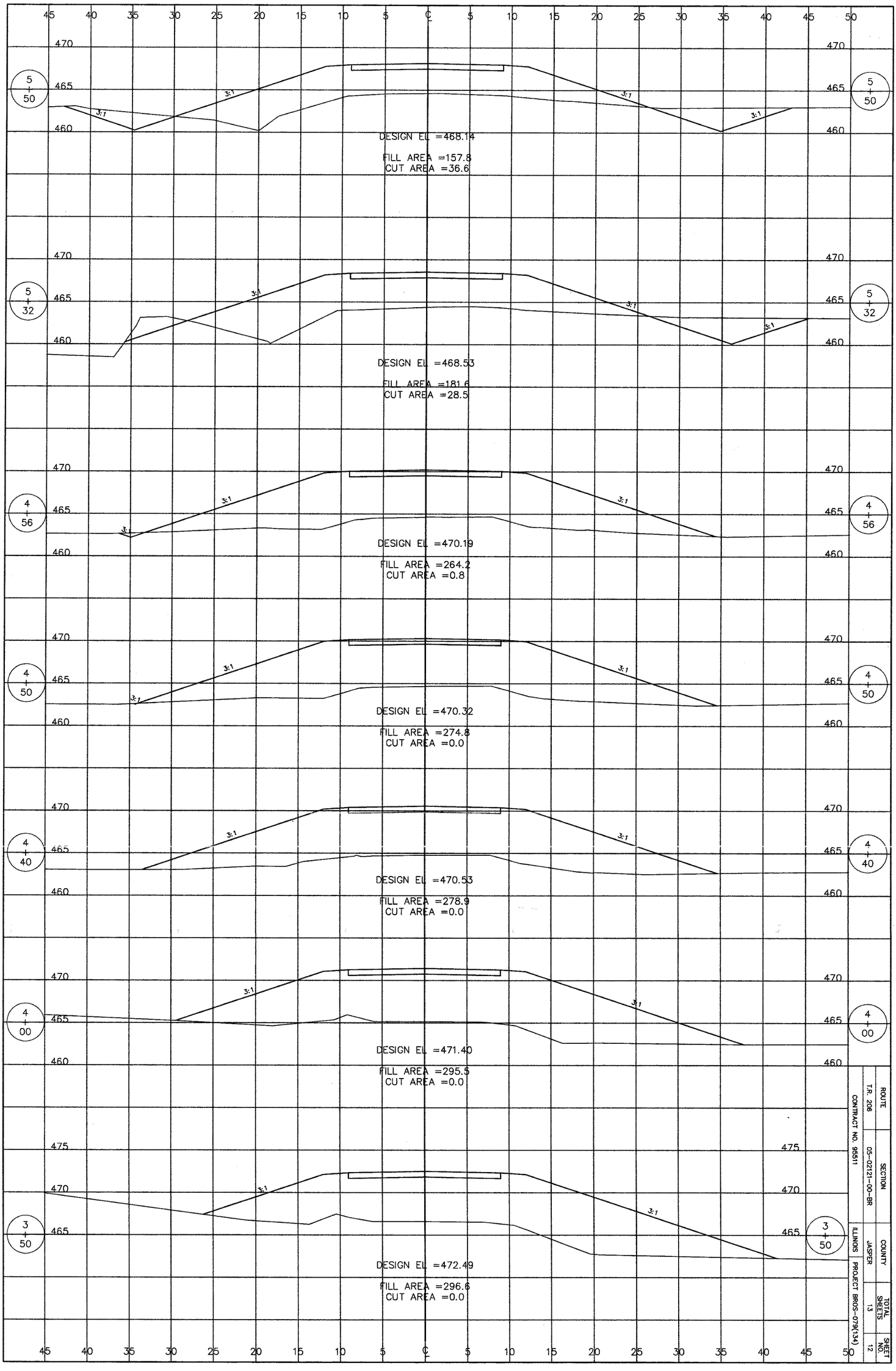
ISSUED H-1998

PILE DETAILS

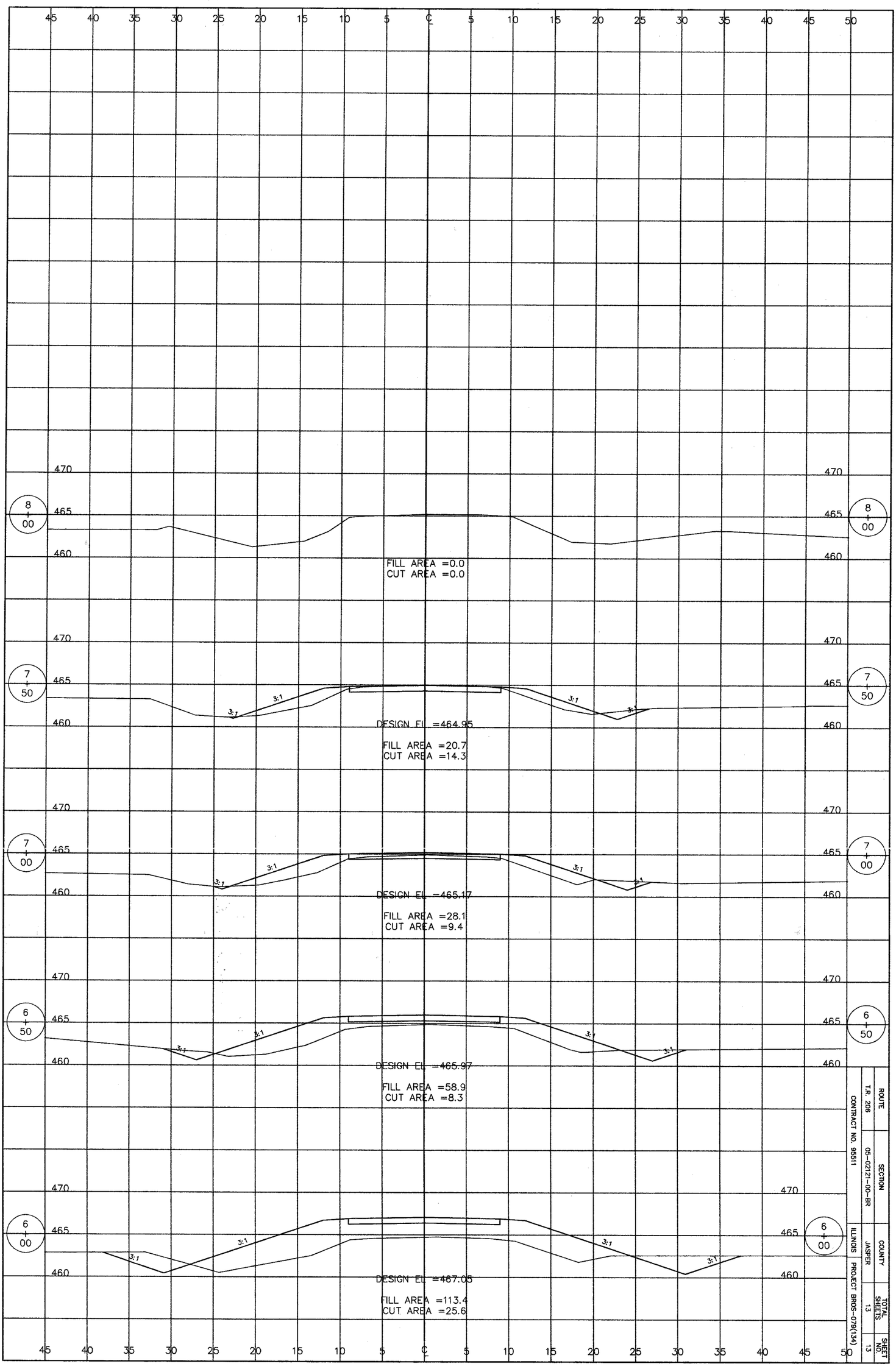
STANDARD CX-1

Sheet 11 of 13

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 206	05-02121-00-BR	JASPER	13	11
CONTRACT NO. 95511		ILLINOIS	PROJECT BROS-079(134)	



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 206	05-02121-00-BR	JASPER	13	12
CONTRACT NO. 95511		ILLINOIS	PROJECT BROS-079(134)	



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 206	05-02121-00-BR	JASPER	13	13

CONTRACT NO. 95511

ILLINOIS

PROJECT BRDS-079(134)