3-9-07 Letting, Item 065

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
117	04-04113-00-BR	WABASH	13	1
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
PROJECT* BROS-185(20)		CONTRACT* 95477		
JOB * C-97-130-06		FORDICE CREEK TRIBUTARY		

LEC JOB * H031L018WB

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST.
SUITE1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812

LAMC ENGINEERING CO.

PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-000887
(02-032435)(35-002769)

AARON M. MEFFORD
56284
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS

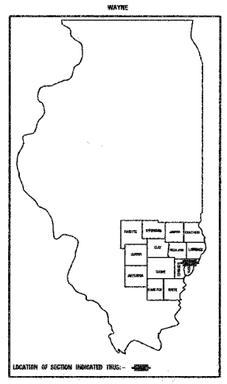
AARON M. MEFFORD
NAME
SIGNATURE
5-09-06
DATE
11-30-07
EXPIRES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
FEDERAL AID – H.B.P. PROJECT

T.R. 117 WABASH COUNTY SECTION 04-04113-00-BR

PROJECT NO. BROS-185(20) JOB NO. C-97-130-06

CONTRACT # 95477 FORDICE CREEK TRIBUTARY



INDEX OF SHEETS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 13:

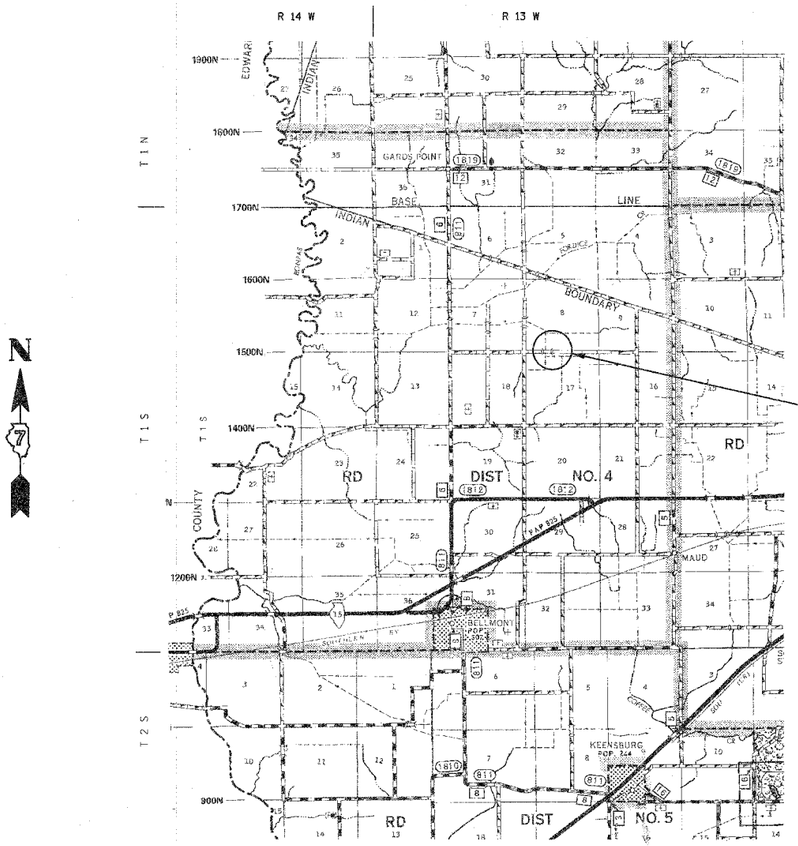
000001-04	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS (6 SHEETS)
280001-03	TEMPORARY EROSION CONTROL SYSTEMS (2 SHEETS)
702001-06	TRAFFIC CONTROL DEVICES
B.L.R. 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-4	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20100500	TREE REMOVAL, ACRES	ACRES	0.13
20200100	EARTH EXCAVATION	CU YD	1036.00
20300100	CHANNEL EXCAVATION	CU YD	171.00
20400800	FURNISHED EXCAVATION	CU YD	1878.00
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.77
28000300	TEMPORARY DITCH CHECKS	EACH	6.00
28001000	AGGREGATE (EROSION CONTROL)	TON	9.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	590.00
28102600	STONE RIPRAP DITCH	TON	17.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	500.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	21.40
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1440.00
50800105	REINFORCEMENT BARS	POUND	2620.00
50900205	STEEL RAILING, TYPE S1	FOOT	120.00
51201400	FURNISHING STEEL PILES HP10X42	FOOT	329.00
51202305	DRIVING PILES	FOOT	329.00
51203400	TEST PILE STEEL HP10X42	EACH	1.00
50300280	CONCRETE ENCASEMENT	CU YD	2.10
51500100	NAME PLATES	EACH	1.00
542C1060	PIPE CULVERTS, CLASS C, TYPE 2 15"	FOOT	96.00
60801015	FLAP GATE 15	EACH	2.00
67100100	MOBILIZATION	L SUM	1.00

DESIGN DESIGNATION:
DESIGN SPEED: NONE (USED 30 MPH)
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 093-3053
PROPOSED STRUCTURE NO.: 093-3128
CURRENT A.D.T. = 75
CONTRACT NO. 95477

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123



SECTION 04-04113-00-BR
BEGINS STATION 1+00

STATION 5+00, STRUCTURE NO. 093-3128
A 60' LONG SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE (27" DEPTH, 24' ROADWAY, 0.00% GRADE, 30° R FWD SKEW.

SECTION 04-04113-00-BR
ENDS STATION 7+65

LAYOUT
APPROXIMATE SCALE 1 INCH = 1 MILE
0 1 2 3
MILES

GROSS LENGTH	665.00 FT	0.13 MILES
OMISSIONS	0.00 FT	0.00 MILES
NET LENGTH	665.00 FT	0.13 MILES

PLAN	1"= 50'	0 50' 100'
PROFILE	1"= 50'	0 50' 100'
PROFILE VERT.	1"= 5'	0 5' 10'
CROSS SECTION	1"= 5'	0 5' 10'

APPROVED May 09 20 06
COUNTY ENGINEER

PASSED June 5 20 06
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review June 5 20 06
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOWNSHIP ROUTE 117
FORDICE CREEK TRIBUTARY
WABASH COUNTY, ILLINOIS

SHEET TITLE:
TITLE SHEET

SCALE:	VARIES
BY:	AMM
DATE:	5/2006
REV:	

1 OF 13 SHEETS

SHEET NO. 1

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
117	04-04113-00-BR	WABASH	13	2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
PROJECT # BROS-1851(20)		CONTRACT # 95477		
JOB # C-97-130-06		FORDICE CREEK TRIBUTARY		

LEC JOB # H03L018MB

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST.
SUITE1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812

LAMC ENGINEERING CO.

PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-000887
(62-032435)(35-002769)

AARON M. MEFFORD
56284
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

AARON M. MEFFORD
NAME
SIGNATURE
12-29-08
DATE
11-30-07
EXPIRES

GENERAL NOTES:

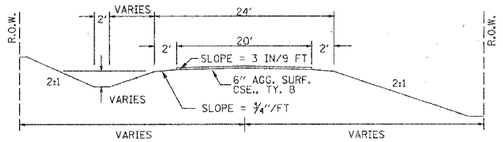
THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 60 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

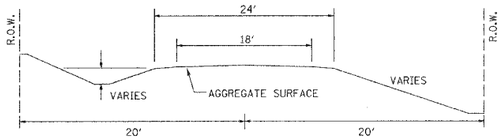
ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

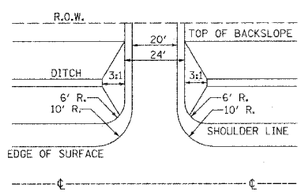
TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



FIELD ENTRANCE DETAIL



UTILITIES:
J.U.L.I.E. 1-800-892-0123

NOTE: CONSTRUCT SPECIAL DITCH

STA 1+00 TO STA 4+25 LT
STA 1+00 TO STA 4+50 RT

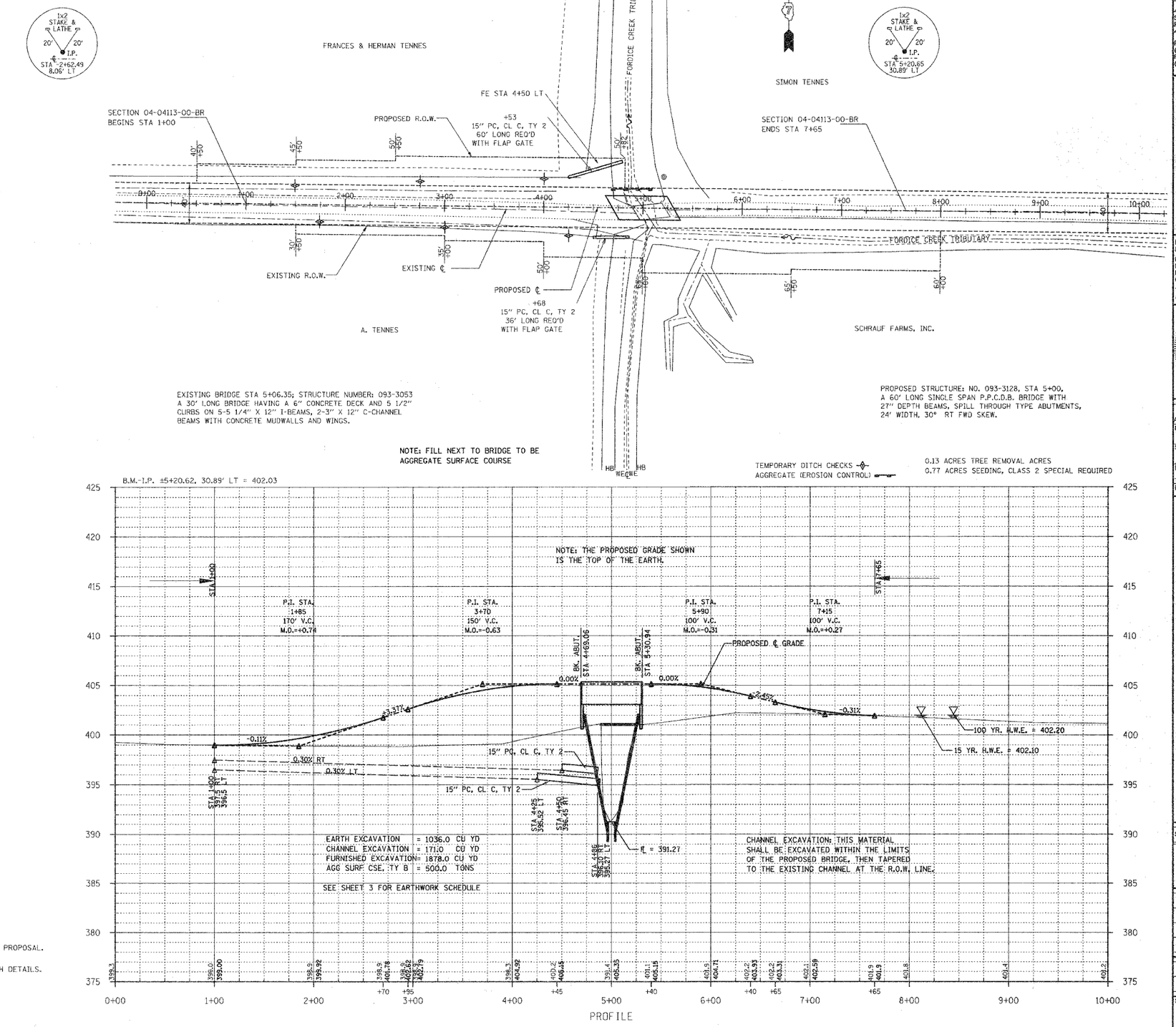
NOTE: CONSTRUCT STONE RIPRAP DITCH

STA 5+02 RT - 4' (1.51 TON/LIN FT)
STA 5+60 RT - 7' (1.56 TON/LIN FT)

17.0 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.

SEE SHEET NO. 14 FOR STONE RIPRAP DITCH DETAILS.

NOTE: CONSTRUCTION TRANSITIONS
STA. 0+50 TO STA 1+00
STA 7+65 TO STA 8+15
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL



EXISTING BRIDGE STA 5+06.35; STRUCTURE NUMBER: 093-3053
A 30' LONG BRIDGE HAVING A 6" CONCRETE DECK AND 5 1/2" CURBS ON 5-5 1/4" X 12" I-BEAMS, 2-3" X 12" C-CHANNEL BEAMS WITH CONCRETE MUDWALLS AND WINGS.

NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE

PROPOSED STRUCTURE: NO. 093-3128, STA 5+00,
A 60' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH 27" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS, 24' WIDTH, 30° RT FWD SKEW.

TEMPORARY DITCH CHECKS -◊-
AGGREGATE (EROSION CONTROL) ▬

0.13 ACRES TREE REMOVAL ACRES
0.77 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED

EARTH EXCAVATION = 1036.0 CU YD
CHANNEL EXCAVATION = 171.0 CU YD
FURNISHED EXCAVATION= 1878.0 CU YD
AGG SURF CSE. TY B = 500.0 TONS

SEE SHEET 3 FOR EARTHWORK SCHEDULE

CHANNEL EXCAVATION: THIS MATERIAL SHALL BE EXCAVATED WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPERED TO THE EXISTING CHANNEL AT THE R.O.W. LINE.

TOWNSHIP ROUTE 117
FORDICE CREEK TRIBUTARY
WABASH COUNTY, ILLINOIS

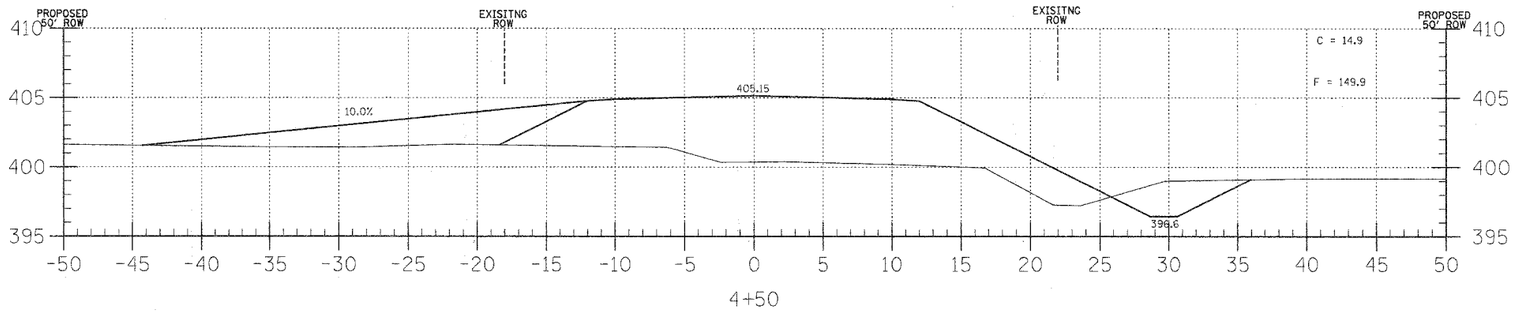
SHEET TITLE:
PLAN & PROFILE

SCALE:	VARIES
BY:	AMM
DATE:	050866
REV:	120906

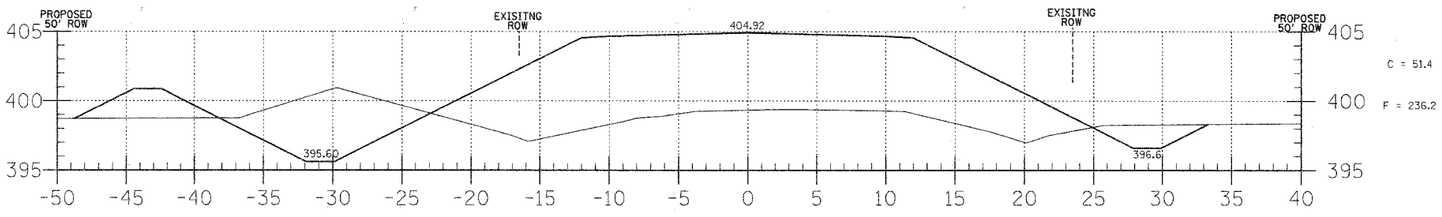
2 OF 13 SHEETS

SHEET NO. 2

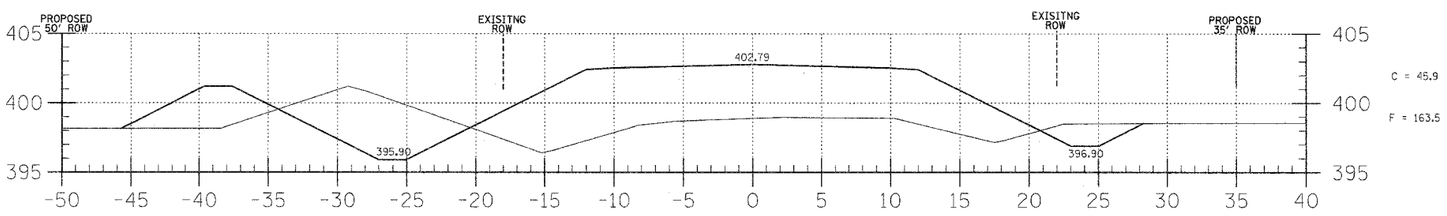
...\H03L018MB\Design\Proposed.dgn 12/29/2008 07:52:56 AM



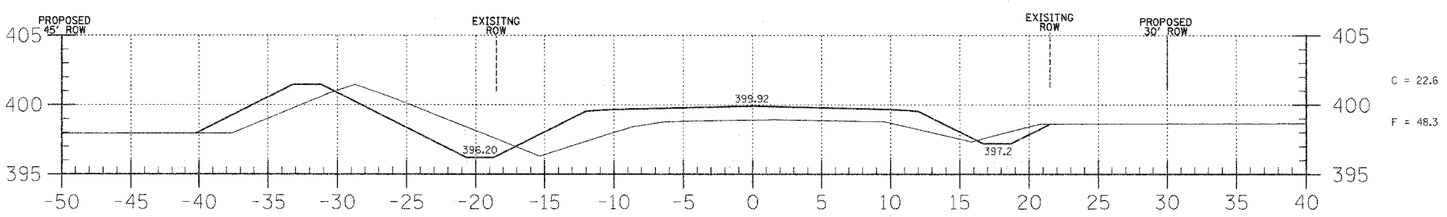
4+50



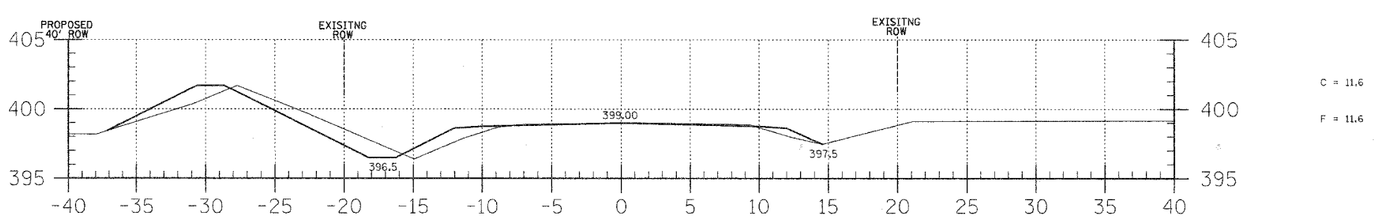
4+00



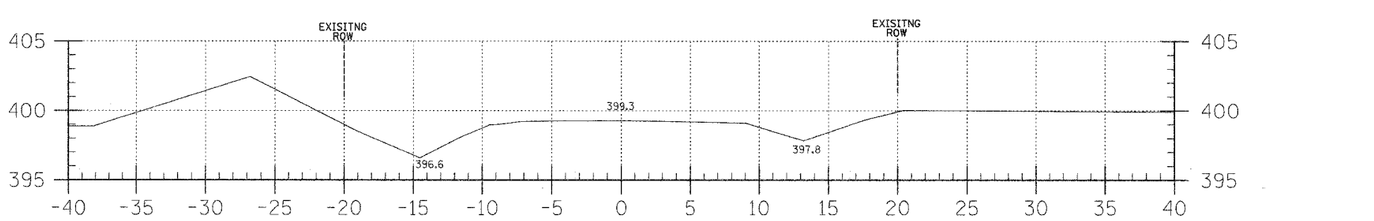
3+00



2+00



1+00



0+00

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	ESTIMATED UNSUITABLE MATERIAL	SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 0+00 TO 4+69.1	478.9	0.0	0.0	359.2	1636.3	-1277.1
STA 4+69.1 TO 5+30.9	0.0	170.7	85.4	64.1	0.0	64.1
STA 5+30.9 TO 10+00	557.1	0.0	0.0	417.8	979.6	-561.8
1 FIELD ENTRANCES	0.0	0.0	0.0	0.0	103.6	-103.6
TOTAL	1036.0	170.7	85.4	841.1	2719.5	-1878.4

T.R. 117 | SECTION (04-04113-00-BR) | COUNTY WABASH | TOTAL SHEETS 13 | SHEET NO. 3

FED. ROAD DIST. NO. 1 ILLINOIS | FED. AID PROJECT

PROJECT # BRDG-8670 | CONTRACT # 9477 | FORDICE CREEK TRIBUTARY

JOB NO. C-97-130-06

LEC JOB # H03IL0180

SHEET NO. 3 | SHEETS 13 | REV: MLG | DATE: 5/8/06 | BY: AMM | SCALE: 1" = 5'

CROSS-SECTIONS

SHEET TITLE:

TOWNSHIP ROUTE 117
FORDICE CREEK TRIBUTARY
WABASH COUNTY, ILLINOIS

AARON M. MEFFORD
NAME
SIGNATURE
DATE 5-09-06
11-30-07
EXPIRES

AARON M. MEFFORD
56284
REGISTERED PROFESSIONAL ENGINEER
STATE OF ILLINOIS

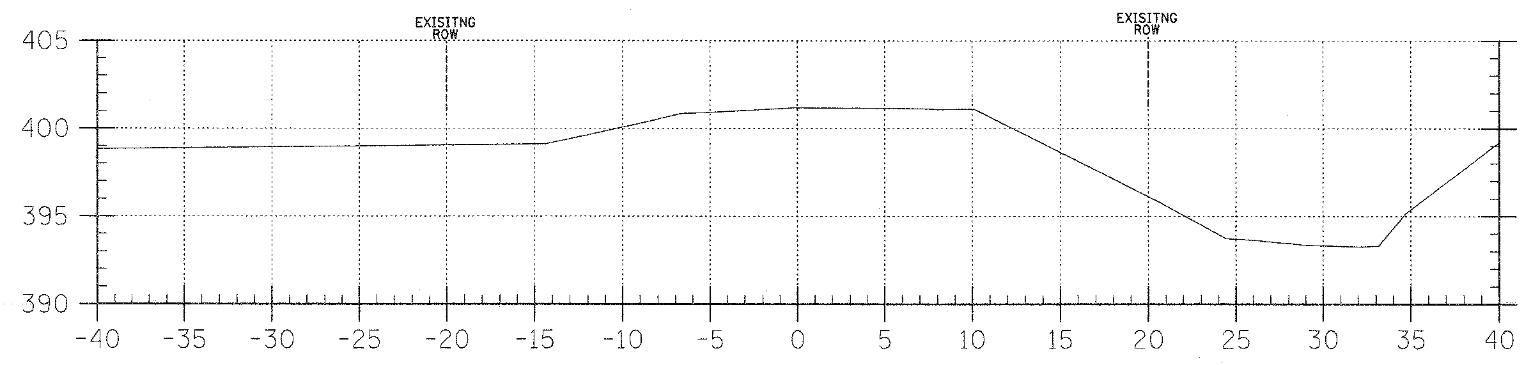
PROFESSIONAL DESIGN FIRM
LAMAC ENGINEERING & PROFESSIONAL ENGINEERING CORPORATION
184.004430(ILS-002769)

LAMAC ENGINEERING CO.

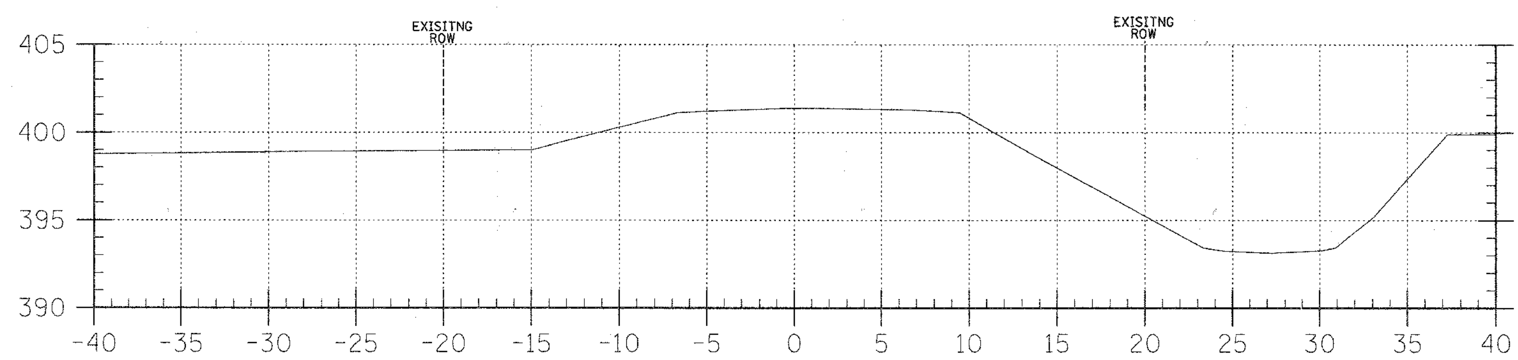
405 W. STATE ST.
PRINCETON, IN
47670
PHONE:
(812)-385-7611
(FAX)-385-2812

929 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
(618)-263-3327

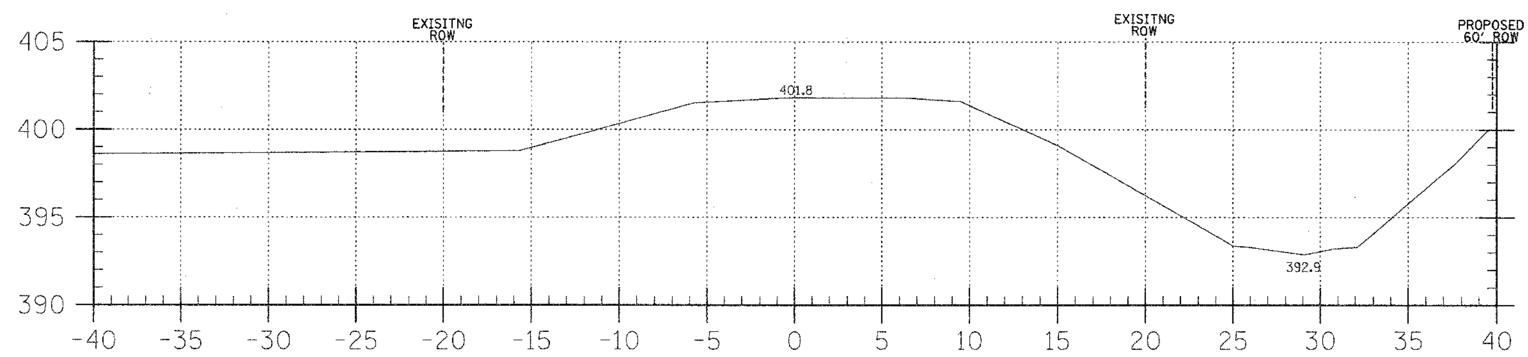
H03IL0180\Design\Proposed.dgn 05/08/2006 02:32:12 PM



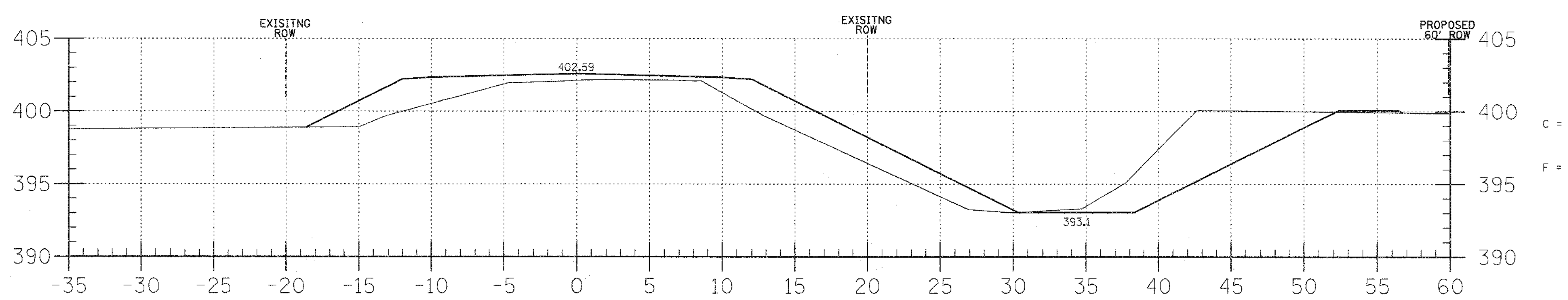
10+00



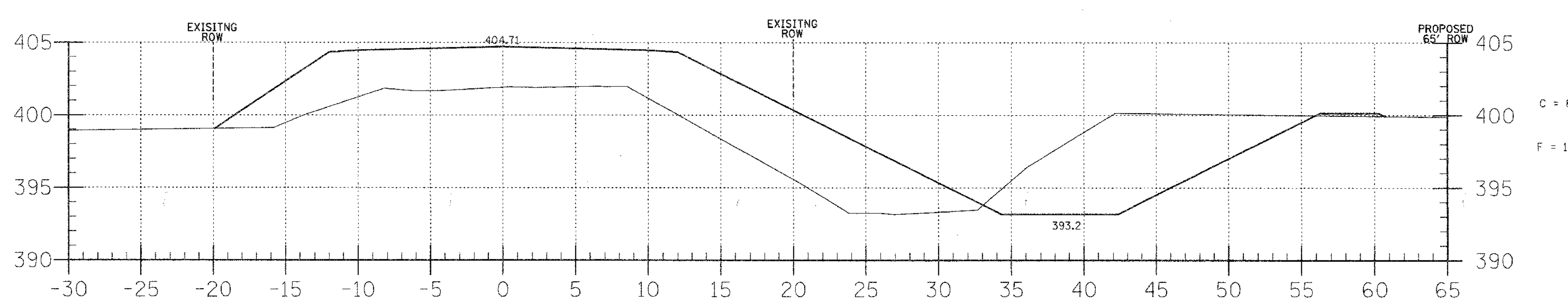
9+00



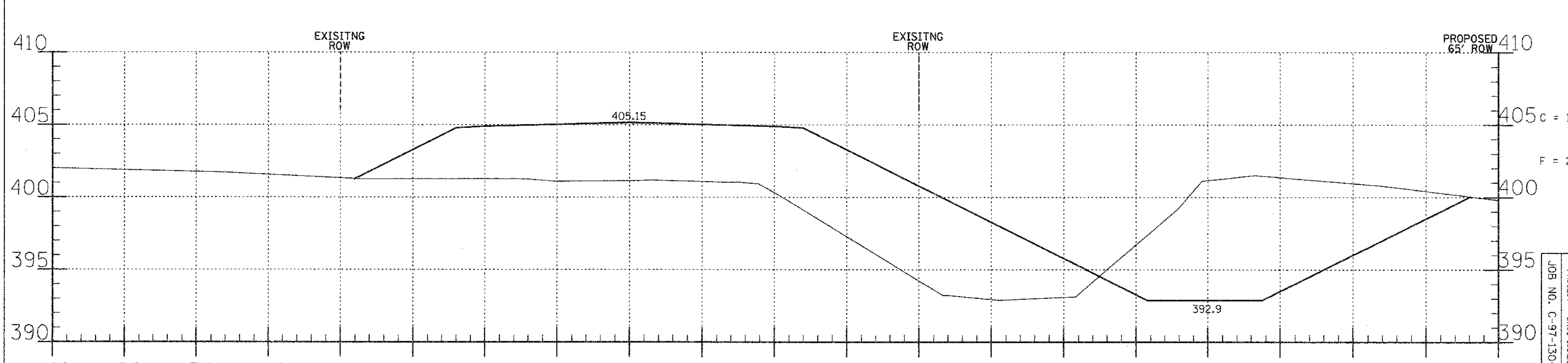
8+00



7+00



6+00



5+40

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
117	04-04113-00-BR	WABASH	13	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
PROJECT # BROS-185(20)		CONTRACT # 95477		
JOB NO. C-97-130-06		FORDICE CREEK TRIBUTARY		

LEC JOB # H03IL018WB

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL 62863
PHONE: (618)-262-8651
FAX: (618)-263-3327

405 W. STATE ST.
SUITE1
PRINCETON, IN 47670
PHONE: (812)-386-7611
FAX: (812)-385-2812

LAMAC ENGINEERING CO.

PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-000887
(62-032435)(35-002769)

AARON M. MEFFORD 56284 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

AARON M. MEFFORD
NAME
SIGNATURE
12-29-06
DATE
11-30-07
EXPIRES

TOWNSHIP ROUTE 117
FORDICE CREEK TRIBUTARY
WABASH COUNTY, ILLINOIS

SHEET TITLE: CROSS-SECTIONS

SCALE:	1" = 6'
BY:	AMM
DATE:	50806
REV:	122906

4 OF 13 SHEETS

SHEET NO. 4

...\H03IL018WB\Design\Proposed.dgn 12/29/2006 07:43:46 AM

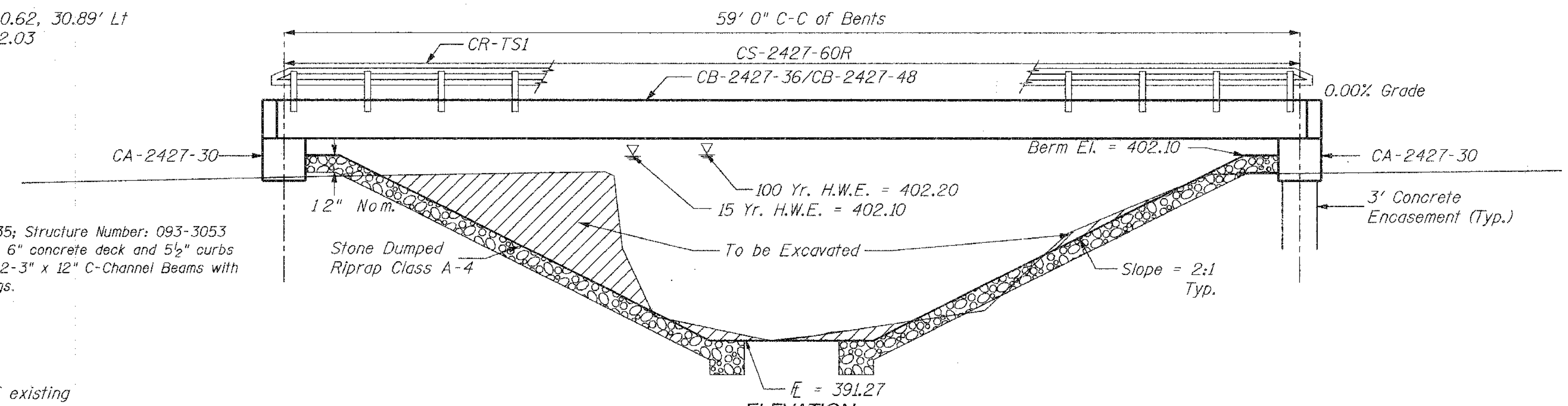
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
117	04-04113-00-BR	WABASH	13	5
FED. ROAD DIST. NO. 7	ILLINOIS	FORDICE CREEK TRIBUTARY		
PROJECT # BROS-185(20)		CONTRACT # 95477		

LEC JOB # H03IL018WB

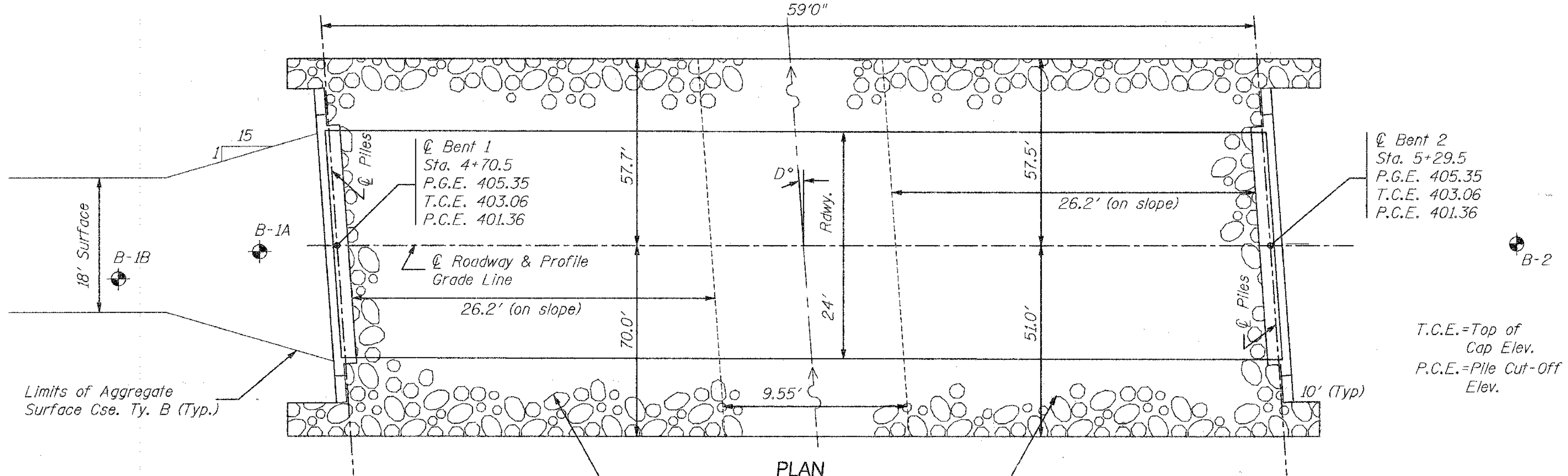
B.M.– I.P. ±Sta. 5+20.62, 30.89' Lt
Elevation = 402.03

Existing Bridge Sta 5+06.35; Structure Number: 093-3053
A 30' long bridge having a 6" concrete deck and 5½" curbs on 5-5¼" x 12" I-Beams, 2-3" x 12" C-Channel Beams with concrete mudwalls and wings.

One (1) each removal of existing structures allowed in Proposal.



ELEVATION



T.C.E.=Top of Cap Elev.
P.C.E.=Pile Cut-Off Elev.

PLAN

D° = 30°

590 Ton-Stone Dumped Riprap Class A-4 allowed in Proposal

GENERAL NOTES

1. The Contractor shall drive one test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
2. See Special Provisions for boring logs.
3. ~~A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.~~
4. The Bit. Conc. Surf. Cse. Superpave and the Waterproofing Membrane System shown in these Plans shall not be provided.

Item	Unit	Super	Sub. Piers	Sub. Abuts.	Total
Removal of Existing Structures	L Sum				1
~~Bit. Conc. Surf. Cse. Superpave~~	~~Tons~~				
~~Waterproofing Membrane System~~	~~Sq.Yds.~~				
Concrete Structures	Cu.Yds.			21.4	21.4
P.P. Conc. Dk. Bm. 27" Dp.	Sq.Ft.	1440			1440
Steel Railing, Type S1	Lin.Ft.	120			120
Reinforcement Bars	Lbs.			2620	2620
Furnishing Steel Piles HP10X42	Lin.Ft.			329	329
Driving Piles	Lin.Ft.			329	329
Test Pile Steel HP10X42	Each			1	1
Name Plates	Each			1	1
Concrete Encasement	Cu.Yds.			2.1	2.1

NOTE: Four (4) Each Curled End Sections required. Item to be incidental to the Steel Railing

NOTE: All items deemed fit for use on other Rd. District projects shall become the property of the said Rd. District. These items shall be stored along the R.O.W. at no additional cost to the project.

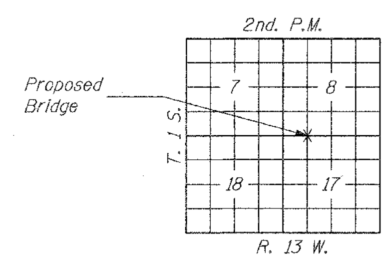
PILE DATA (2-ABUTS.)

Type: Steel Piles HP10X42
Capacity: Drive to Refusal
Estimated Length: 47 Feet
Number Required: 8 (Includes 1 Test Pile in Bent #1)

STATION 5+00
FORDICE CREEK TRIBUTARY
SEC. 04-04113-00-BR BUILT 20
PROJECT NO. BROS-185(20)
WABASH COUNTY
LOADING HS20-44
STR. NO. 093-3128

LETTERING FOR NAME PLATE

Locate Name Plate at the Southwest Corner of the Bridge (See Sd. CN)



LOCATION SKETCH

INDEX OF SHEETS

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, 2007) as shown in the "Article/Section No. Reference Table."

ARTICLE/SECTION NO. REFERENCE TABLE

Previous No.	Current No.
504.06	504.06
505.04	505.04
706.05	1006.05
706.32	1006.32
760.07	1060.07
STD 2340	STD 631026

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications - 17th ed.

LOADING HS20-44

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

WATERWAY INFORMATION

Drainage Area = 3.0 Sq. Mi. Low Grade Elev. = 399.0 At Sta. 1+00									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq.Ft. Exist.	Opening Sq.Ft. Prop.	Natural H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	940	139	293	402.10	0.90	0.21	403.00	402.31
Base	100	1522	139	298	402.20	3.54	0.80	405.74	403.00
Overtopping									
Max. Calc.	500	2005							

GENERAL PLAN & ELEVATION

TOWNSHIP ROUTE 117
OVER FORDICE CREEK TRIBUTARY
SECTION 04-04113-00-BR
WABASH COUNTY
STATION 5+00

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST.
SUITE1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812

LAMAC ENGINEERING CO.

PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-000687
(62-032435)(35-002769)

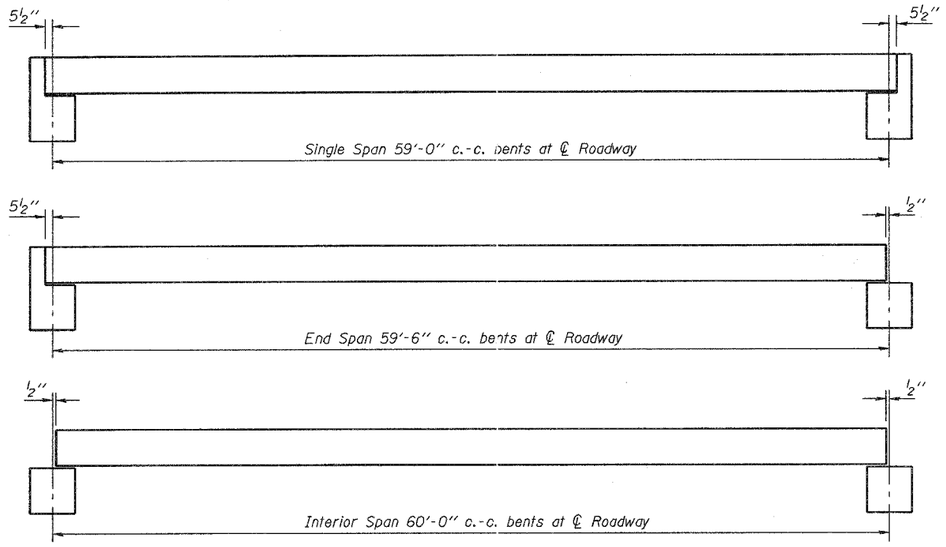
AARON M. MEFFORD
56284
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

AARON M. MEFFORD
NAME
SIGNATURE
5-09-06
DATE
11-30-07
EXPIRES

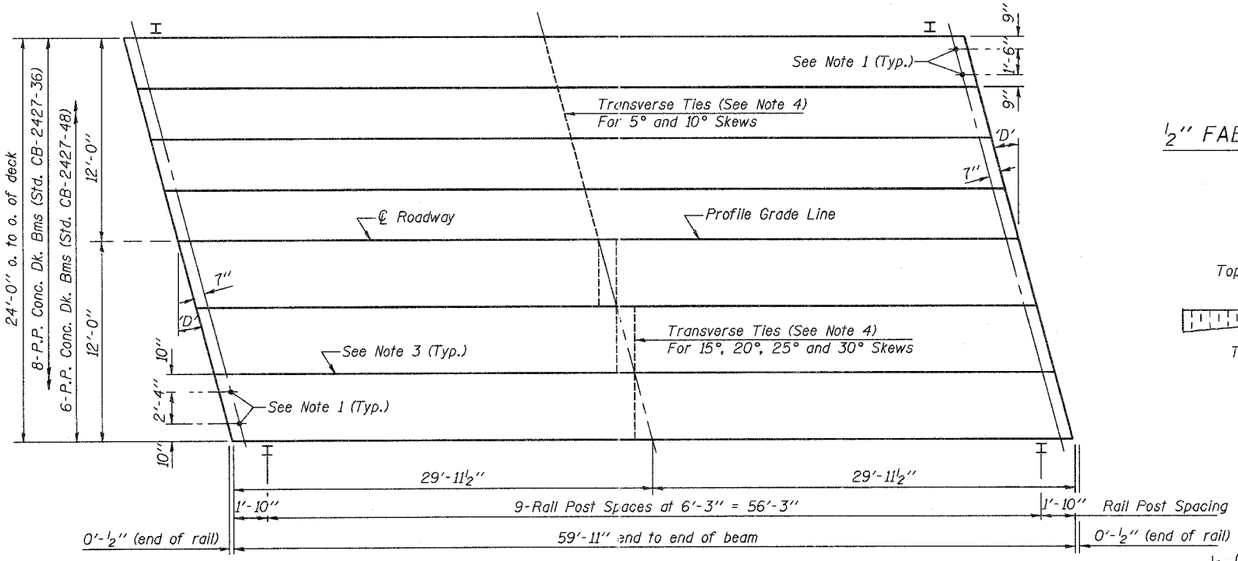
TOWNSHIP ROUTE 117
FORDICE CREEK TRIBUTARY
WABASH COUNTY, ILLINOIS

SHEET TITLE:
GENERAL PLAN AND ELEVATION

SCALE:	NONE
BY:	AMM
DATE:	050806
REV:	

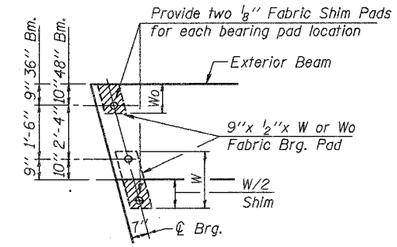


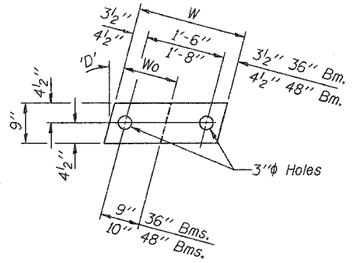
TYPICAL ELEVATIONS



PLAN

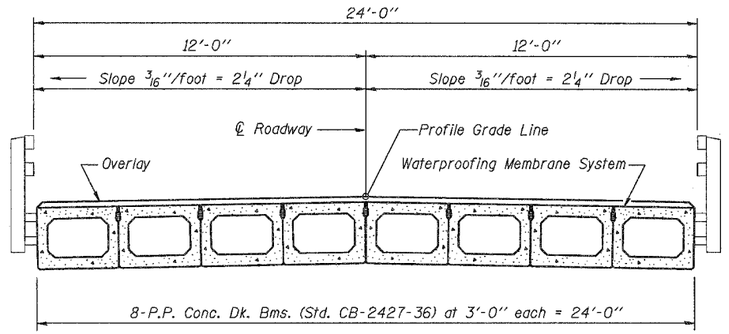
('D' = Designated Skew Angle)



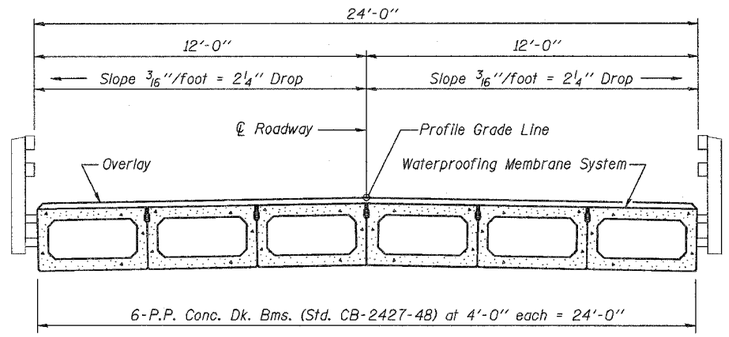


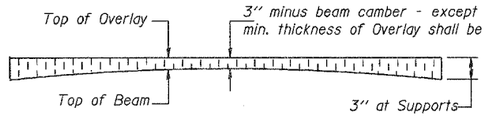
Beam	W	Wo
36"	2'-1"	1'-0½"
48"	2'-5"	1'-2½"

½" FABRIC BRG. PAD DETAILS



CROSS SECTION

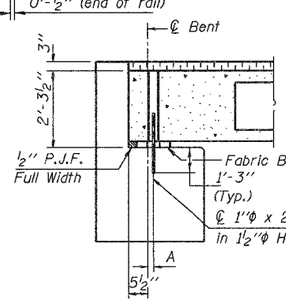




PROFILE OF OVERLAY

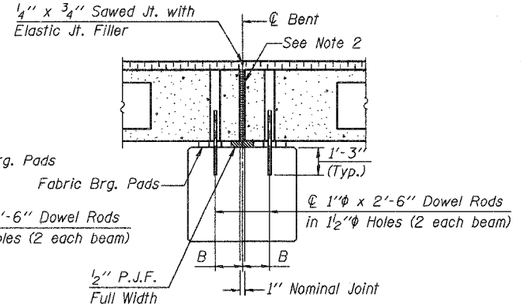
DIMENSIONS 'A' AND 'B'

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



SECTION AT ABUTS.

(Along ℄ Beams)



SECTION AT PIERS

(Along ℄ Beams)

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.

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 27" Dp.	1440 Sq. Ft.	
Steel Railing	120 Ft.	
Waterproofing Membrane System	160.0 Sq. Yds.	
Portland Cement Mortar	420 Ft.	36"
Fairing Course	300 Ft.	48"

Note: Quantity of overlay for one span = 18.0 Tons

Illinois Department of Transportation

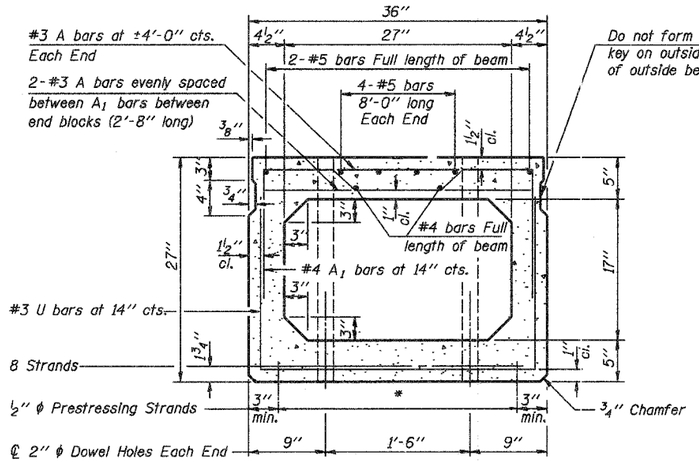
PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

ISSUED 1-1-1981

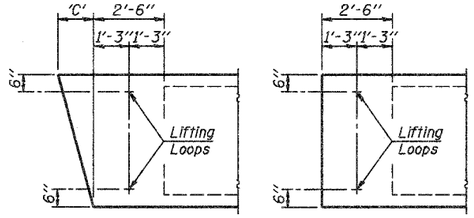
P.P.C. DECK BEAM SUPERSTRUCTURE

24' RDWY.	27" BMS.	60' SPAN	RIGHT

STANDARD CS-2427-60R

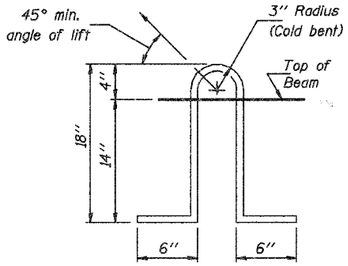


CROSS SECTION
(40' SPAN)



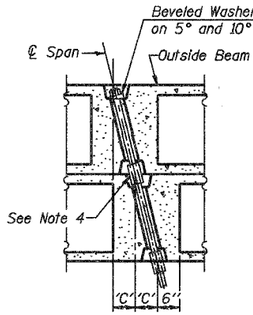
END BLOCK DETAILS

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

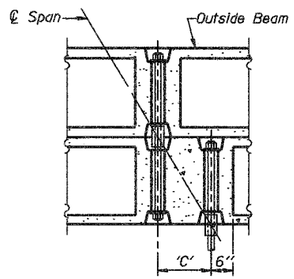


LIFTING LOOP DETAIL

Lifting loops shall be 2, ½"ϕ-270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.



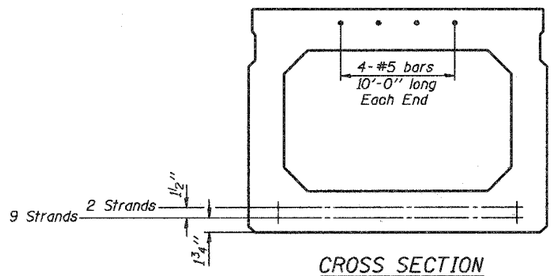
PARTIAL PLAN
TRANSVERSE TIE ASSEMBLY
('D'=0°, 5° and 10°)



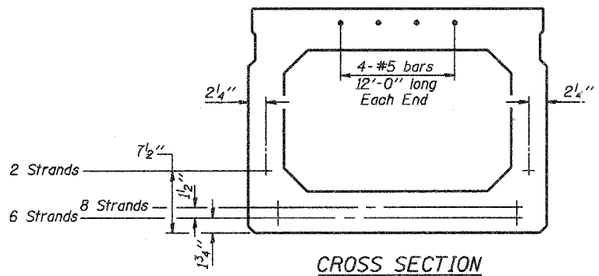
PARTIAL PLAN
TRANSVERSE TIE ASSEMBLY
('D'=15°, 20°, 25° and 30°)

DIMENSION 'C'

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



CROSS SECTION
(50' SPAN)

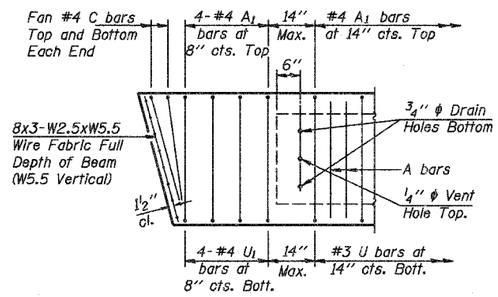


CROSS SECTION
(60' SPAN)

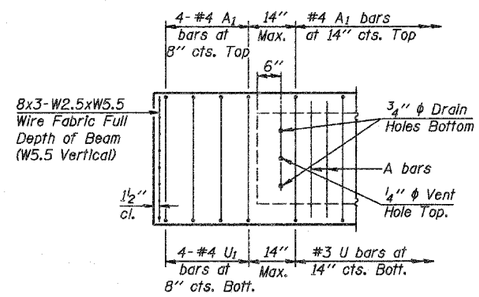
* TRANSVERSE STRAND PLACEMENT GUIDELINES

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".

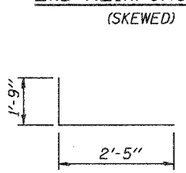
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



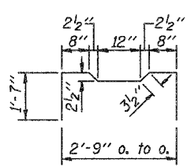
END REINFORCEMENT
(SKEWED)



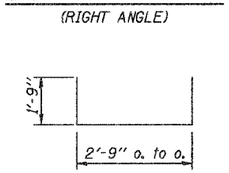
END REINFORCEMENT
(RIGHT ANGLE)



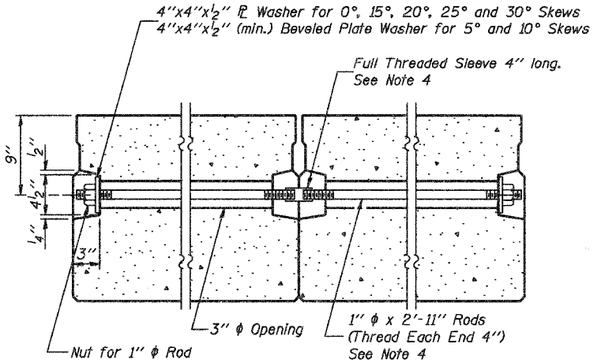
BAR C**



BAR A1



BARS U & U1



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 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 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

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

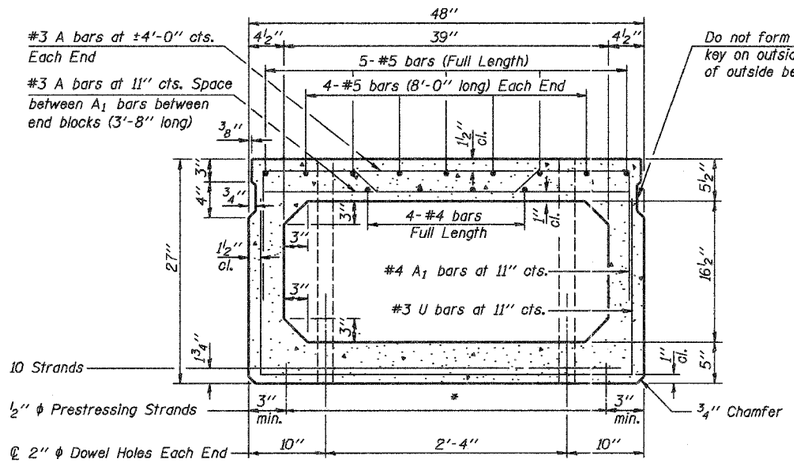
#4 bars = 1'-4"
#5 bars = 1'-8"

Illinois Department of Transportation

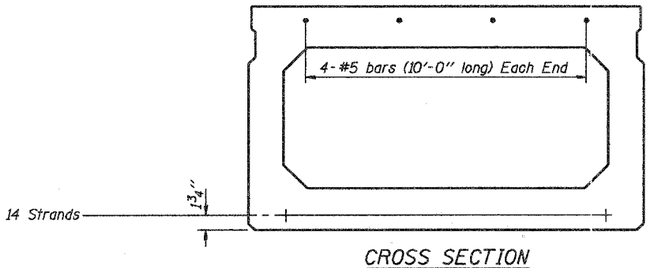
PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

ISSUED 1-1-1981

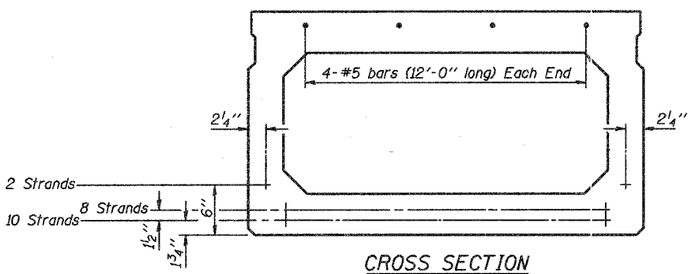
P.P.C. DECK BEAM DETAILS	
24' ROADWAY	27" x 36" BEAMS
STANDARD CB-2427-36	



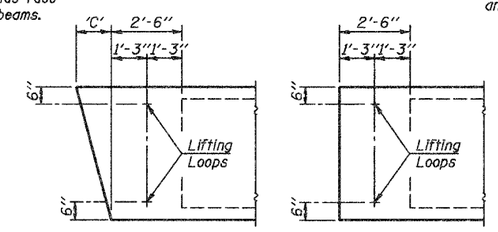
CROSS SECTION
(40' SPAN)



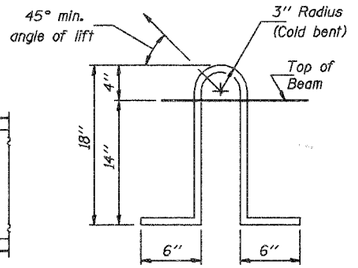
CROSS SECTION
(50' SPAN)



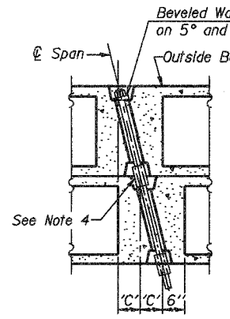
CROSS SECTION
(60' SPAN)



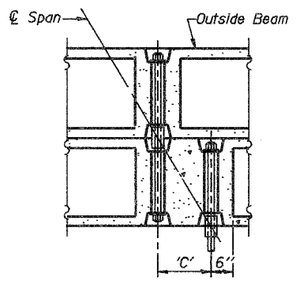
END BLOCK DETAILS
Each beam shall have four Lifting Loops, two at each end of beam cast in locations shown above. Loops shall be burned off after beams have been erected.



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°)

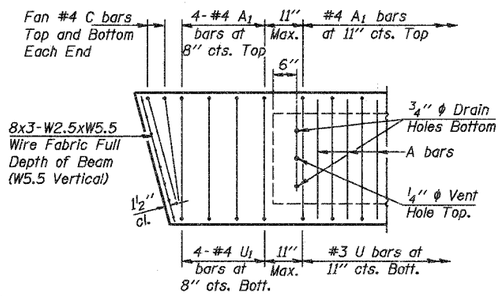
DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	4¼	8½	12⅞	17½	22⅜	27¾

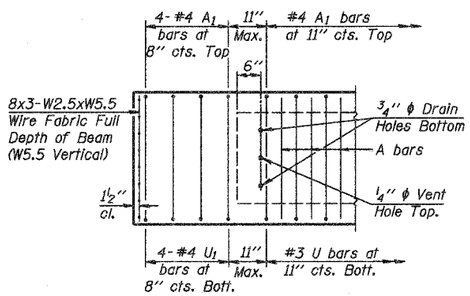
* TRANSVERSE STRAND PLACEMENT GUIDELINES

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".

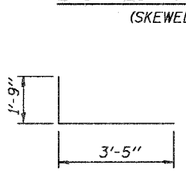
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



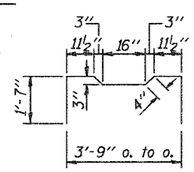
END REINFORCEMENT
(SKEWED)



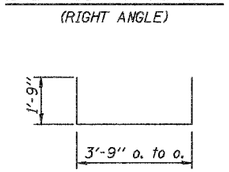
END REINFORCEMENT
(RIGHT ANGLE)



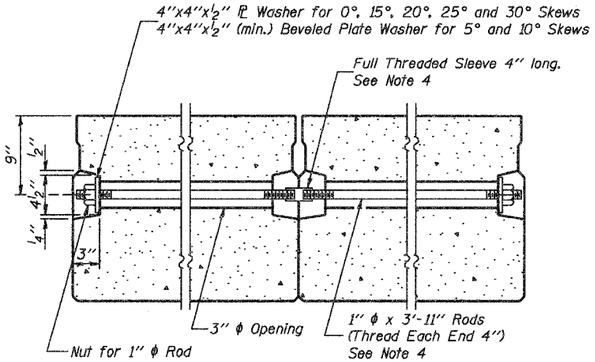
BAR C**



BAR A1



BARS U & U1



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 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.

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"

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:

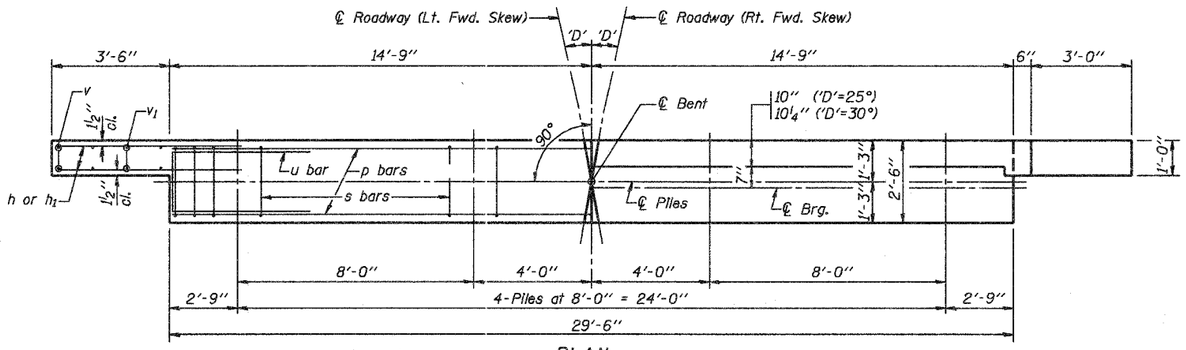
Skew	No.
5° and 10°	1
15° and 20°	2
25° and 30°	3

Illinois Department of Transportation
PASSED APRIL 4, 2005
Thomas J. Kamnaglaki
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures
ISSUED 1-1-1981

P.P.C. DECK BEAM DETAILS

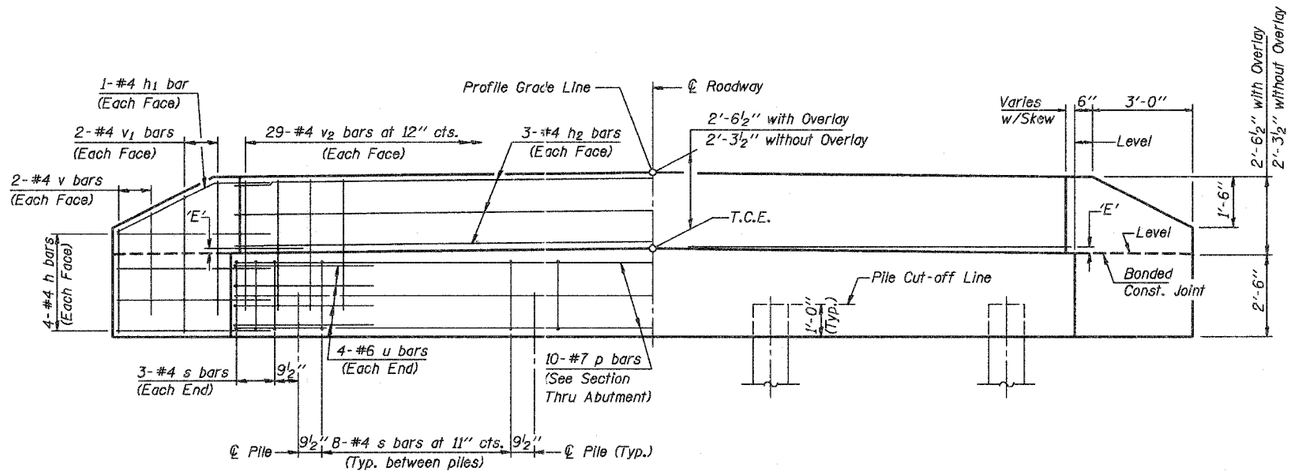
24' ROADWAY | 27" x 48" BEAMS

STANDARD CB-2427-48

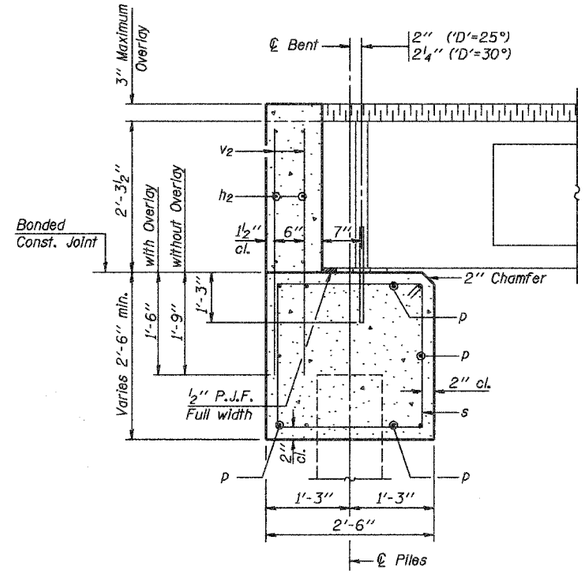


PLAN

('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"	2 3/8"	2 3/8"
Over 0% to 1%	2⅛"	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"	⅛"	4 5/8"
Over 3% to 4%	0"	5⅛"	——	——

NOTES

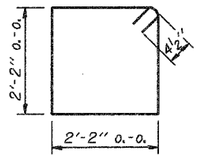
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. ~~Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.~~
3. Space reinforcement in cap to miss anchor bolts.

MAXIMUM PILE LOADS

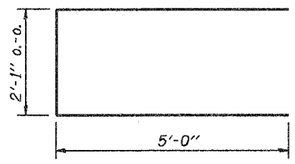
SPAN	TONS
40'	34
50'	38
60'	43

DESIGN STRESSES

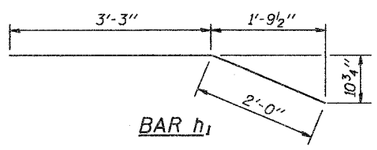
f'c = 3,500 psi
fy = 60,000 psi



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"	——
p	10	#7	29'-2"	——
s	30	#4	9'-5"	□
u	8	#6	12'-1"	⊏
v	8	#4	3'-2"	——
v1	8	#4	4'-2"	——
v2	58	#4	3'-11"	——
Concrete Structures			10.7 Cu. Yds.	
Reinforcement Bars			1310 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

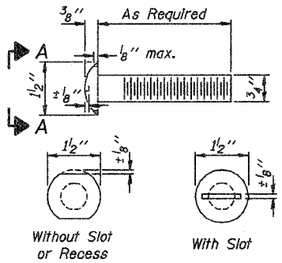
ISSUED 1-1-1981

P.P.C. DECK BEAMS
PILE BENT ABUTMENT

24' RDWY.	27" BMS.	'D'=25° OR 30°

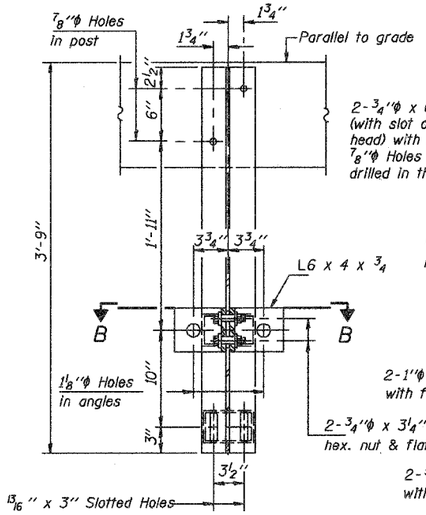
STANDARD CA-2427-30

CONTRACT # 95477

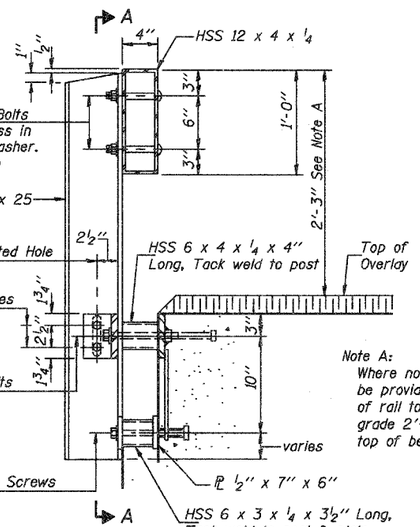


VIEW A-A

ROUND HEAD BOLT

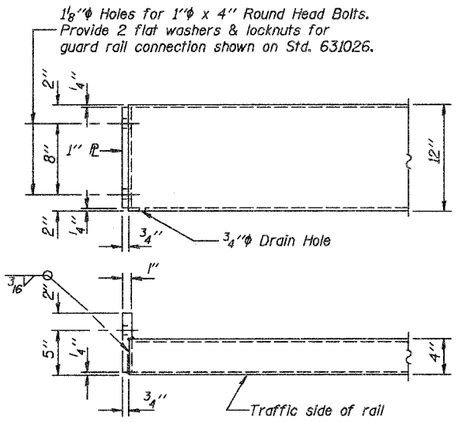


SECTION A-A



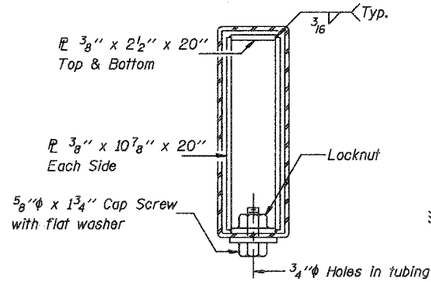
SECTION AT RAIL POST

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.

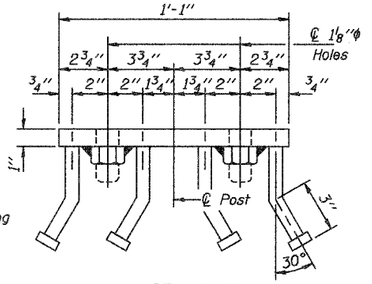


END OF RAIL DETAILS

** 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".

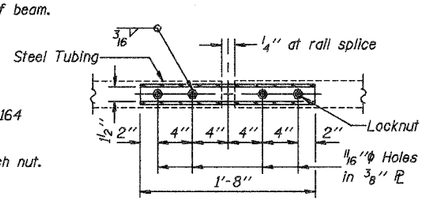


SECTION AT RAIL SPLICE

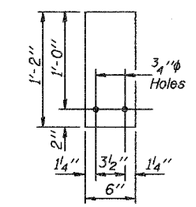


VIEW C-C

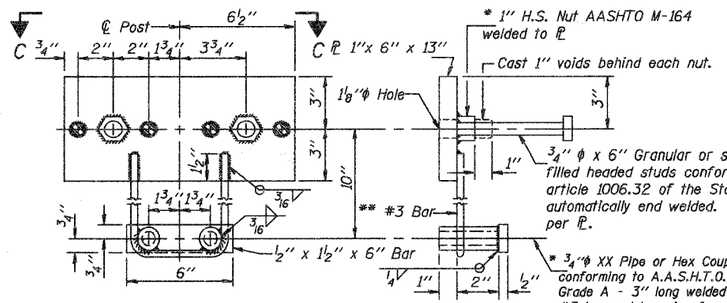
* Threaded areas shall be plugged or blocked off during casting of beam.



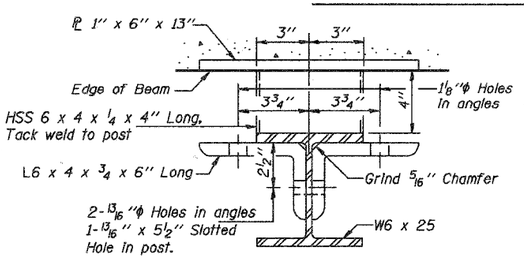
PLAN-BOTT. SPLICE PL TYPICAL



1/4" SHIM PLATE



ANCHOR DEVICE



SECTION B-B

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.

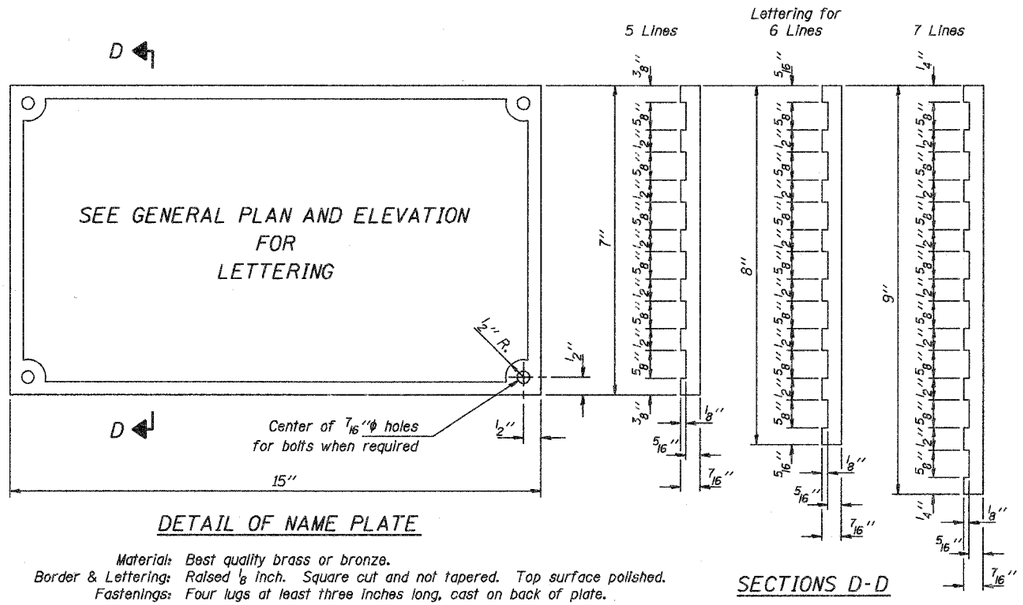
Illinois Department of Transportation

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

ISSUED 1-1-96

STEEL RAILING, TYPE S-1

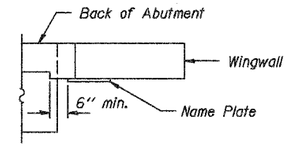
STANDARD CR-TS1



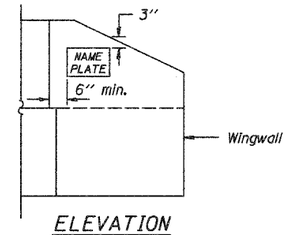
DETAIL OF NAME PLATE

SECTIONS D-D

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



PLAN



ELEVATION

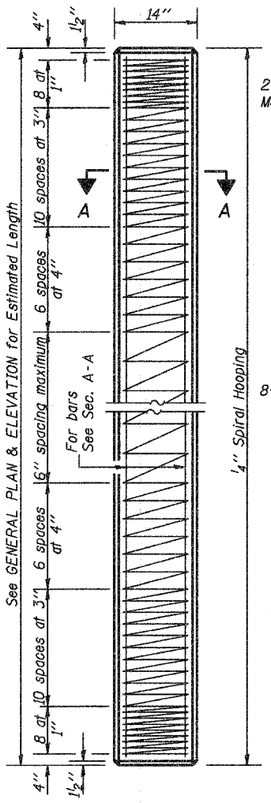
LOCATION OF NAME PLATE

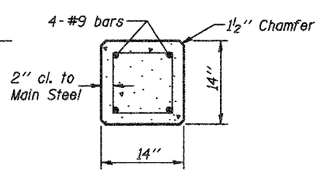
Illinois Department of Transportation

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

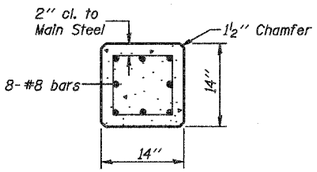
ISSUED 7-1-1995

NAME PLATE
STANDARD CN





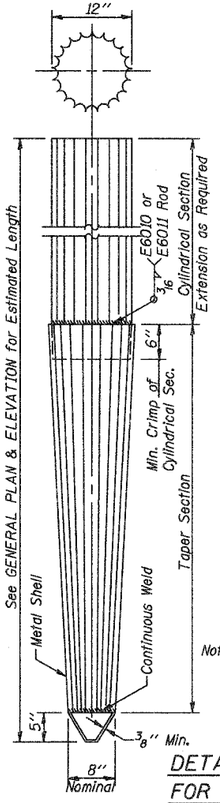
SECTION A-A
FOR PILES UNDER 45' LONG



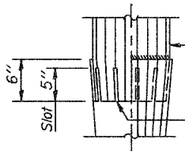
SECTION A-A
FOR PILES 45' OR MORE

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

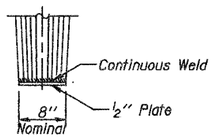


DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



FIELD CRIMP DETAIL

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

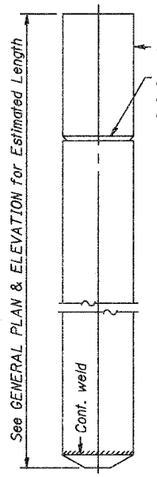


OPTIONAL FLAT END

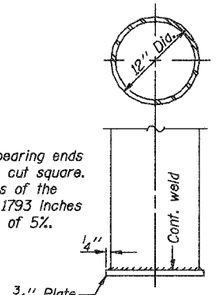
ALLOWABLE TAPER SECTIONS

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.



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%.



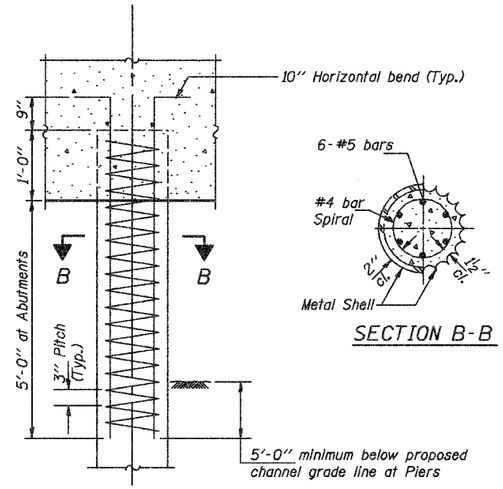
OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

CONTRACT # 95477

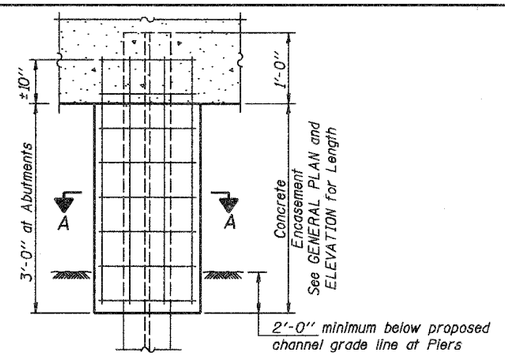
Reinforcement cage shall be omitted when Concrete Encasement is provided.

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



SECTION B-B

DETAIL OF REINFORCEMENT FOR METAL SHELLS

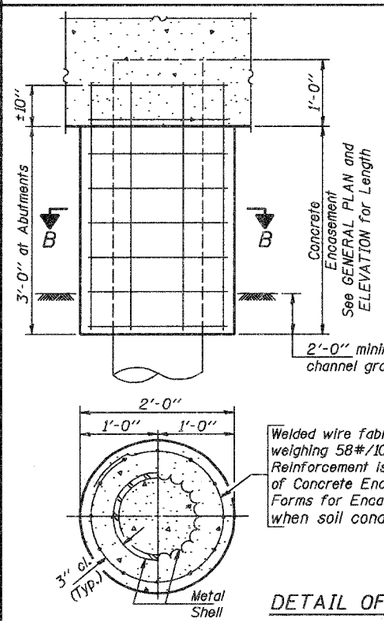


Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Reinforcement is included with the cost of Concrete Encasement. Forms for Encasement may be omitted when soil conditions will permit.

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 1-95

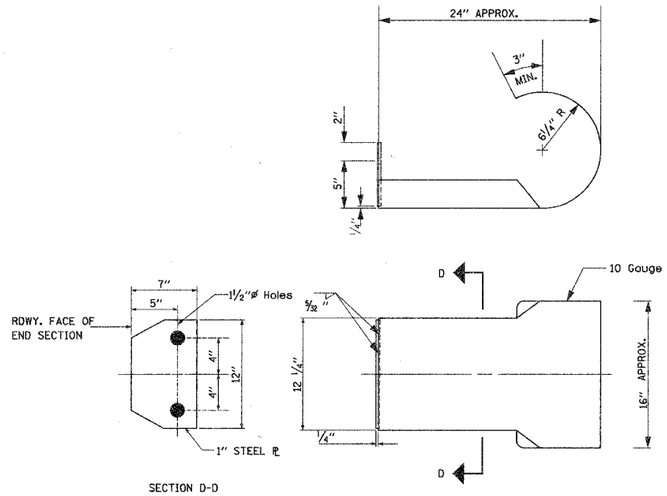
PILE DETAILS

STANDARD CX-1

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
117	04-04113-00-BR	WABASH	13	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
PROJECT # BROS-185(20)		CONTRACT - 95477		
JOB # C-97-130-06		FORDICE CREEK TRIBUTARY		

L.E.C. JOB # H031L01BWB

CURLED END SECTION DETAIL



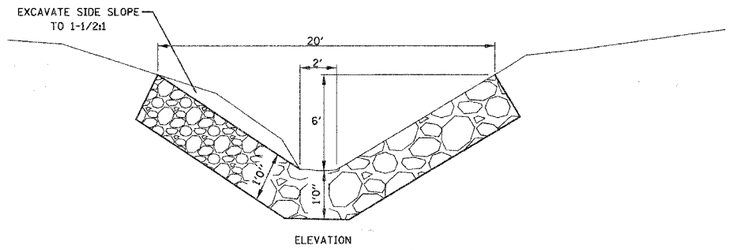
SECTION D-D

ALL OTHER STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M-183 EXCEPT POSTS AND ANGLES SHALL CONFORM TO A.A.S.H.T.O. M-223, GRADE 50.

BOLTS, CAP SCREWS, AND NUTS SHALL CONFORM TO THE REQUIREMENT OF A.S.T.M. DESIGNATION A-307 EXCEPT FOR HIGH STRENGTH BOLTS, NUTS, AND WASHERS NOTED WHICH SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M-164.

ALL BOLTS, NUTS, CAP SCREWS, WASHERS, AND LOCK WASHERS SHALL BE GALVINIZED IN ACCORDANCE WITH A.A.S.H.T.O. DESIGNATION M-232.

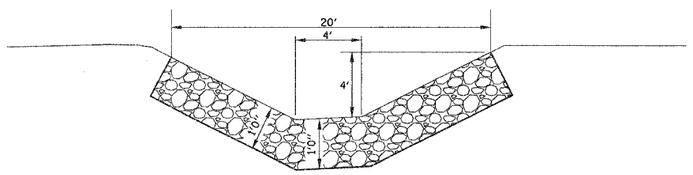
ALL FIELD DRILLED HOLES SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT BEFORE ERRECTION.



ELEVATION

NOTE: SIDESLOPE = 1 1/2:1
1.51 TON/LIN FT

STA 5+02 - STONE RIPRAP DITCH DESIGN



ELEVATION

NOTE: SIDESLOPE = 2:1
1.56 TON/LIN FT

STA 5+60 - STONE RIPRAP DITCH DESIGN

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST
SUITE1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812

LAMC ENGINEERING CO.

PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-000887
(62-032435)(35-002769)

AARON M. MEFFORD
56284
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS

AARON M. MEFFORD
NAME
SIGNATURE
5-09-06
DATE
11-30-07
EXPIRES

TOWNSHIP ROUTE 117
FORDICE CREEK TRIBUTARY
WABASH COUNTY, ILLINOIS

SHEET TITLE:

CURLED END SECTIONS DESIGN

SCALE:	NONE
BY:	ANM
DATE:	050866
REV:	

13 OF 13
SHEETS

SHEET NO.
13

\\H031L01BWB\Design\Wabash.dgn 07/08/2005 08:10:55 AM