

INDEX OF SHEETS

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2	PLAN & PROFILE, TYPICAL SECTIONS & GENERAL NOTES
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5-14	BRIDGE DESIGN
15	CURLED END SECTIONS

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

000001-04	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS (6 SHEETS)
280001-02	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
20200100	EARTH EXCAVATION	CU YD	619.00
20300100	CHANNEL EXCAVATION	CU YD	888.00
20400800	FURNISHED EXCAVATION	CU YD	289.00
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.38
28000300	TEMPORARY DITCH CHECKS	EACH	6.00
28001000	AGGREGATE (EROSION CONTROL)	TON	8.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	407.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	366.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	31.40
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2400.00
50500505	STUD SHEAR CONNECTORS	EACH	64.00
50800105	REINFORCEMENT BARS	POUND	4080.00
50900205	STEEL RAILING, TYPE S1	FOOT	200.00
51201600	FURNISHING STEEL PILES HP12X53	FOOT	1526.00
51202700	DRIVING STEEL PILES	FOOT	1526.00
51203600	TEST PILE STEEL HP12X53	EACH	2.00
51204315	CONCRETE ENCASEMENT	CU YD	14.80
51500100	NAME PLATES	EACH	1.00
54200220	PIPE CULVERTS, CLASS C, TYPE 1, 15"	FOOT	27.00
67100100	MOBILIZATION	L SUM	1.00

DESIGN DESIGNATION:
 DESIGN SPEED: 30 MPH
 HIGHWAY CLASS - LOCAL ROAD
 EXISTING STRUCTURE NO.: 024-3054
 PROPOSED STRUCTURE NO.: 024-3133
 CURRENT A.D.T. = 75
 CONTRACT NO. 95478

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

STATE OF ILLINOIS

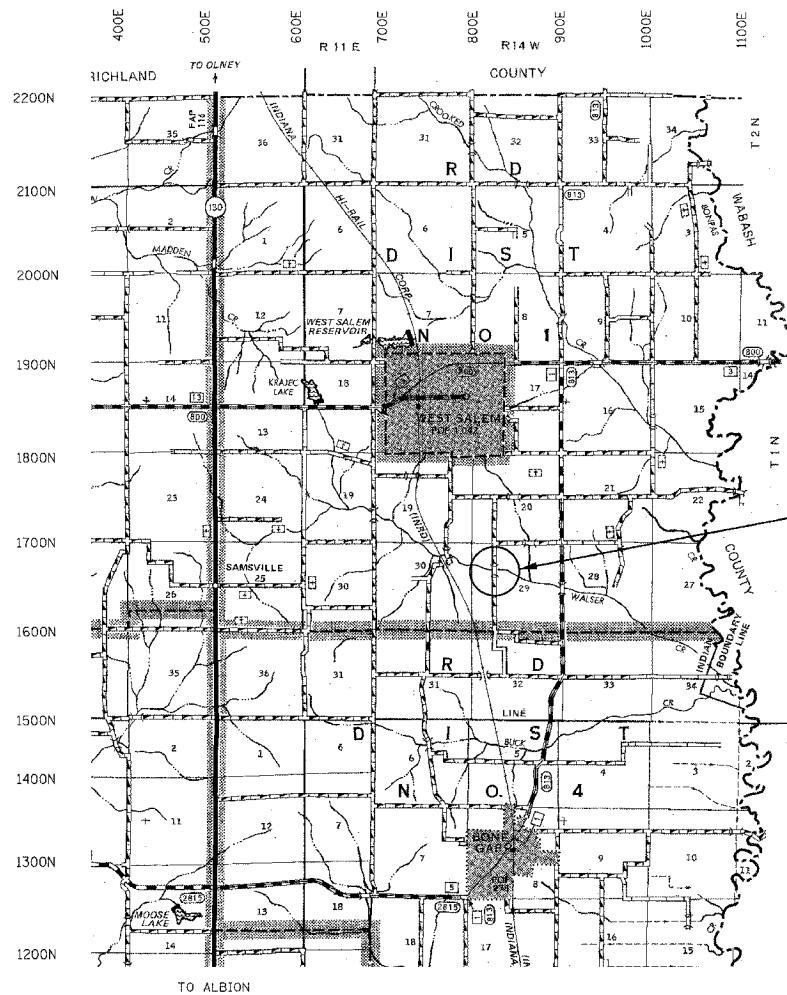
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED
 FEDERAL AID - H.B.P. PROJECT**

T.R. 128 EDWARDS COUNTY SECTION 03-01128-00-BR

PROJECT NO. BROS-047(23) JOB NO. C-97-129-06

CONTRACT # 95478 WALSER CREEK



LAYOUT
 APPROXIMATE SCALE 1 INCH = 1 MILE



GROSS LENGTH	590.00 FT	0.11 MILES
OMISSIONS	0.00 FT	0.00 MILES
NET LENGTH	590.00 FT	0.11 MILES

SECTION 03-01128-00-BR
 BEGINS STATION 2+50

STATION 5+00, STRUCTURE NO. 024-3133
 A 100' TRIPLE SPAN (30, 40, 30) PRECAST
 PRESTRESSED CONCRETE DECK BEAM
 BRIDGE (17" DEPTH, 24" ROADWAY,
 0.00% GRADE, 0° SKEW.

SECTION 03-01128-00-BR
 ENDS STATION 8+40

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

APPROVED May 09 20 06
Paul S. B. P.
 COUNTY ENGINEER

PASSED June 9 20 06
Michael J. Carl
 DISTRICT SEVEN ENGINEER OF
 LOCAL ROADS & STREETS

Releasing For
 Bid Based on
 Limited Review
June 9 20 06
Chuck M. Reed
 DEPUTY DIRECTOR OF HIGHWAYS,
 REGION FOUR ENGINEER

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
128	03-01128-00-BR	EDWARDS	15	1

FED. ROAD DIST. NO. 7 ILLINOIS
 FED. AID PROJECT
 PROJECT# BROS-047(23)
 CONTRACT# 95478
 JOB # C-97-129-06
 WALSER CREEK

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

LEC JOB # H031008ED

405 W. STATE ST.
 SUITE 1
 PRINCETON, IN
 47670
 PHONE:
 (812)-386-7611
 FAX:
 (812)-385-2812



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



AARON M. MEFFORD
 NAME
 SIGNATURE
 DATE
 5-10-06
 11-30-07
 EXPIRES

TOWNSHIP ROUTE 128
 WALSER CREEK
 EDWARDS COUNTY, ILLINOIS

SHEET TITLE:
 TITLE SHEET

SCALE: VARS
 BY: AMM
 DATE: 05/09/06
 REV:

1 OF 15
 SHEETS

SHEET NO.
 1

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
128	03-01128-00-BR	EDWARDS	15	2
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
PROJECT # BR05-041231		CONTRACT # 95478		PHONE: (618)-262-8651
JOB # C-97-129-06		WALSER CREEK		FAX: (618)-263-3327
LEC JOB # 00310080				

405 W. STATE ST
SUITE 1
PRINCETON, IN 47670
PHONE: (618)-386-7611
FAX: (618)-385-2812



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



AARON M. MEFFORD
NAME
SIGNATURE
5-10-06
DATE
11-30-07
EXPIRES

ROAD DISTRICT NO. 1
TOWNSHIP ROUTE 128
EDWARDS COUNTY, ILLINOIS

SHEET TITLE:
PLAN & PROFILE

SCALE: VARIES
BY: AMM
DATE: 5/9/06
REV:

2 OF 15 SHEETS

SHEET NO. 2

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, 2002.

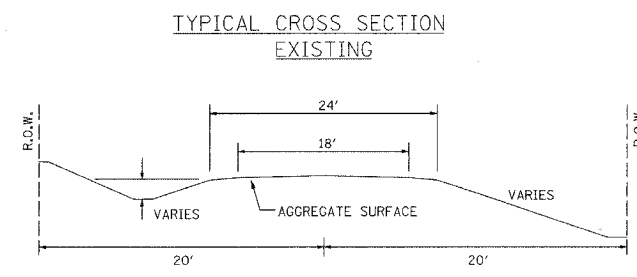
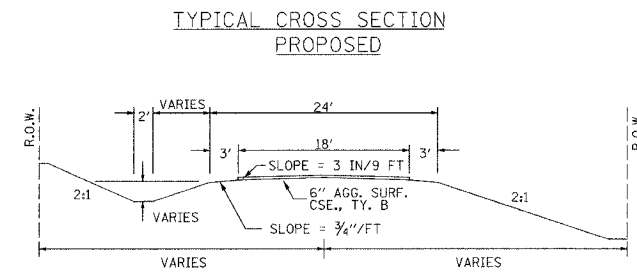
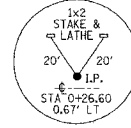
THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 100 FOOT LONG TRIPLE SPAN (30'x40',30') PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

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

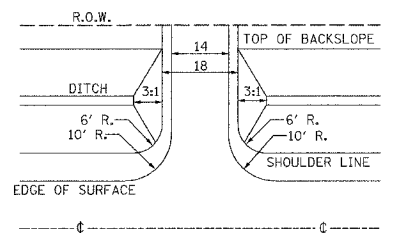
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

BRIDGE DECK WILL BE REMOVED BY ROAD COMMISSIONER BEFORE CONSTRUCTION. NOTIFY ROAD COMMISSIONER PRIOR TO CONSTRUCTION FOR SCHEDULING OF REMOVAL.

NOTE: CONSTRUCTION TRANSITIONS
STA. 1+50 TO STA 2+00
STA 7+50 TO STA 8+00
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL

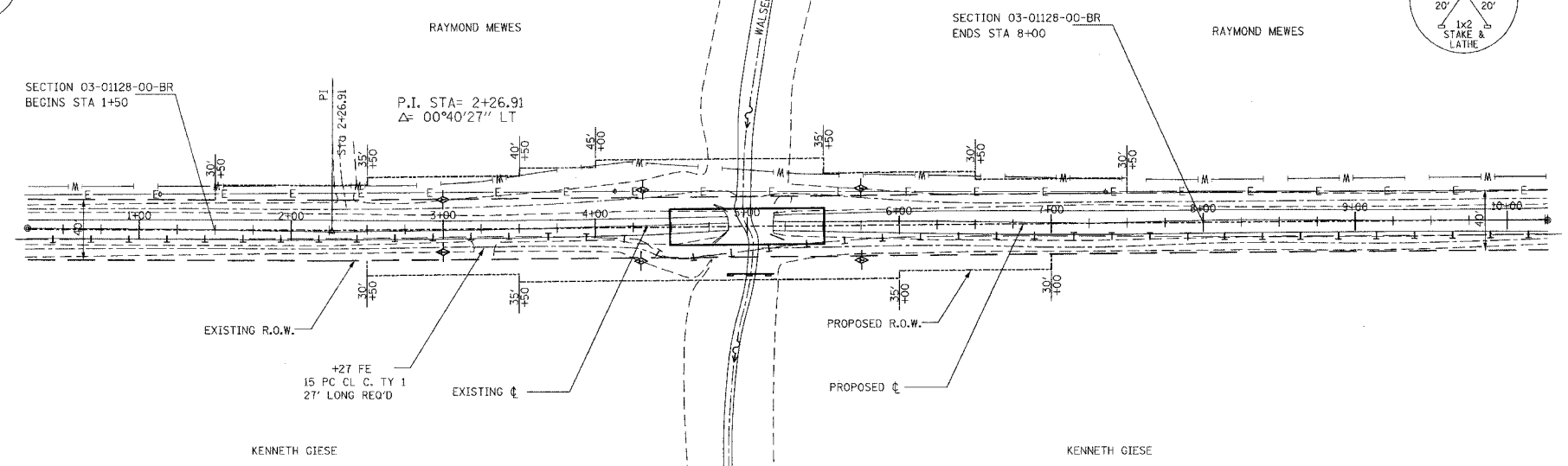


FIELD ENTRANCE DETAIL



UTILITIES:
J.U.L.I.E. 1-800-892-0123
VERIZON
800-483-5000
RICHLAND-EDWARDS WATER
618-442-5858
WAYNE-WHITE ELECTRIC
618-842-2196

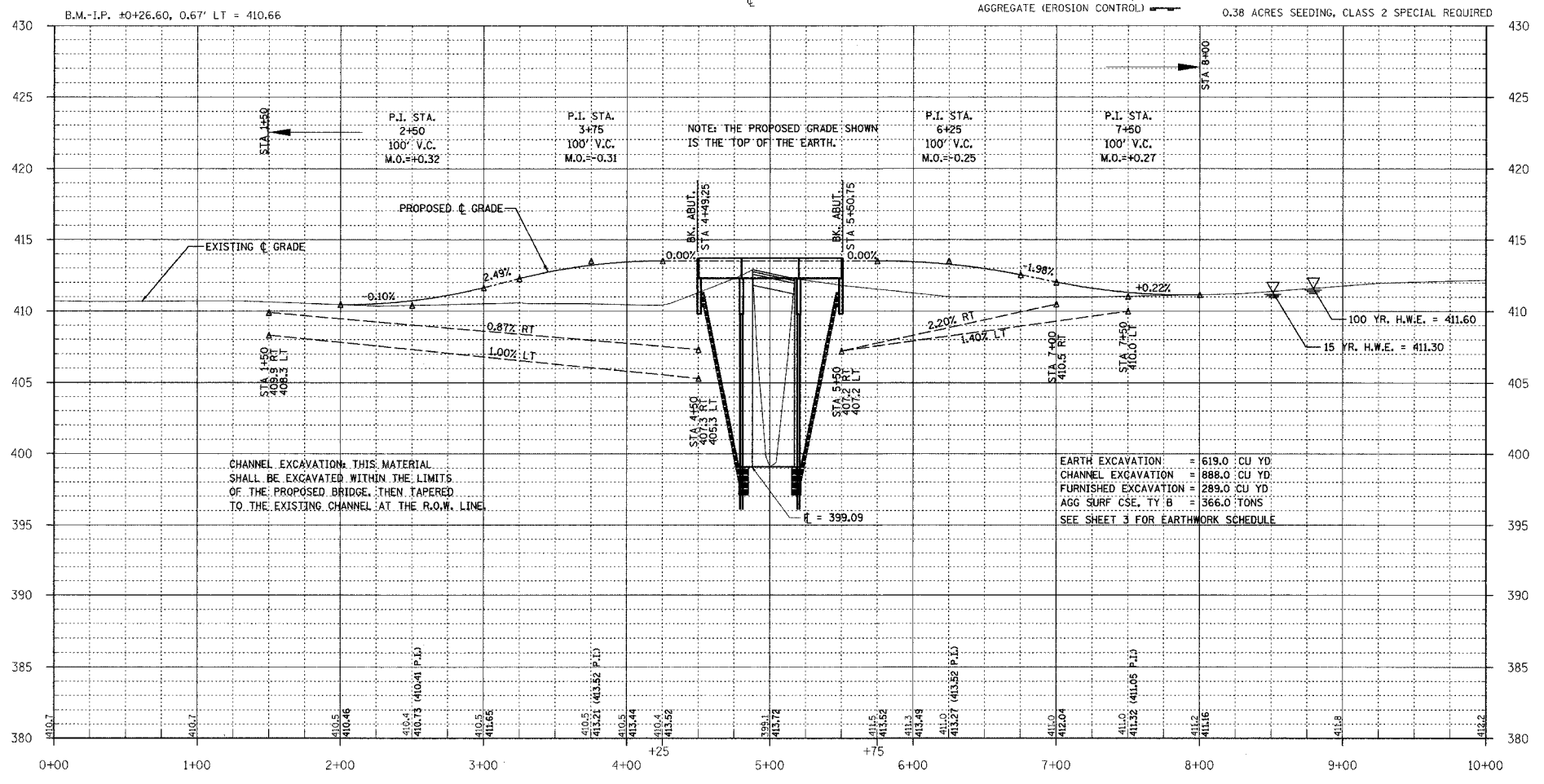
NOTE: CONSTRUCT SPECIAL DITCH
STA 1+50 TO STA 4+50 LT
STA 1+50 TO STA 4+50 RT
STA 5+50 TO STA 7+50 LT
STA 5+50 TO STA 7+00 RT



EXISTING BRIDGE STA 5+02.43; STRUCTURE NUMBER: 024-3054
A 30' LONG BRIDGE HAVING A 2" THICK WOOD DECK ON 9-9" STEEL BEAMS WITH STEEL WINGWALLS.

PROPOSED STRUCTURE: NO. 024-3133, STA 5+00, A 100' LONG TRIPLE SPAN (30', 40', 30') BRIDGE WITH 17" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS, 24' WIDTH, 0° SKEW.

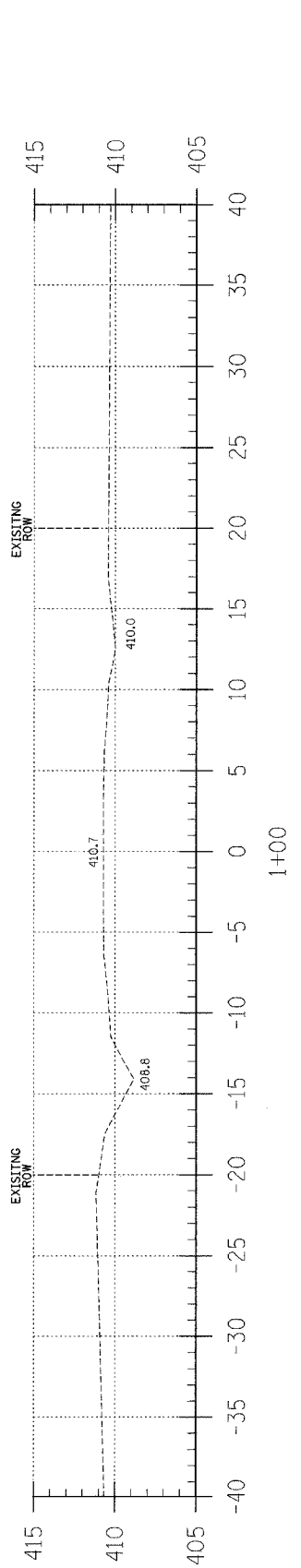
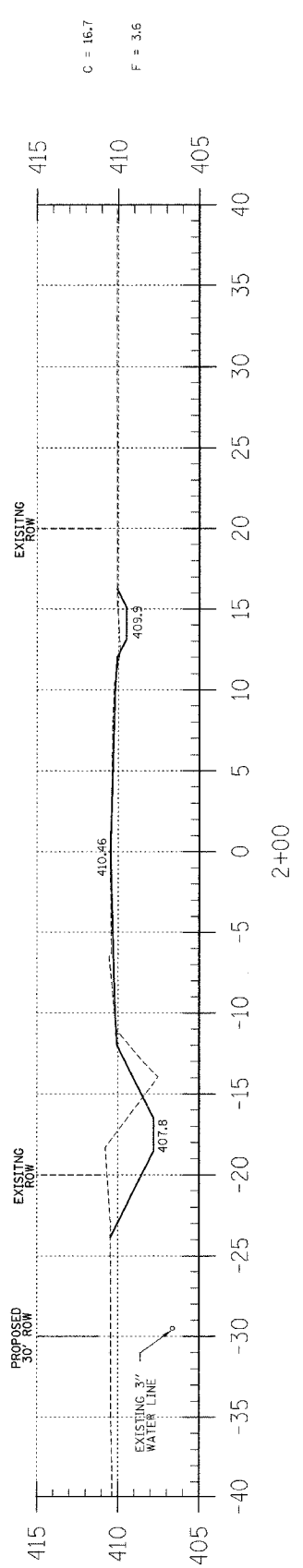
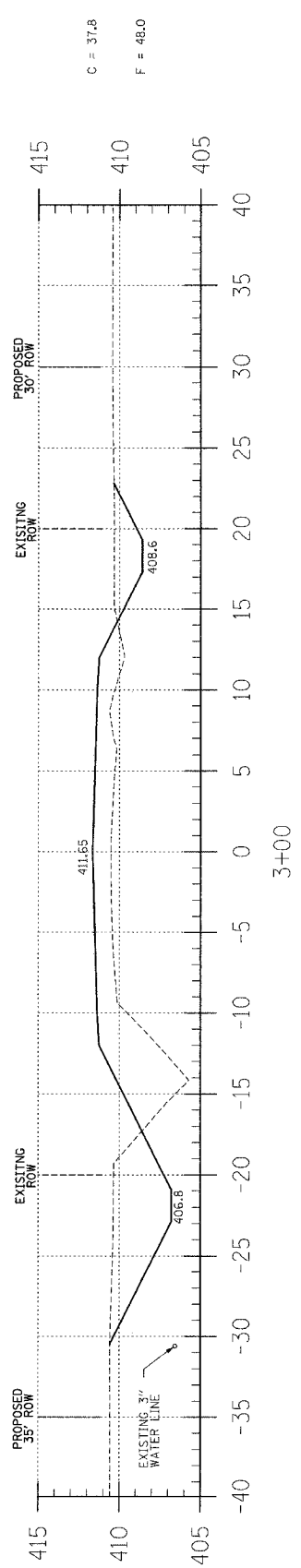
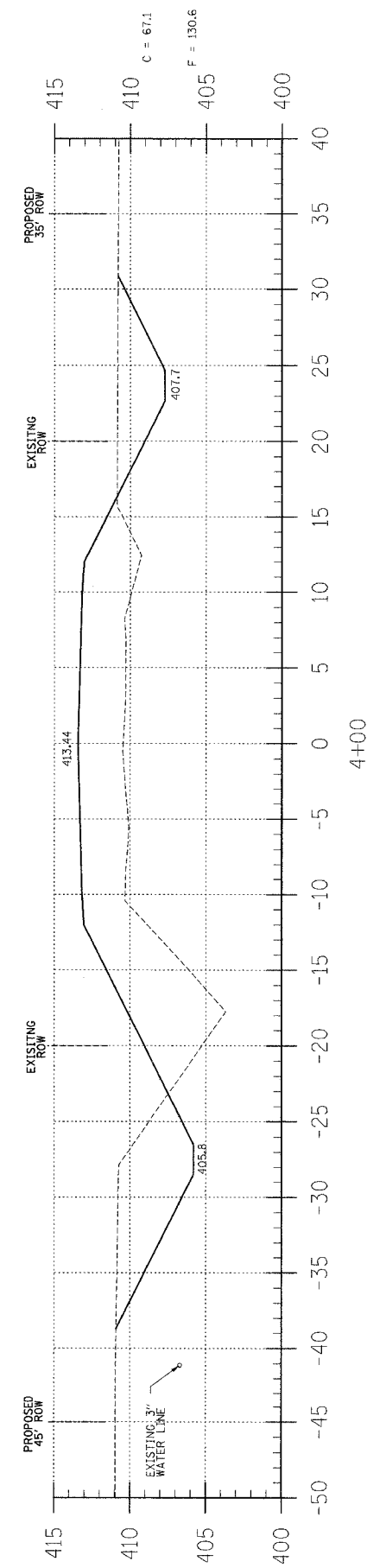
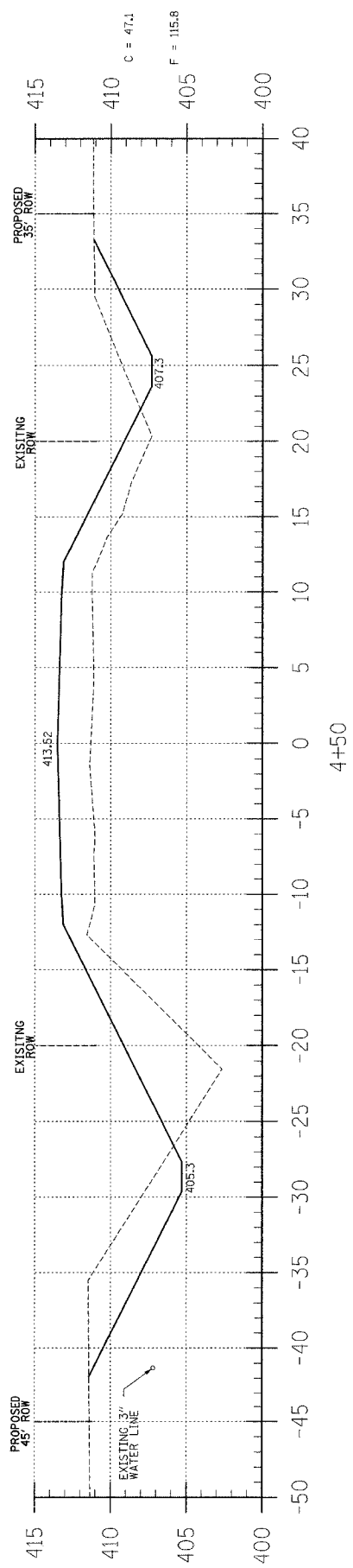
NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE



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.

EARTH EXCAVATION = 619.0 CU YD
CHANNEL EXCAVATION = 888.0 CU YD
FURNISHED EXCAVATION = 289.0 CU YD
AGG SURF CSE, TY B = 366.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE

C:\WORK\2006\128\128.dwg 05/09/2006 07:35:58 AM



T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
128	03-01128-00-BR	EDWARDS	15	3
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		323 W. 3RD. ST. P.O. BOX 160 MT. CARMEL, IL 62863
PROJECT * BR05-047231		CONTRACT * 95418		PHONE: (618)-262-8661
JOB NO. C-97-129-06		WALSER CREEK		FAX: (618)-263-3327
LEC JOB * H031008ED				

405 W. STATE ST.
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812

LOCATION	EARTH EXCAVATION CUBIC YARD	CHANNEL EXCAVATION CUBIC YARD	ESTIMATED UNSUITABLE MATERIAL CUBIC YARD	SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE CUBIC YARD	EMBANKMENT CUBIC YARD	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) CUBIC YARD
STA 0+00 TO 4+61.7	431.9	0.0	0.0	323.9	661.2	-337.3
STA 4+61.7 TO 5+38.3	0.0	888.4	444.2	333.2	0.0	333.2
STA 5+38.3 TO 10+00	187.3	0.0	0.0	140.5	407.8	-267.3
1 FIELD ENTRANCES	0.0	0.0	0.0	0.0	17.1	-17.1
TOTAL	619.2	888.4	444.2	797.6	1086.1	-288.5

EARTHWORK SCHEDULE



PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
5-10-06
DATE
11-30-07
EXPIRES

ROAD DISTRICT NO. 1
TOWNSHIP ROUTE 128
EDWARDS COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'
BY: AMM
DATE: 5/9/06
REV: MLG

3 OF 15 SHEETS

SHEET NO. 3

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
128	03-01128-00-BR	EDWARDS	15	4
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
PROJECT * BROS-04123D		CONTRACT * 95478		
JOB NO. C-97-129-06		WALSER CREEK		

LEC JOB * H031008ED

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

405 W. STATE ST.
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
5-10-06
DATE
11-30-07
EXPIRES

ROAD DISTRICT NO. 1
TOWNSHIP ROUTE 128
EDWARDS COUNTY, ILLINOIS

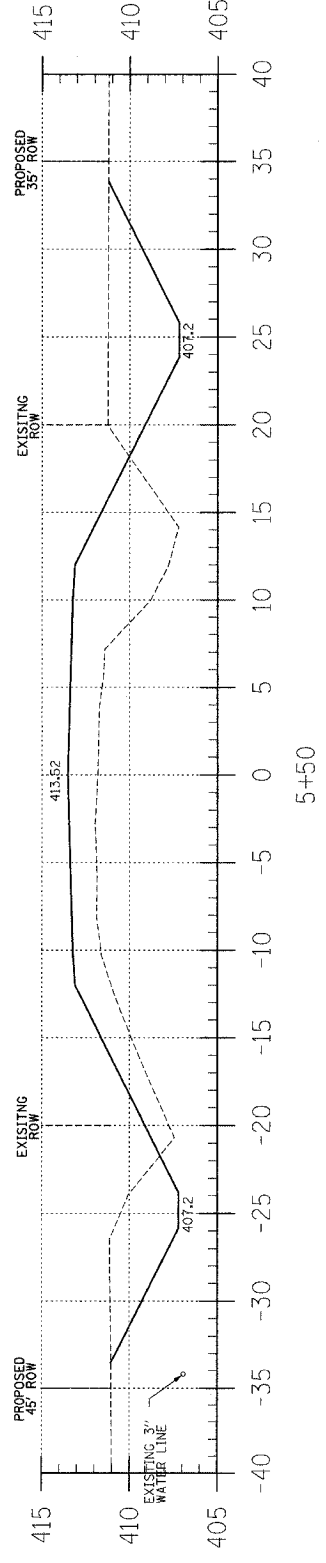
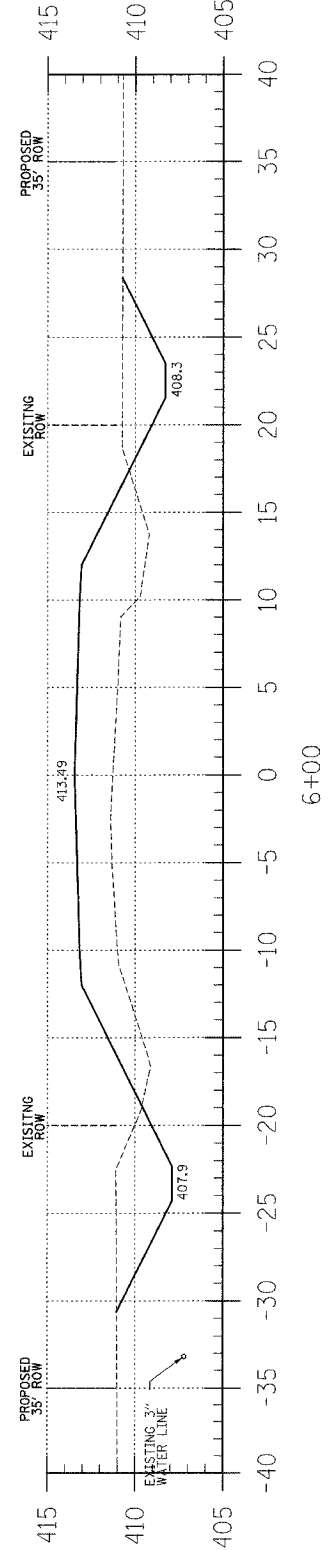
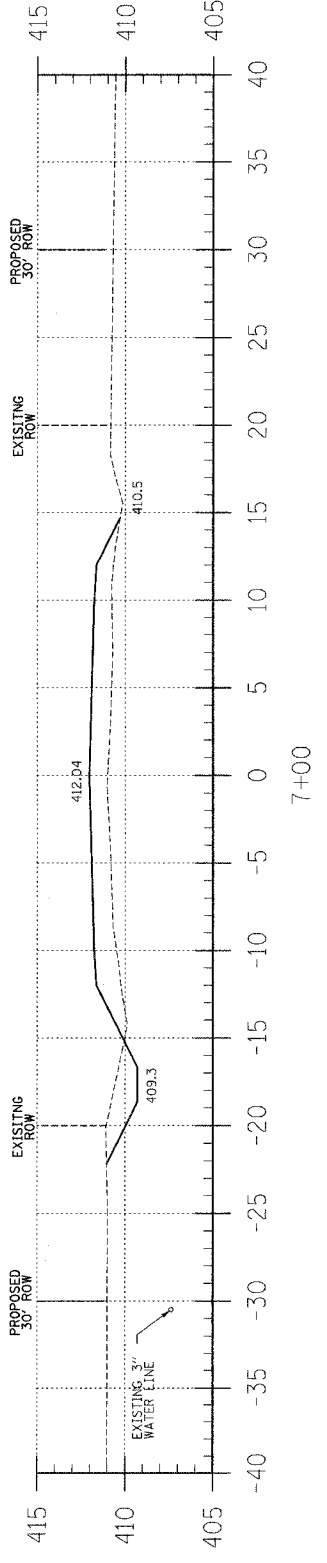
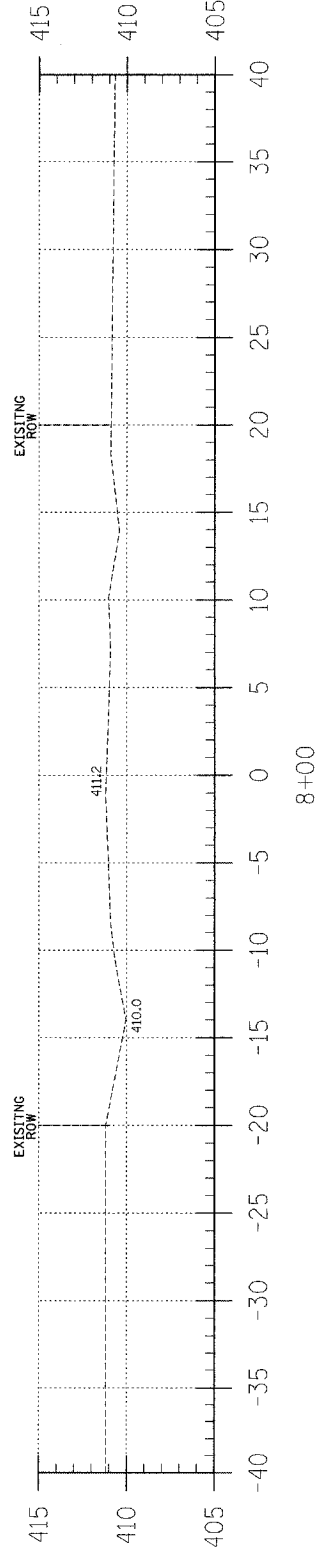
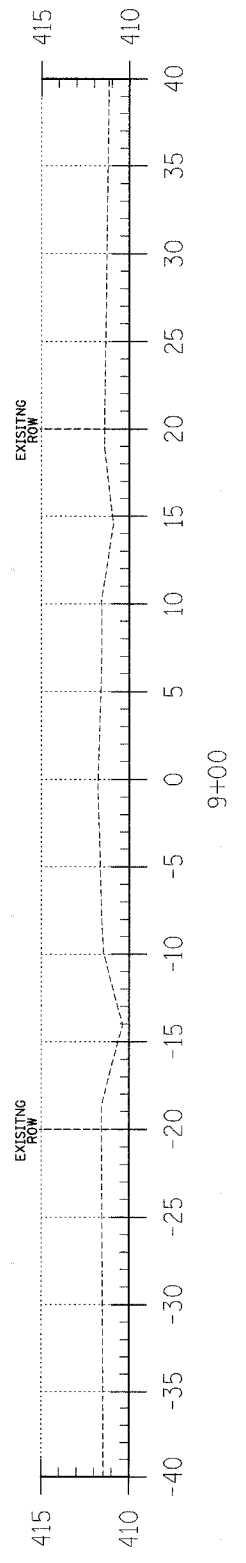
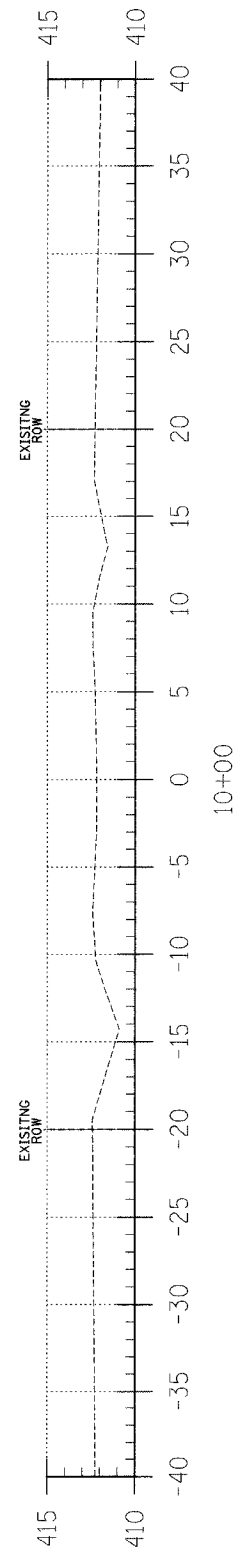
SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'
BY: AMM
DATE: 5/9/06
REV: MLG

4 OF 15 SHEETS

SHEET NO. 4



C = 6.3
F = 30.2

C = 38.2
F = 78.0

C = 62.5
F = 85.6

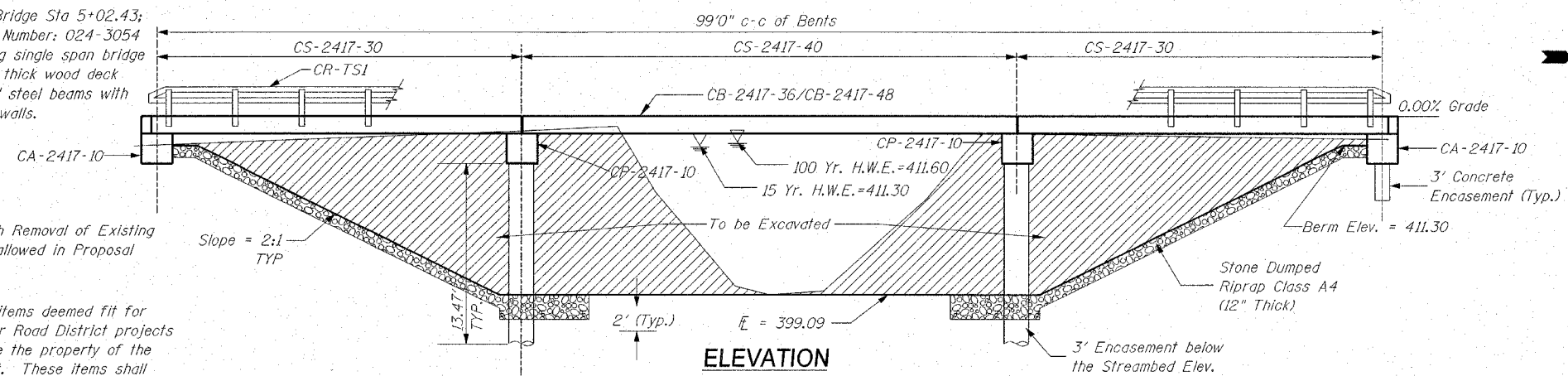
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	323 W. 3RD ST. P.O. BOX 180 MT. CARMEL, IL 62863 PHONE: (618)-262-8651 FAX: (618)-263-3327
128	03-01128-00-BR	EDWARDS	15	5	
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT			
PROJECT # BROS-047(23)		CONTRACT # 95478			
JOB # C-97-129-06		WALSER CREEK			

GENERAL NOTES

- The Contractor shall drive 2 test pile, as specified, in permanent locations 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.
- The Bit. Conc. Surf. Cse., Superpave and the waterproofing membrane system shown in these plans shall not be provided.
- 4-3/4" shear studs will be required per pile which will be encased within the concrete cap.
- The HP piles shall be oriented with the strong axis bending in the longitudinal direction

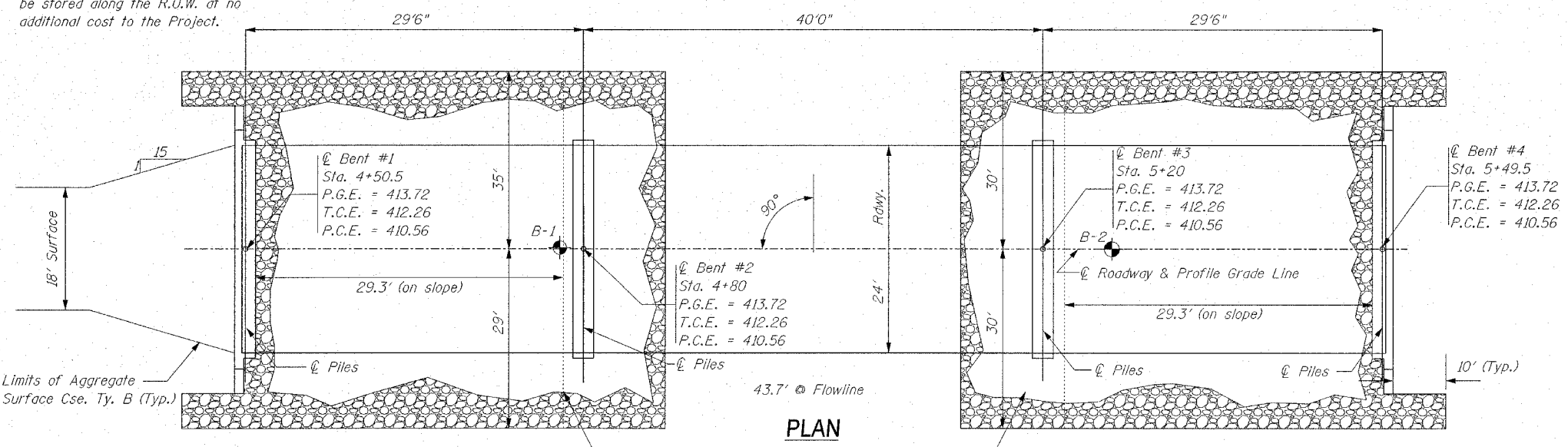
B.M. - I.P. +0+26.60, 0.67' LT = 410.66

Existing Bridge Sta 5+02.43;
Structure Number: 024-3054
A 30' long single span bridge
with a 2" thick wood deck
on 9 - 9" steel beams with
steel wingwalls.



One (1) Each Removal of Existing Structures allowed in Proposal

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



Limits of Aggregate Surface Cse. Ty. B (Typ.)

407 Ton-Stone Dumped Riprap Class A4 allowed in Proposal

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, 2002) as shown in the "Article/Section No. Reference Table."

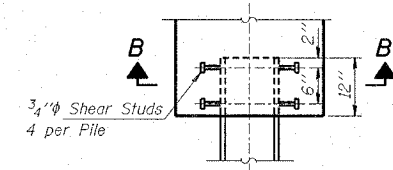
Previous No.	Current No.
504.06	504.06
505.04	505.04
706.05	1006.05
706.32	1006.32
760.07	1060.07
STD 2340	STD 631026

PILE DATA (2-PIERS)

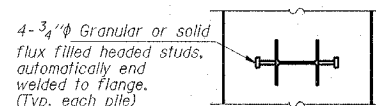
Type: Steel Piles HP12X53
Capacity: Drive to Refusal
Estimated Length: 109 Feet/Pile
Number Required: 8 (Includes 1 Test Pile in Bent #2)

PILE DATA (2-ABUTS)

Type: Steel Piles HP12X53
Capacity: Drive to Refusal
Estimated Length: 109 Feet/Pile
Number Required: 8 (Includes 1 Test Pile in Bent #4)



PILE DETAIL
Typ. Each Pile

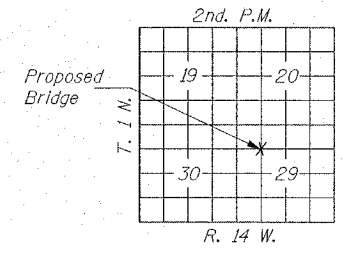


SECTION B-B

STATION 5+00
WALSER CREEK
SEC. 03-01128-00-BR BUILT 20
PROJECT BROS-047(23)
EDWARDS COUNTY
LOADING HS 20-44
STR. NO. 024-3133

LETTERING FOR NAME PLATE

Locate Name Plate at the Southeast corner of the Bridge (See Std. CN)



LOCATION SKETCH

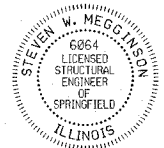
INDEX OF SHEETS

- General Plan & Elevation
- Standard CS-2417-30
- Standard CS-2417-40
- Standard CB-2417-36
- Standard CB-2417-48
- Standard CA-2417-10
- Standard CP-2417-10
- Standard CR-TS1
- Standard CN
- Standard CX-1

WATERWAY INFORMATION

Drainage Area = 9.2 sq.mi. Low Grade Elev. = 410.46 at Sta. 2+00									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq Ft		Natural H.W.E.	Head-Ft		Headwater EL.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	2071	214	831	411.30	1.08	0.09	412.38	411.39
Base	100	3345	222	860	411.60	5.75	0.42	417.35	412.02
Overtopping									
Max. Calc.	500	4401							

SEISMIC DATA
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.093g
Site Coefficient (S) = 1.5



Steven Mefford
ILLINOIS STRUCTURAL NO. 6064
Complies with 2002 AASHTO Specifications for Seismic Design of Bridges.

Expires 11-30-06

DESIGN SPECIFICATIONS

2002 AASHTO
HS 20-44 Loading, Load Factor Design.



PROFESSIONAL LAND SURVEYING FIRM:
048-00082
PROFESSIONAL ENGINEERING CORPORATION:
184-00087



AARON M. MEFFORD
NAME
SIGNATURE
5-10-06
DATE
11-30-07
EXPIRES

ROAD DISTRICT NO. 1
TOWNSHIP ROUTE 128
EDWARDS COUNTY, ILLINOIS

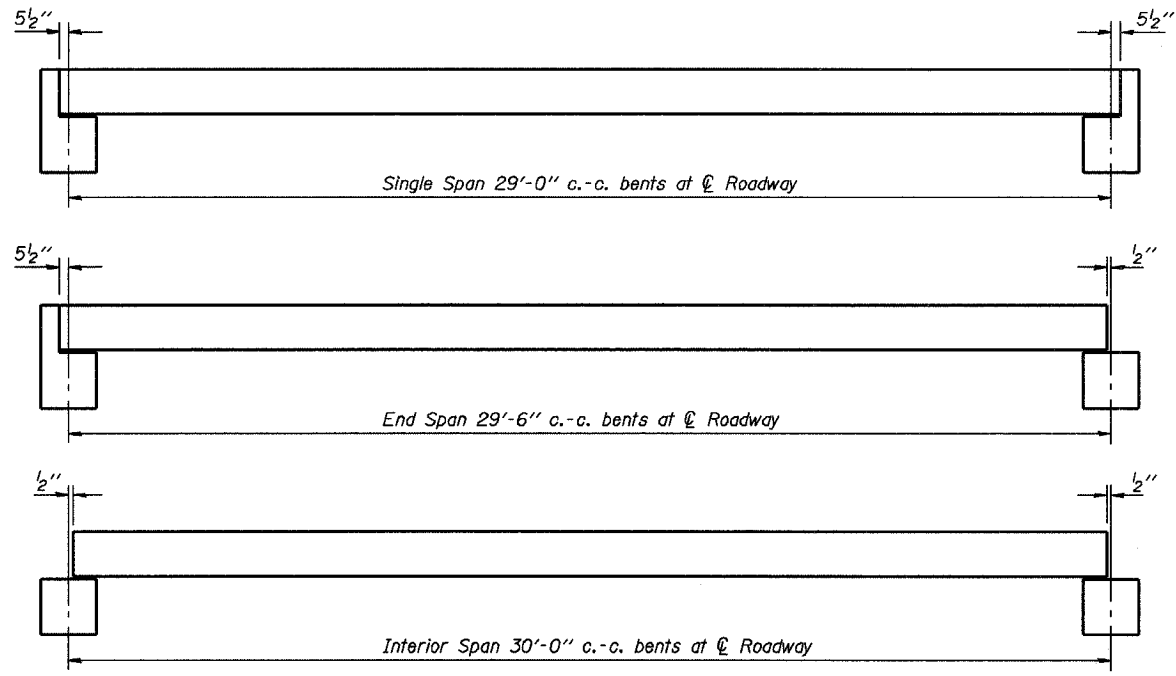
SHEET TITLE:
GENERAL PLAN AND ELEVATION

SCALE: NONE
BY: AMM
DATE: 03/10/06
REV:

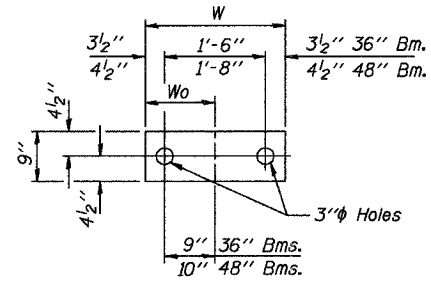
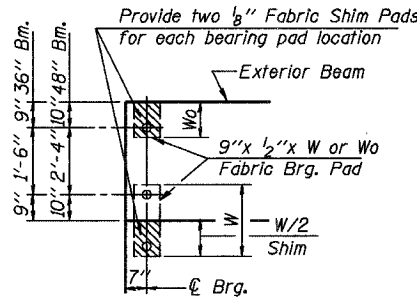
5 OF 15 SHEETS
SHEET NO. 5

GENERAL PLAN AND ELEVATION

TOWNSHIP ROUTE 128
OVER WALSER CREEK
SECTION 03-01128-00-BR
EDWARDS COUNTY
STATION 5+00

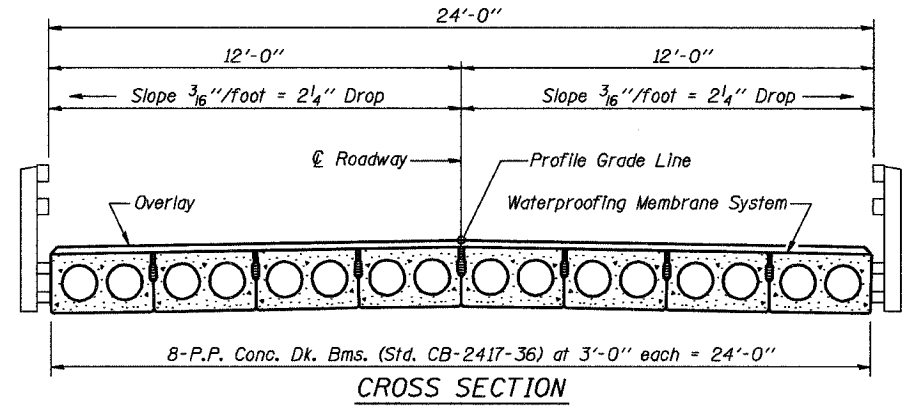


TYPICAL ELEVATIONS

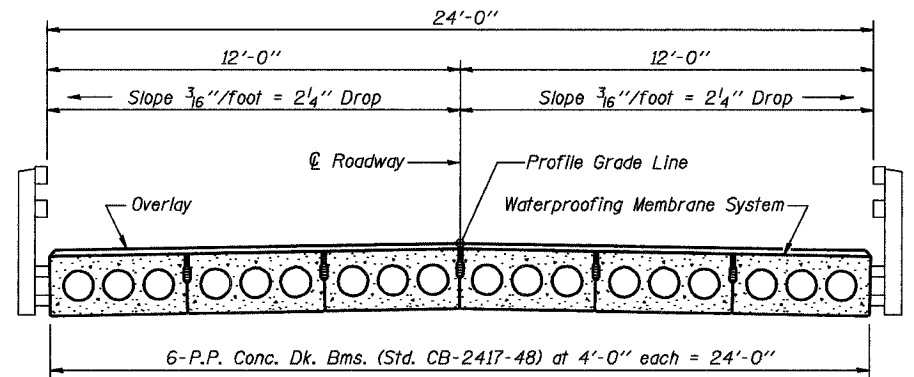


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

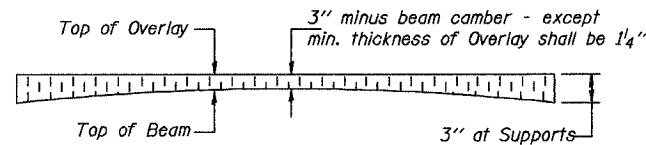
1/2" FABRIC BRG. PAD DETAILS



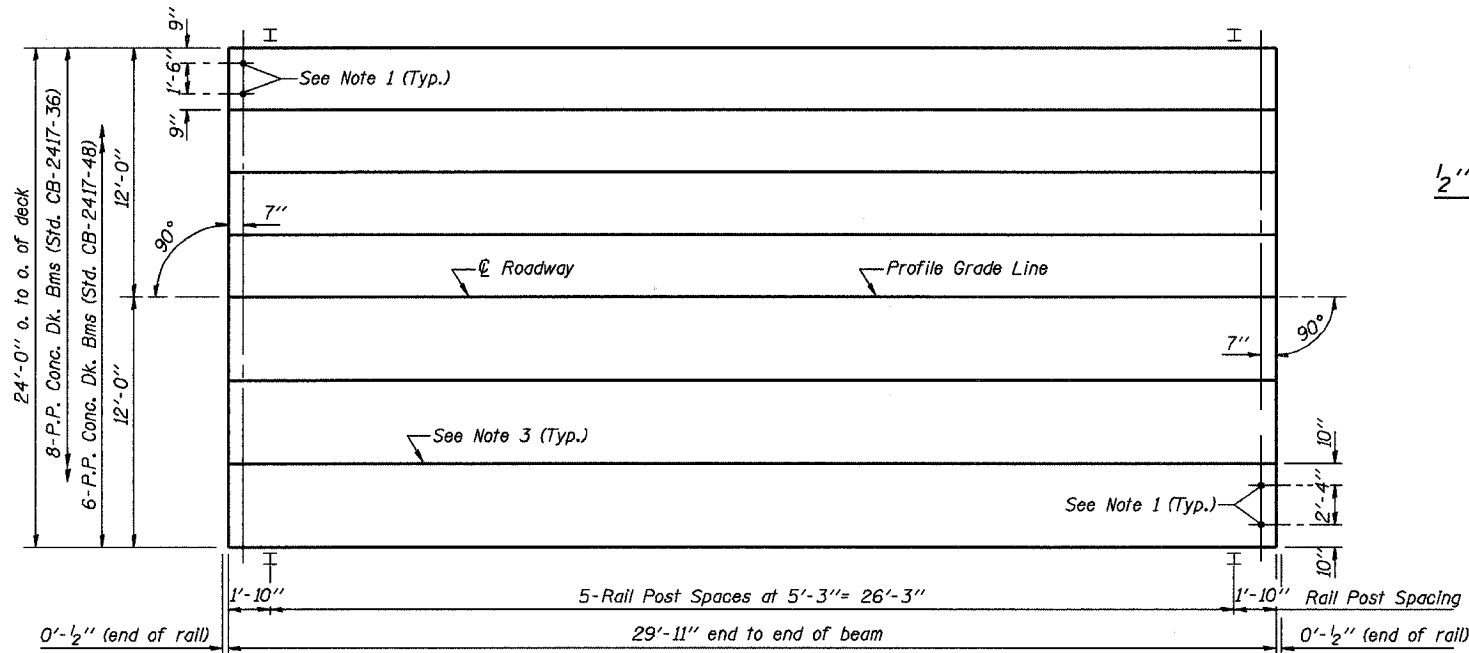
CROSS SECTION



CROSS SECTION



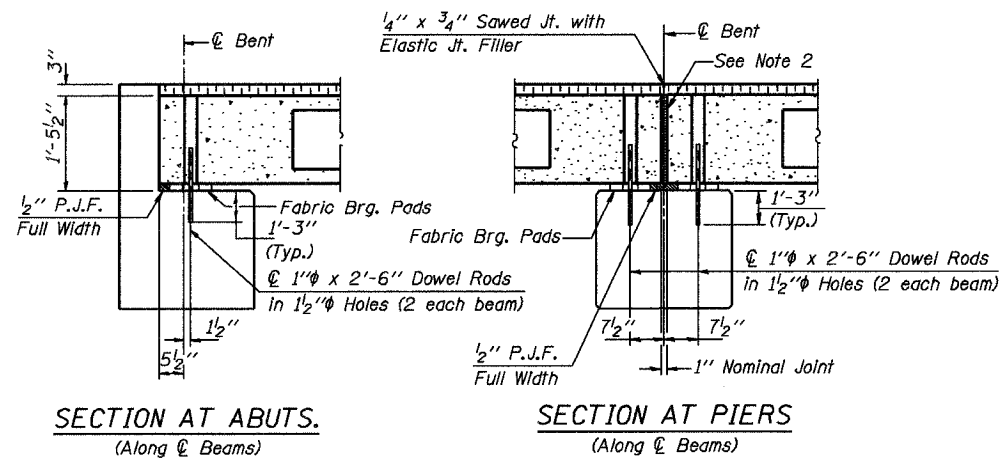
PROFILE OF OVERLAY



PLAN

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 centerline pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.



SECTION AT ABUTS.
(Along centerline Beams)

SECTION AT PIERS
(Along centerline Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 17" Dp.	720 Sq. Ft.
Steel Railing	60 Ft.
Waterproofing Membrane System	80.0 Sq. Yds.
Portland Cement Mortar	210 Ft. 36"
Fairing Course	150 Ft. 48"

Note: Quantity of overlay for one span = 12.0 Tons

P.P.C. DECK BEAM
SUPERSTRUCTURE

24' RDWY. 17" BMS. 30' SPAN 0° SKEW

STANDARD CS-2417-30

Illinois Department of Transportation

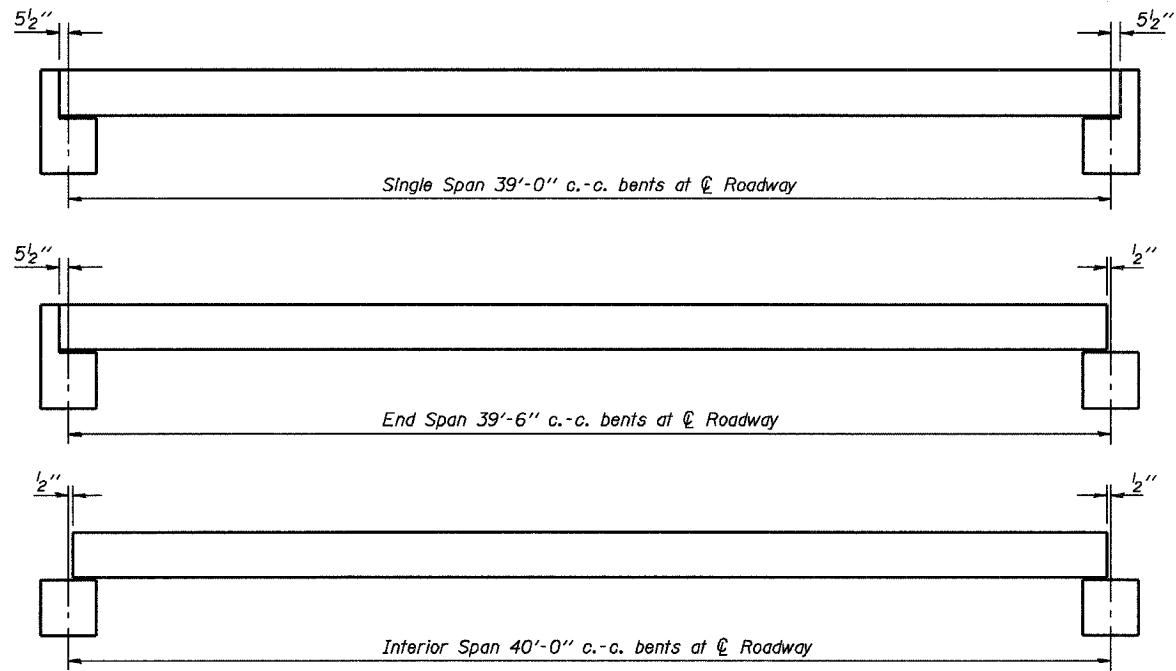
PASSED APRIL 4, 2005

THOMAS S. ROMANALSKI
Engineer of Bridge Design

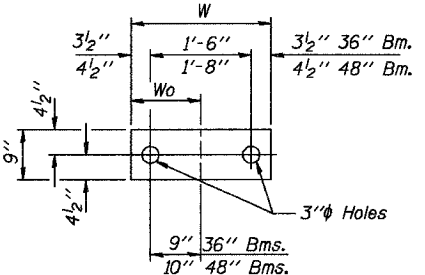
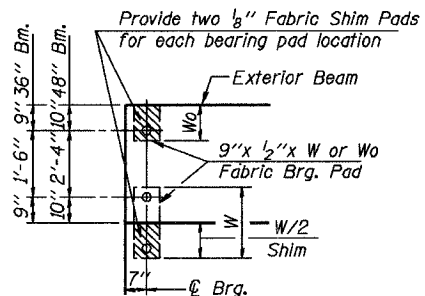
APPROVED APRIL 4, 2005

RALPH E. ANDERSON
Engineer of Bridges and Structures

1884-1-1 02/05

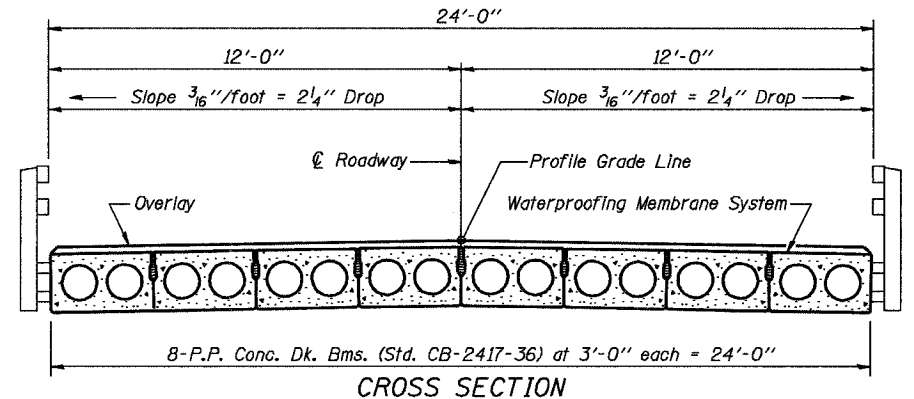


TYPICAL ELEVATIONS

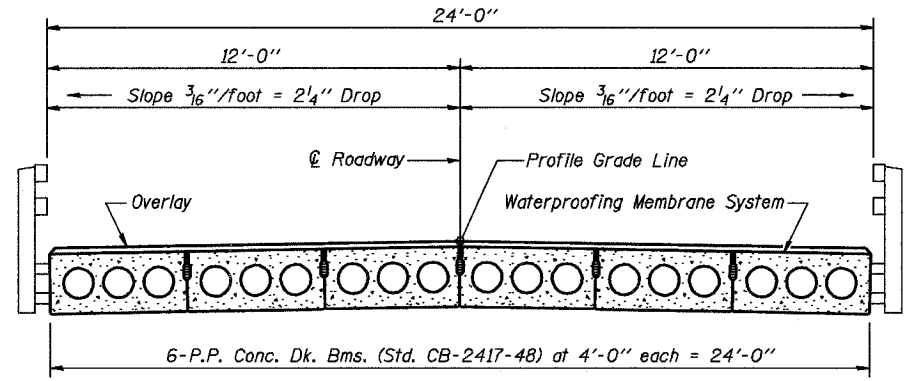


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

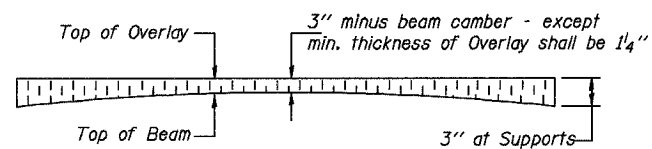
1/2" FABRIC BRG. PAD DETAILS



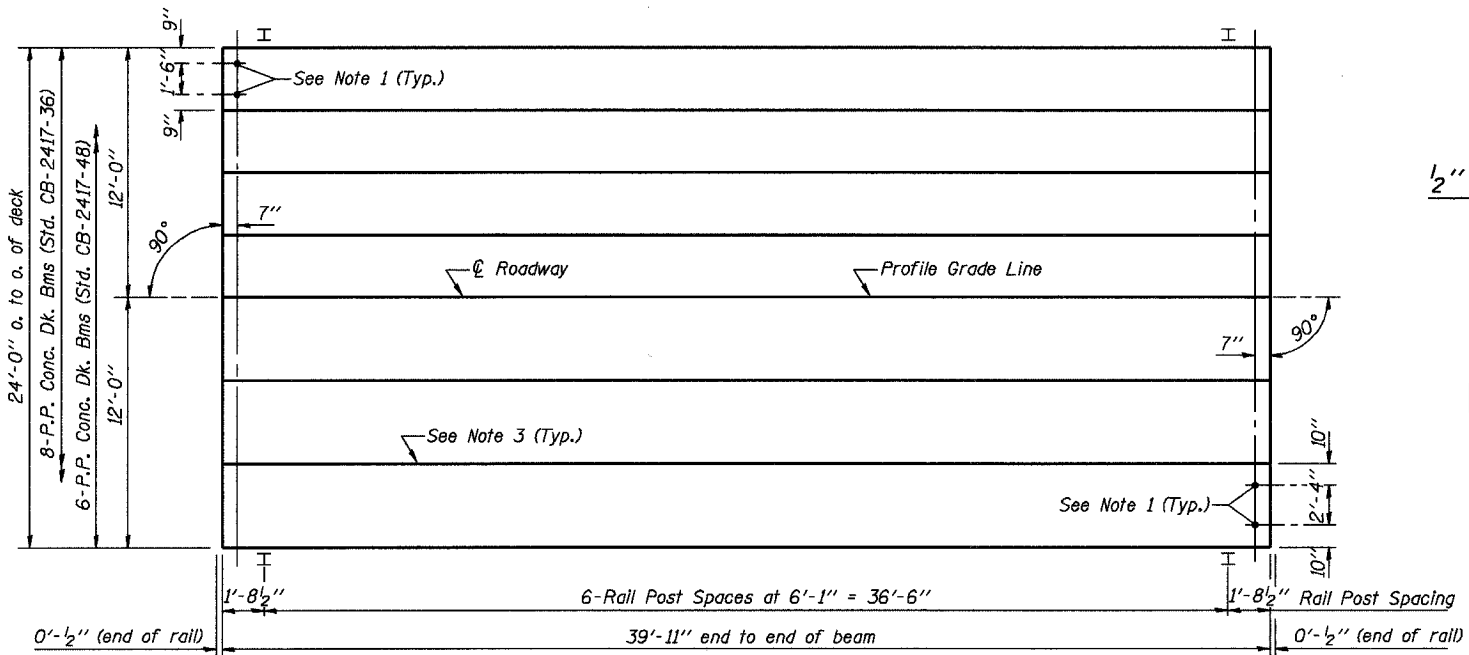
CROSS SECTION



CROSS SECTION



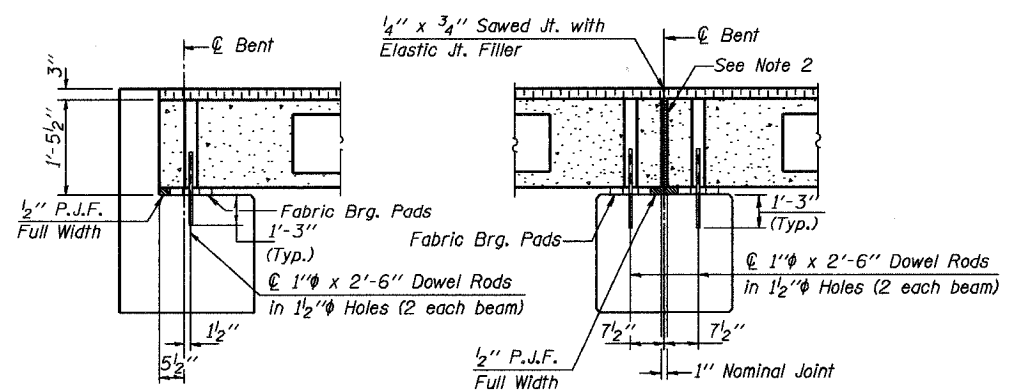
PROFILE OF OVERLAY



PLAN

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 centerline of pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.



SECTION AT ABUTS. (Along centerline of Beams)

SECTION AT PIERS (Along centerline of Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 17" Dp.	960 Sq. Ft.
Steel Railing	80 Ft.
Waterproofing Membrane System	106.7 Sq. Yds.
Portland Cement Mortar	280 Ft. 36"
Fairing Course	200 Ft. 48"

Note: Quantity of overlay for one span = 13.2 Tons

P.P.C. DECK BEAM SUPERSTRUCTURE

24' RDWY.	17" BMS.	40' SPAN	0° SKEW
STANDARD CS-2417-40			

Illinois Department of Transportation

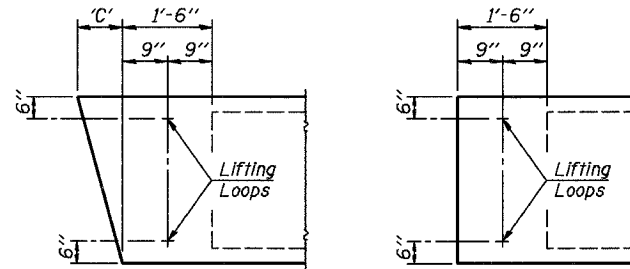
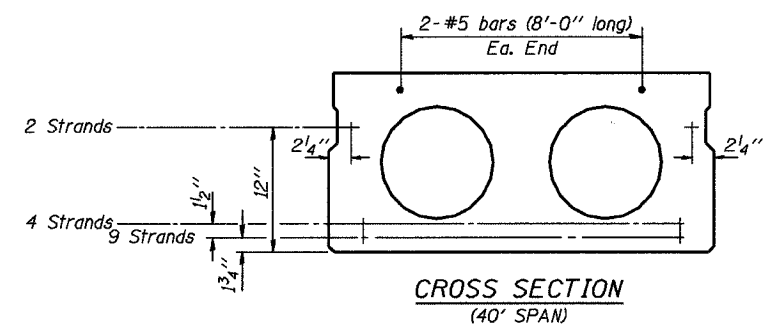
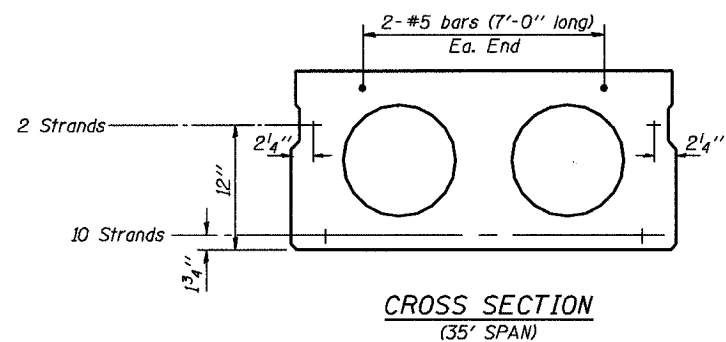
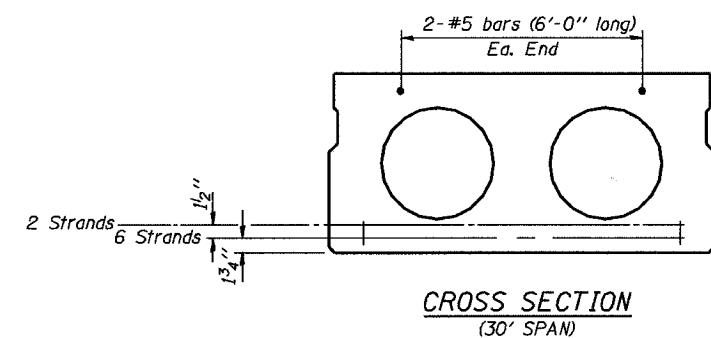
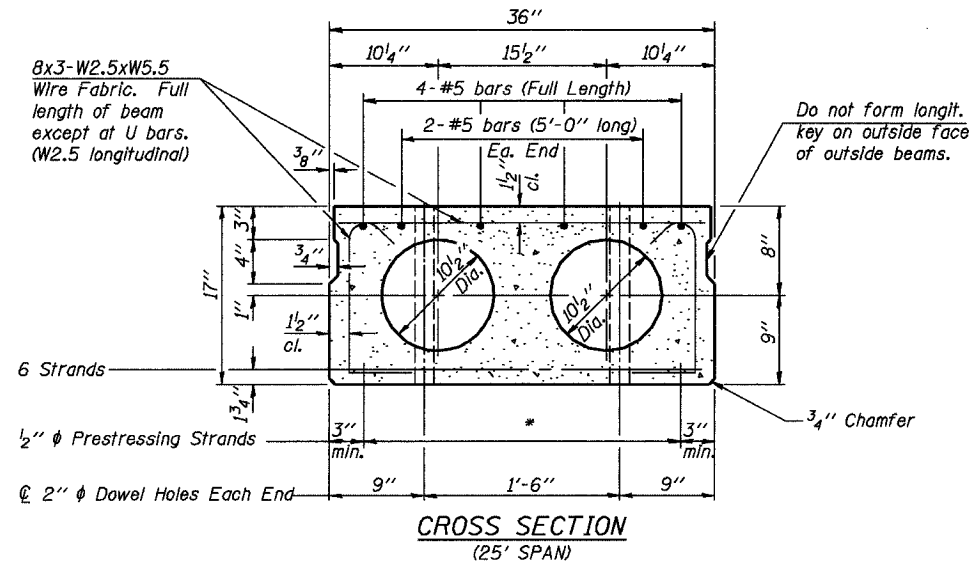
PASSED APRIL 4, 2005

Theresa J. Romanelli
Engineer of Bridge Design

APPROVED APRIL 4, 2005

Ralph E. Anderson
Engineer of Bridges and Structures

1866-1-1 02/05/05



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.

DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	3 3/8	6 3/8	9 5/8	13 1/8	16 3/4	20 3/4

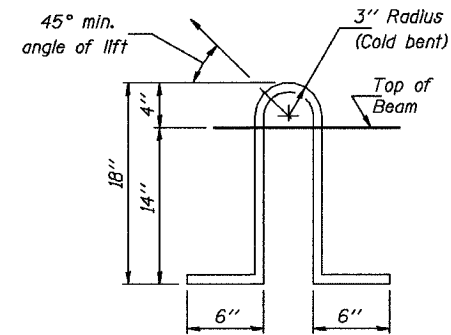
*** TRANSVERSE STRAND PLACEMENT GUIDELINES**

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 1/2".

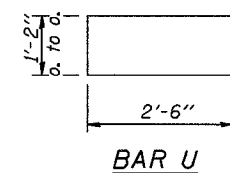
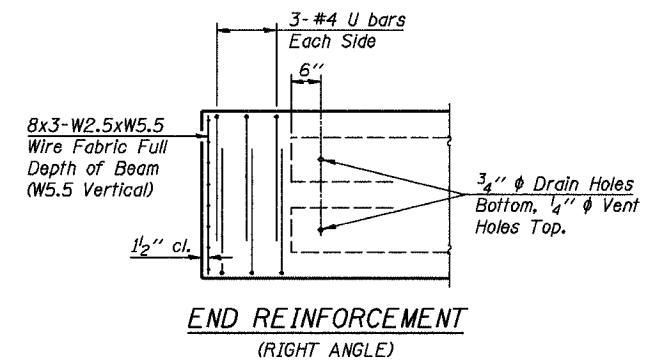
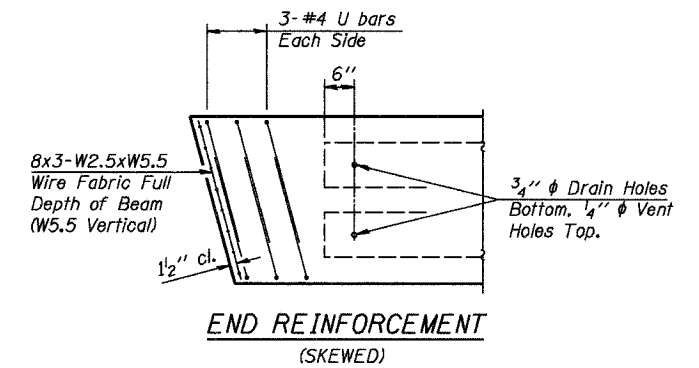
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

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. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
5. 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".
6. 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.



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



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

DESIGN STRESSES

- $f'_c = 5,000$ p.s.i.
- $f'_a = 4,000$ 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.

Illinois Department of Transportation

PASSED APRIL 4, 2005

Theresa J. Romagosa
Engineer of Bridge Design

APPROVED APRIL 4, 2005

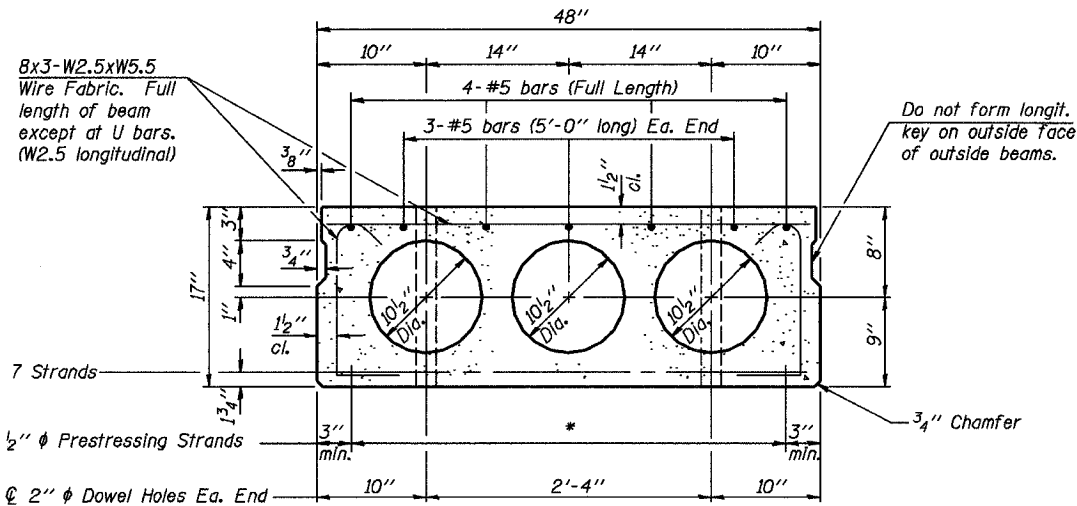
Ralph E. Anderson
Engineer of Bridges and Structures

NOTE
The std. reinf. and dimensions shown on the 25' span cross section is typical for all spans, except as shown.

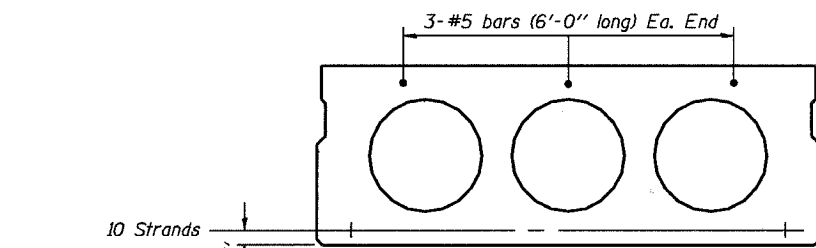
P.P.C. DECK BEAM DETAILS

24' ROADWAY | 17" x 36" BEAMS

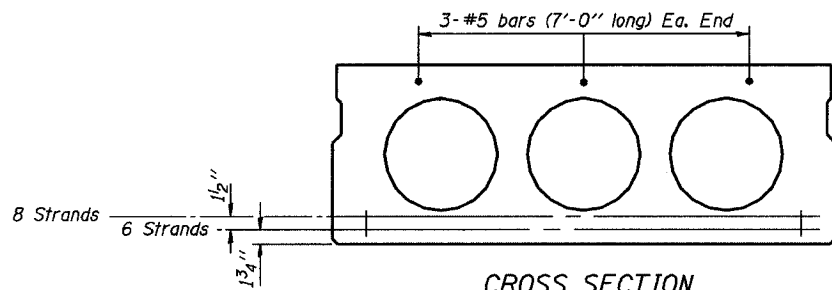
STANDARD CB-2417-36



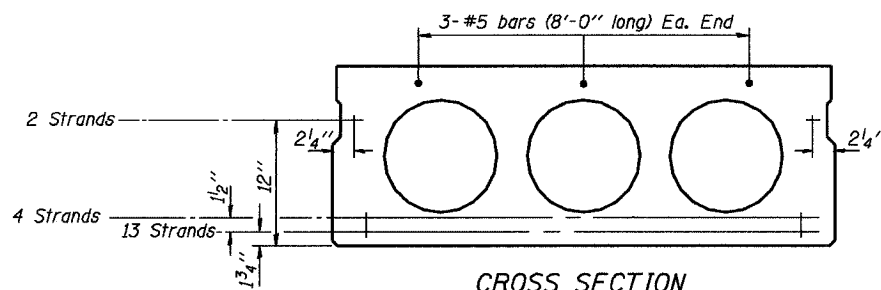
CROSS SECTION
(25' SPAN)



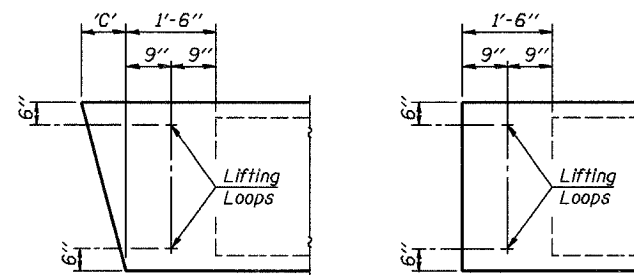
CROSS SECTION
(30' SPAN)



CROSS SECTION
(35' SPAN)

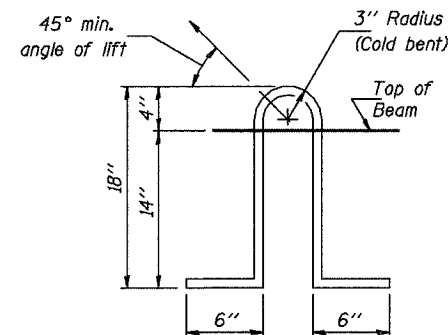


CROSS SECTION
(40' SPAN)



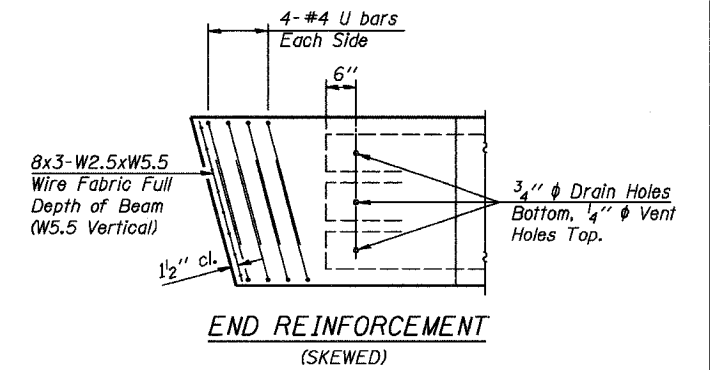
END BLOCK DETAILS

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.

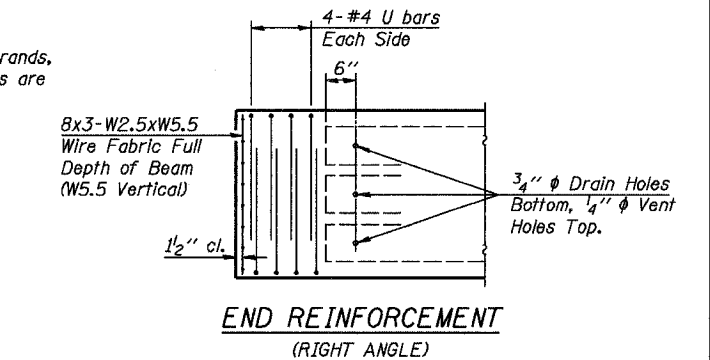


LIFTING LOOP DETAIL

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



END REINFORCEMENT
(SKEWED)



END REINFORCEMENT
(RIGHT ANGLE)

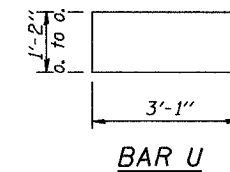
DIMENSION 'C'

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

*** 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 1/2".

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



BAR U

MIN. BAR LAP

#5 bars = 1'-8"

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" diameter Strand)
- $f_{si} = 201,960$ p.s.i. (1/2" diameter Strand)
- $f_y = 60,000$ p.s.i.

NOTES

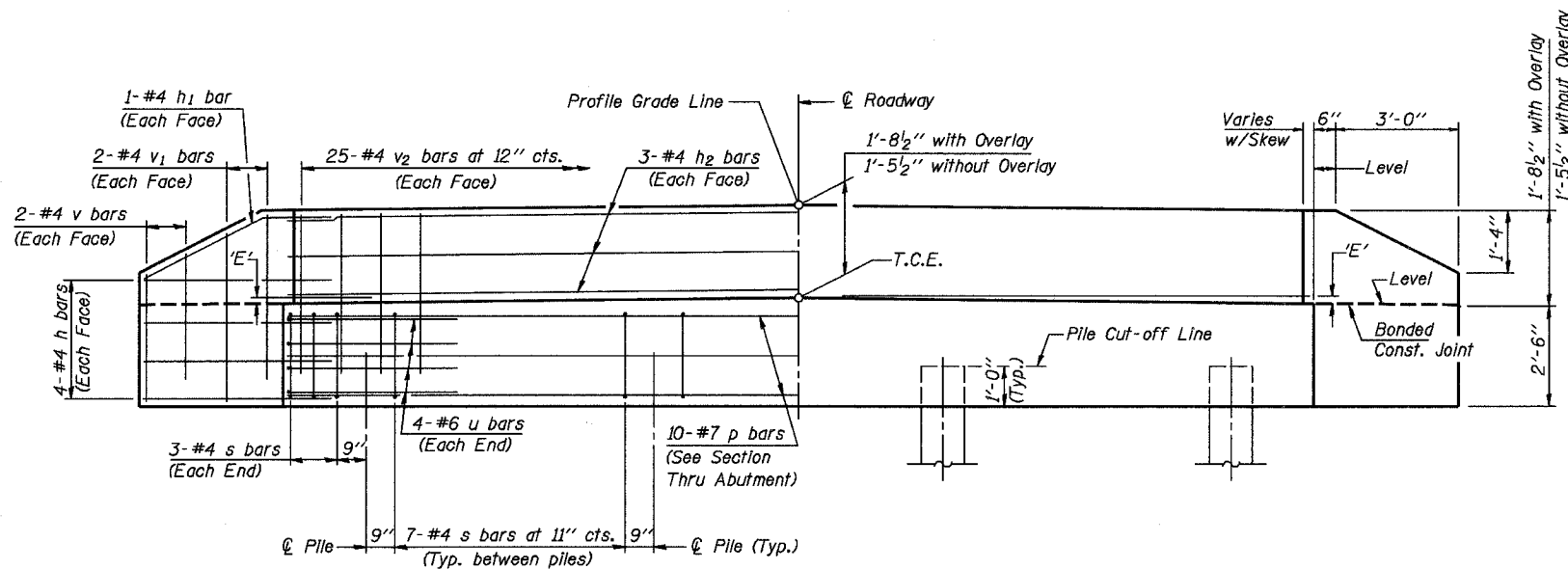
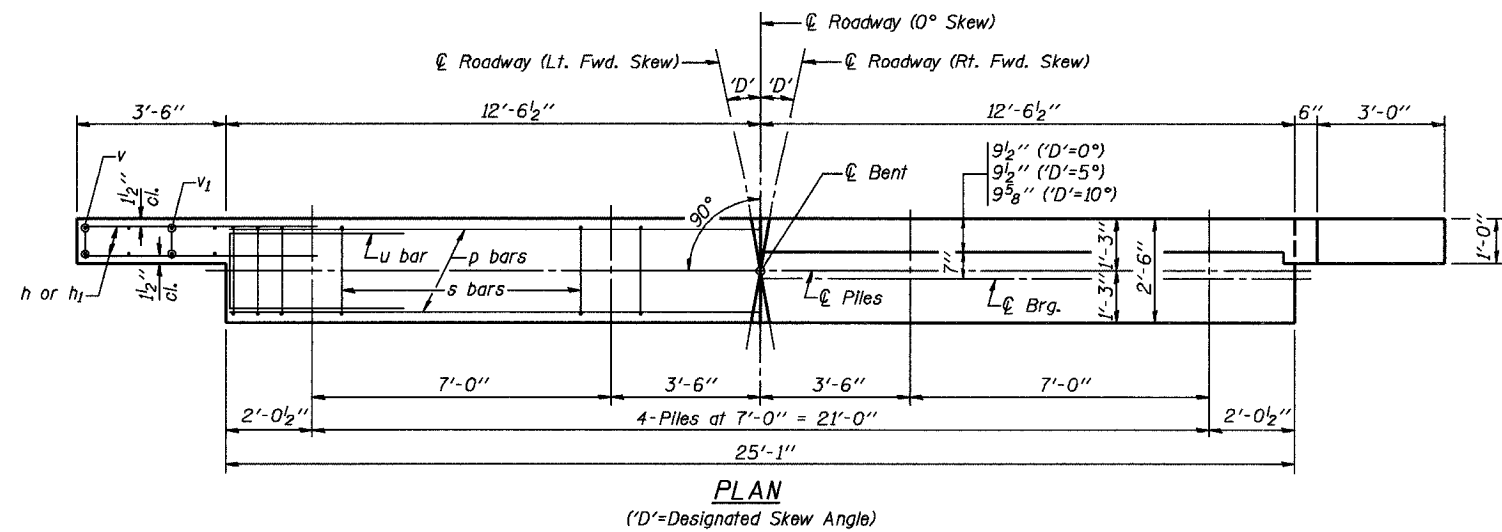
1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
4. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
5. 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".
6. 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 25' span cross section is typical for all spans, except as shown.

Illinois Department of Transportation
 PASSED APRIL 4, 2005
 Theresa S. Romagosa
 Engineer of Bridge Design
 APPROVED APRIL 4, 2005
 Ralph E. Anderson
 Engineer of Bridges and Structures

P.P.C. DECK BEAM DETAILS
 24' ROADWAY | 17" x 48" BEAMS
 STANDARD CB-2417-48



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 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

NOTES

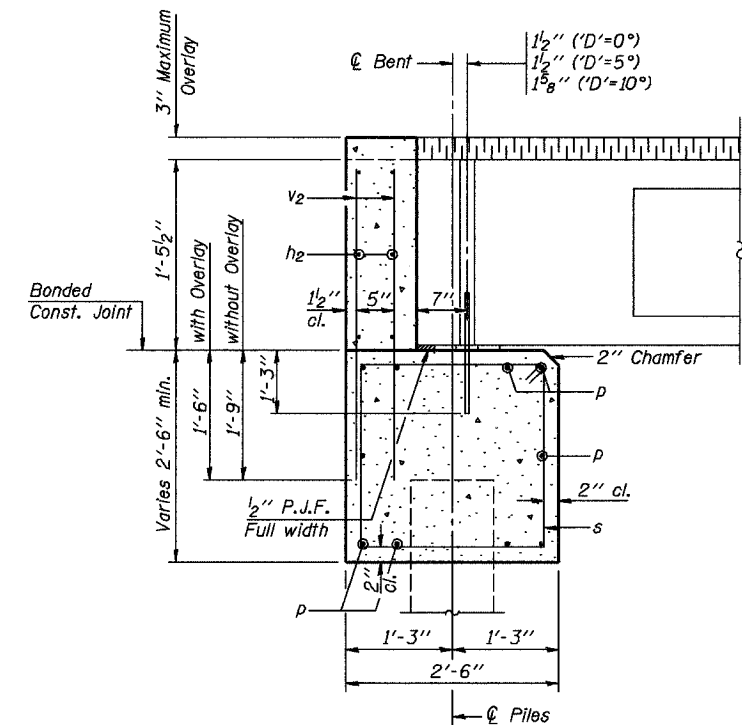
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.

MAXIMUM PILE LOADS

SPAN	TONS
25'	25
30'	26
35'	28
40'	30

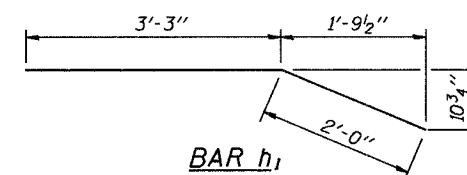
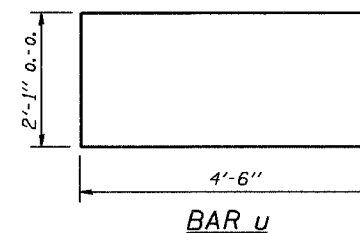
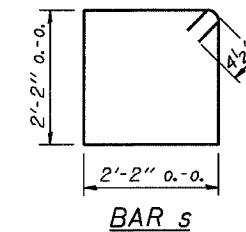
DESIGN STRESSES

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



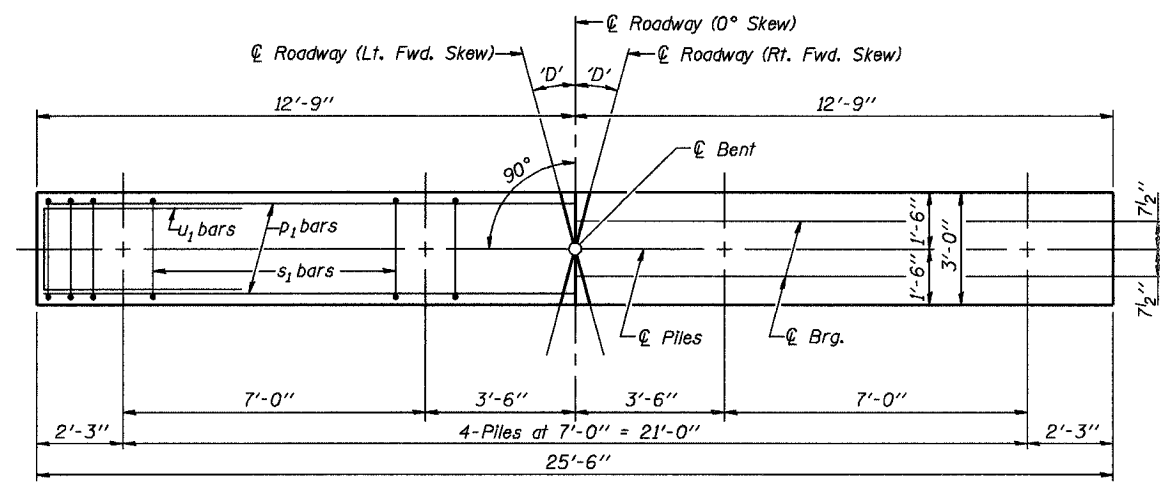
BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	24'-9"	—
p	10	#7	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	2'-6"	—
v1	8	#4	3'-5"	—
v2	50	#4	3'-1"	—
Concrete Structures			8.3 Cu. Yds.	
Reinforcement Bars			1110 Lb.	

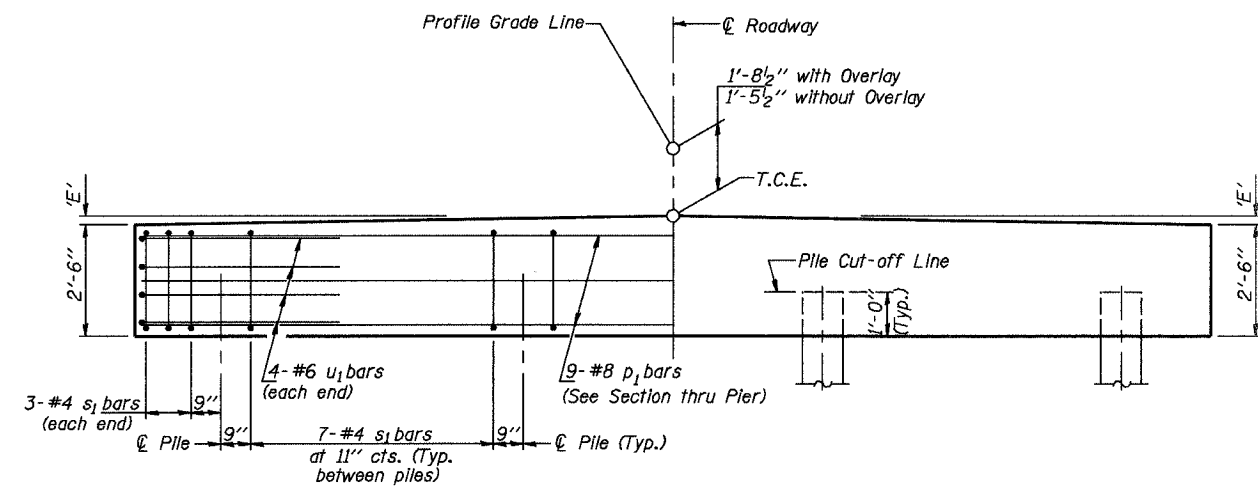


Illinois Department of Transportation
 PASSED APRIL 4, 2005
 Thompson, R. (Signature)
 Engineer of Bridge Design
 APPROVED APRIL 4, 2005
 Ralph E. (Signature)
 Engineer of Bridges and Structures

P.P.C. DECK BEAMS
 PILE BENT ABUTMENT
 24' RDWY. 17" BMS. 'D'=0°, 5° OR 10°
 STANDARD CA-2417-10



PLAN
(D = Designated Skew Angle)



ELEVATION

DIMENSION 'E'

GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 1/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/8"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

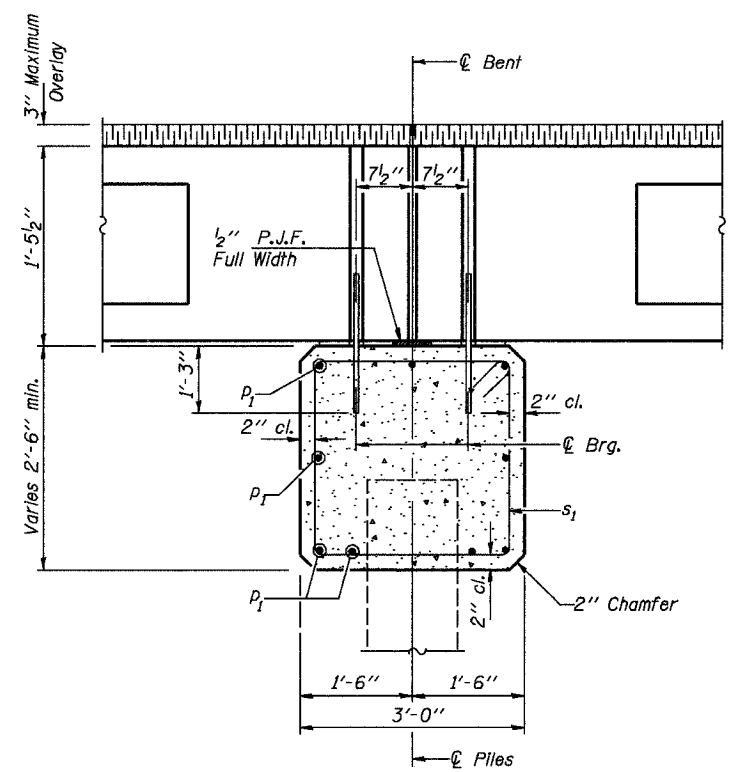
MAXIMUM PILE LOADS

SPAN	TONS
25'	34
30'	38
35'	42
40'	45

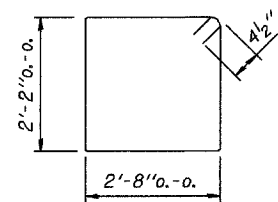
Longer of Either Span Supported by Pier.

DESIGN STRESSES

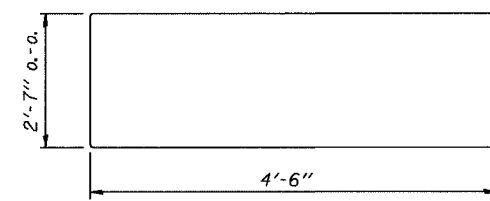
f'c = 3,500 psi
fy = 60,000 psi



SECTION THRU PIER
(At Right Angles)



BAR s1



BAR u1

BILL OF MATERIAL FOR ONE PIER

Bar	No.	Size	Length	Shape
p1	9	#8	25'-2"	—
s1	27	#4	10'-5"	□
u1	8	#6	11'-7"	—
Concrete Structures			7.4	Cu. Yds.
Reinforcement Bars			930	Lb.

NOTE

Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.

**P.P.C. DECK BEAMS
PILE BENT PIER**

24' RDWY.	17" BMS.	'D'=0°, 5° OR 10°
STANDARD CP-2417-10		

Illinois Department of Transportation

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

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

1486-1-T 02/05/01

NOTES

1. 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.

2. 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.

3. 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.

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

5. 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.

6. 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.

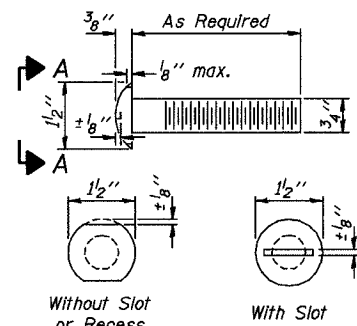
7. For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

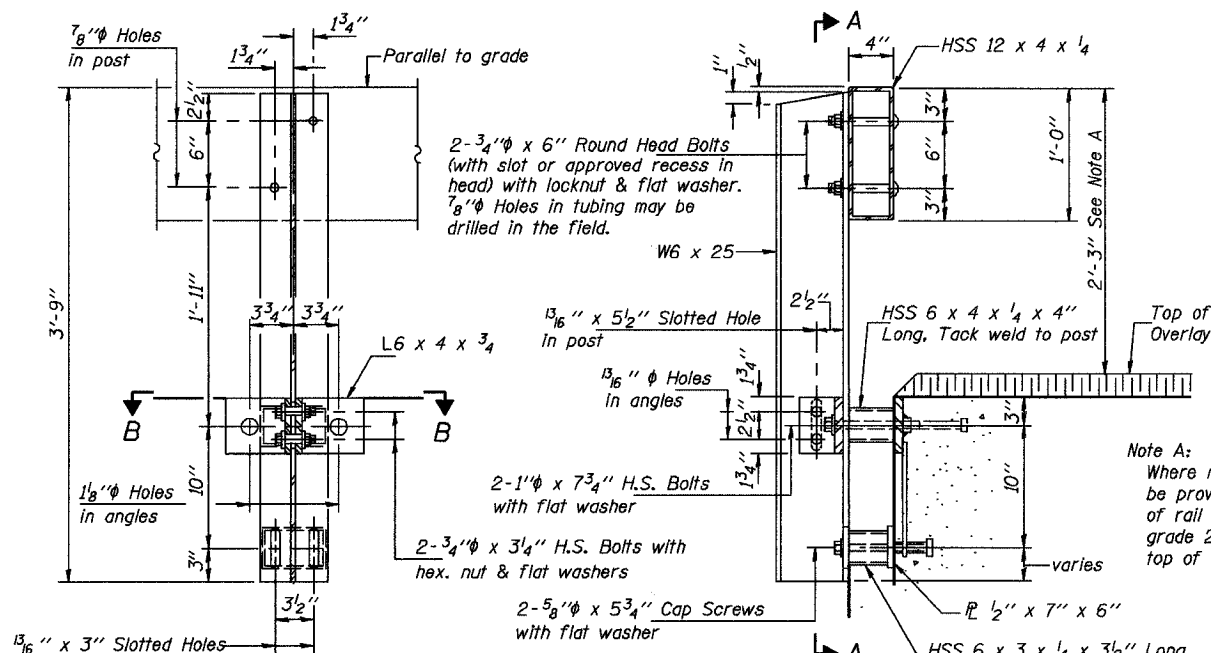
9. The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

10. 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 (FX2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

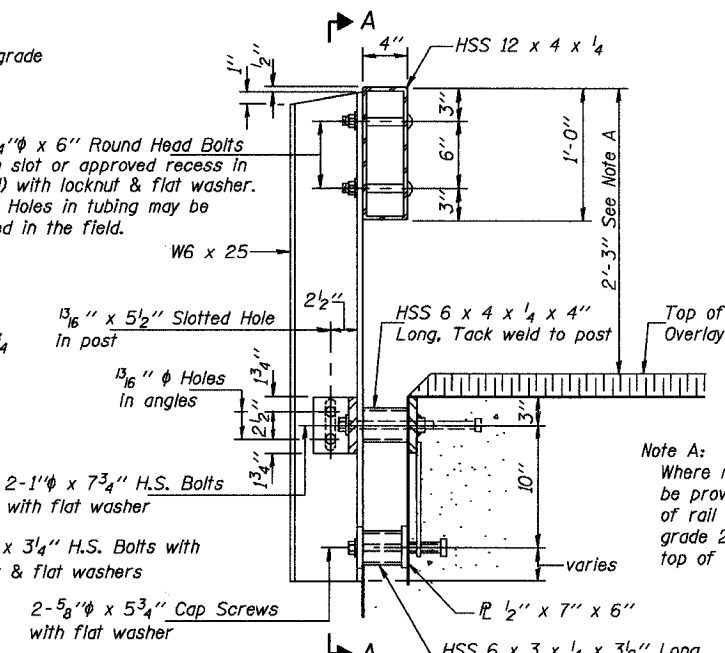
11. The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces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



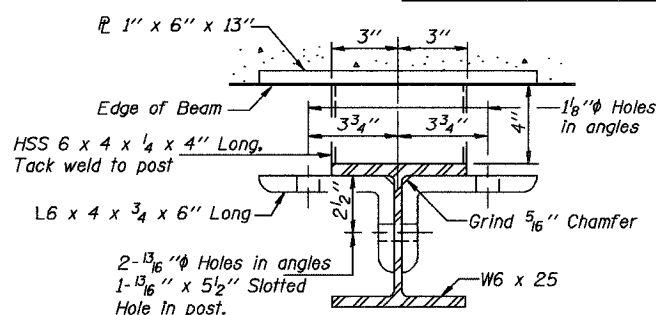
**VIEW A-A
ROUND HEAD BOLT**



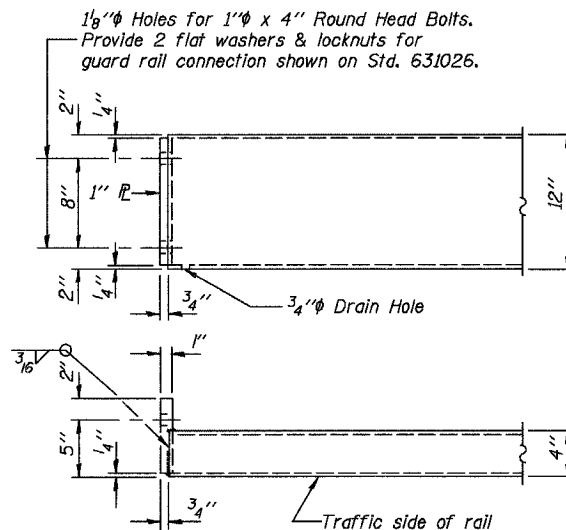
SECTION A-A



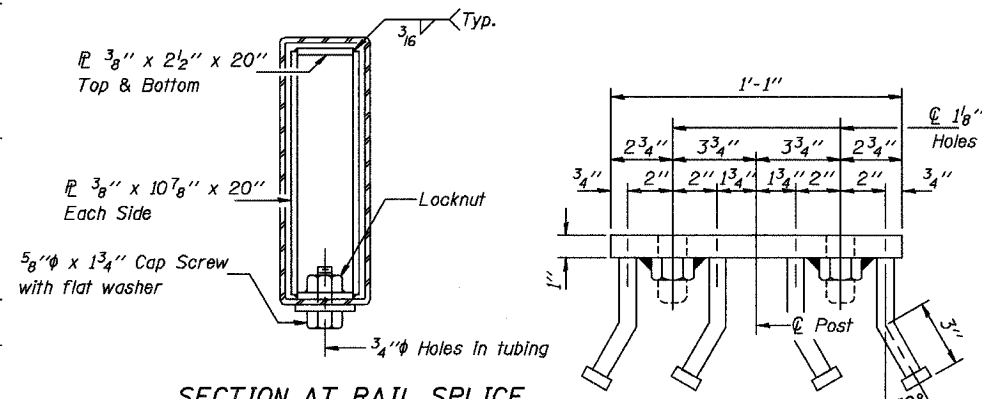
SECTION AT RAIL POST



SECTION B-B

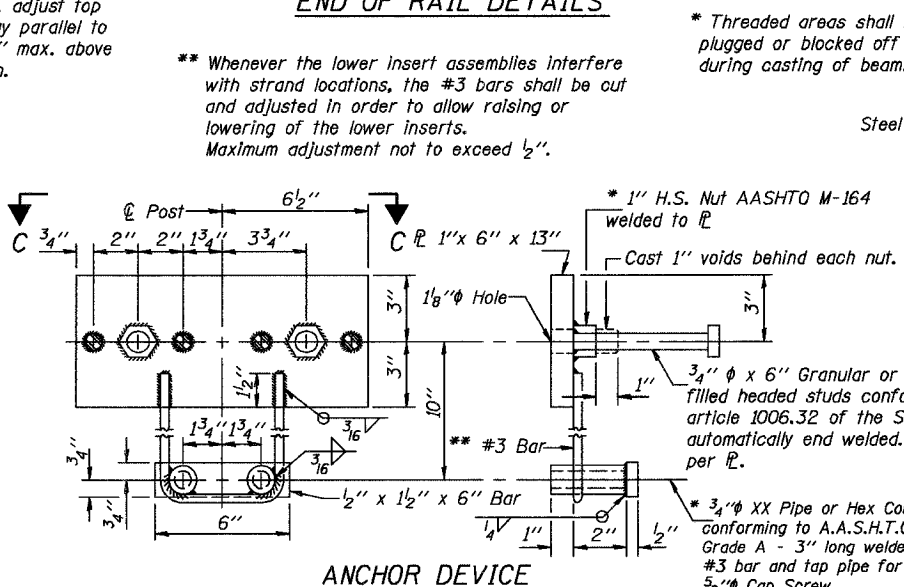


END OF RAIL DETAILS

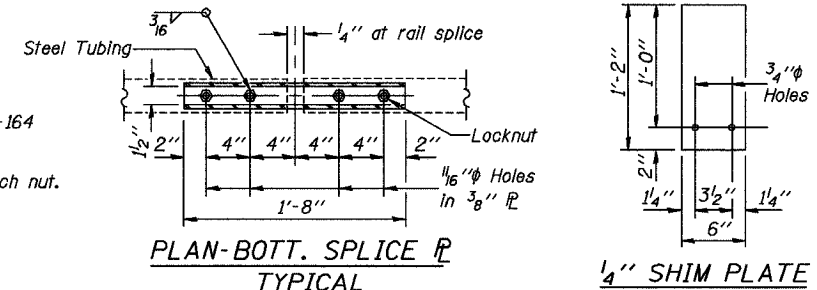


SECTION AT RAIL SPLICE

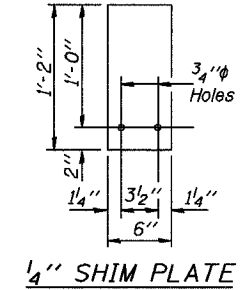
VIEW C-C



ANCHOR DEVICE



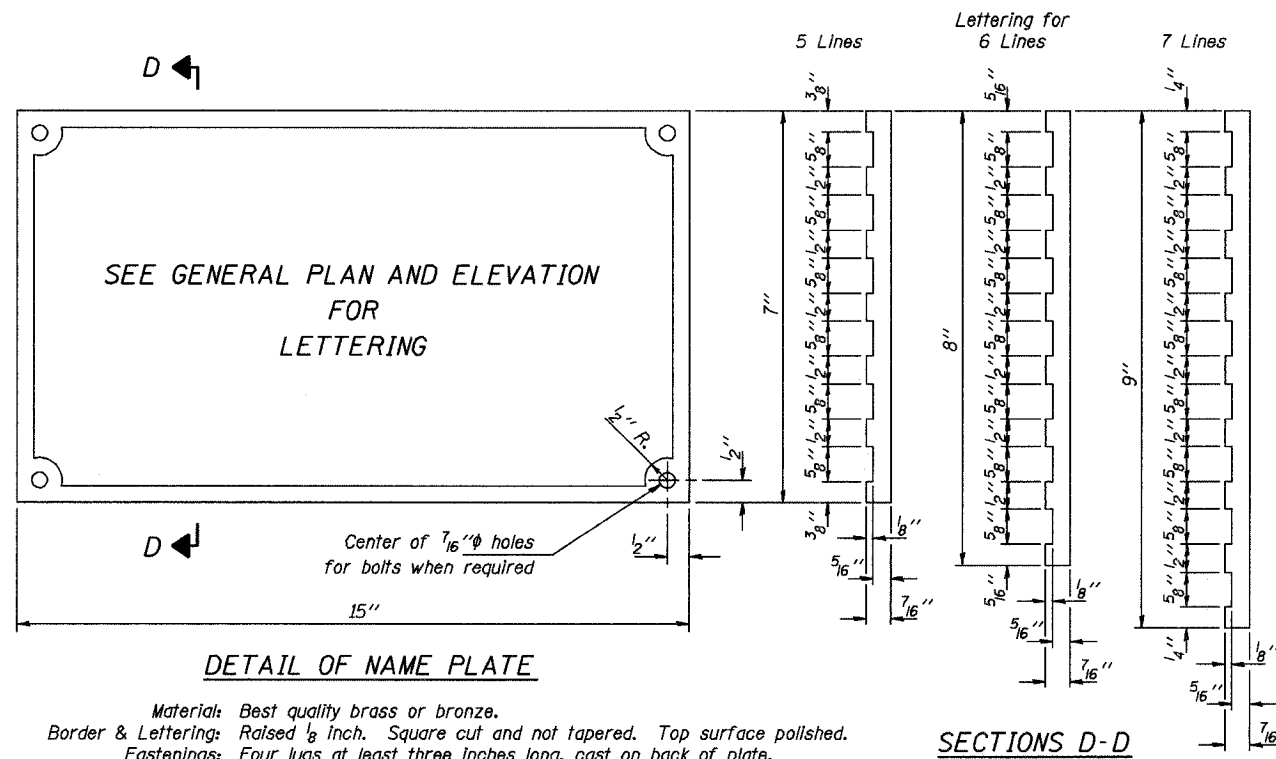
PLAN-BOTT. SPLICE TYPICAL



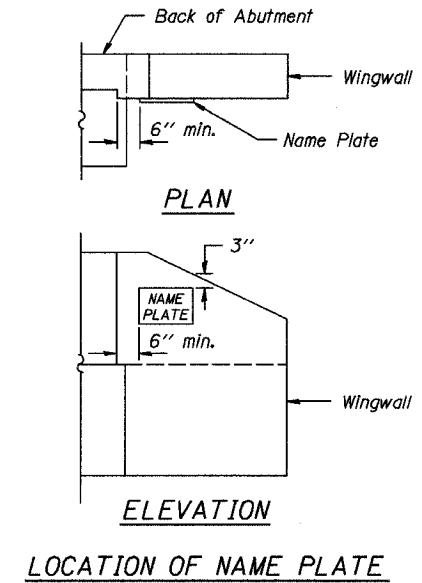
1/4 SHIM PLATE

Illinois Department of Transportation
 PASSED APRIL 4, 2005
 Engineer of Bridge Design
 APPROVED APRIL 4, 2005
 Engineer of Bridges and Structures

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



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



Illinois Department of Transportation

PASSED APRIL 4, 2005

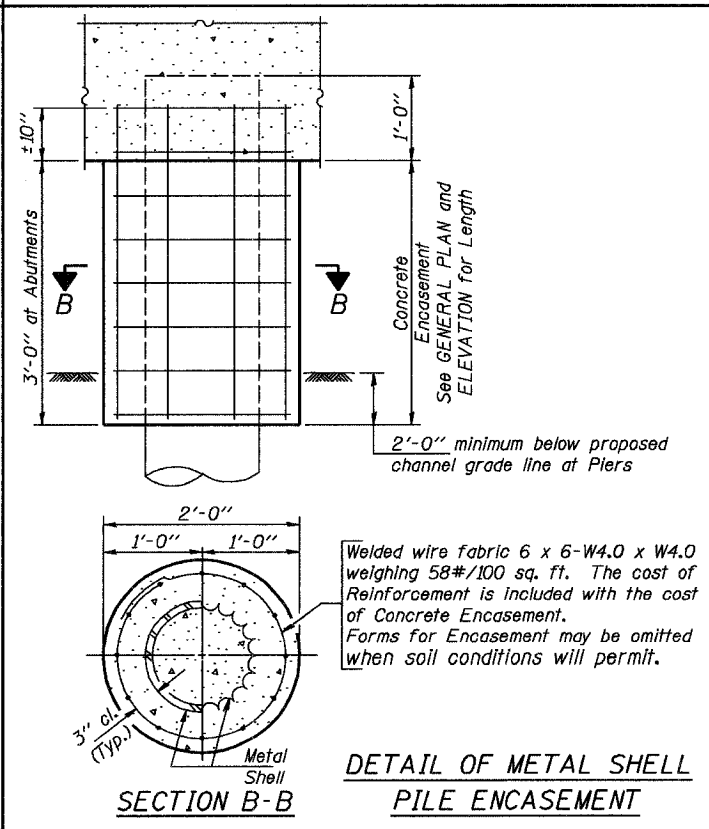
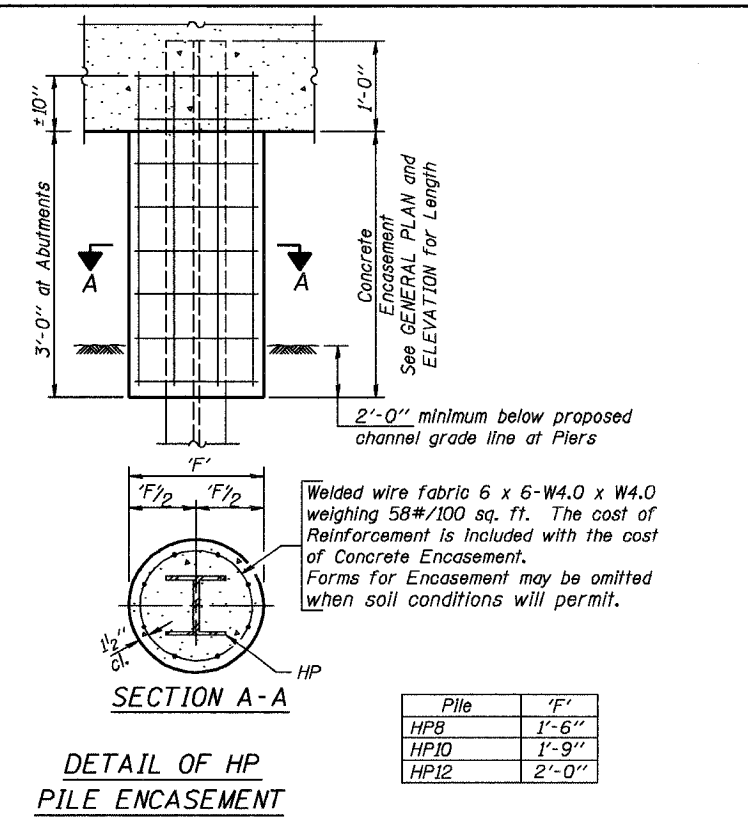
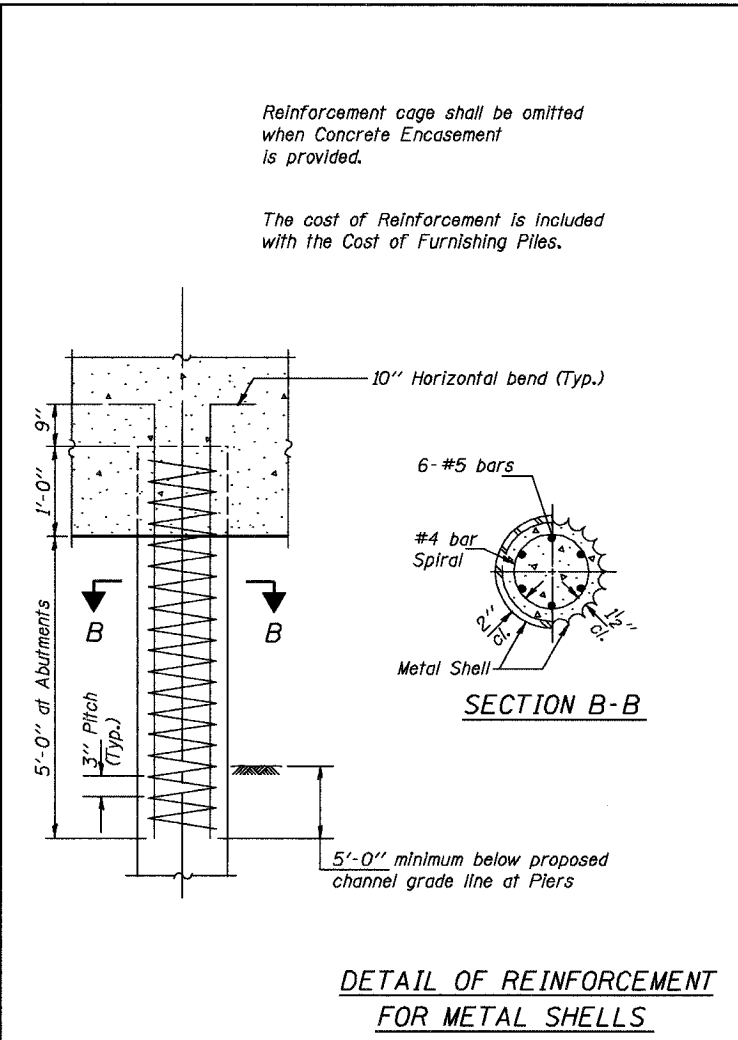
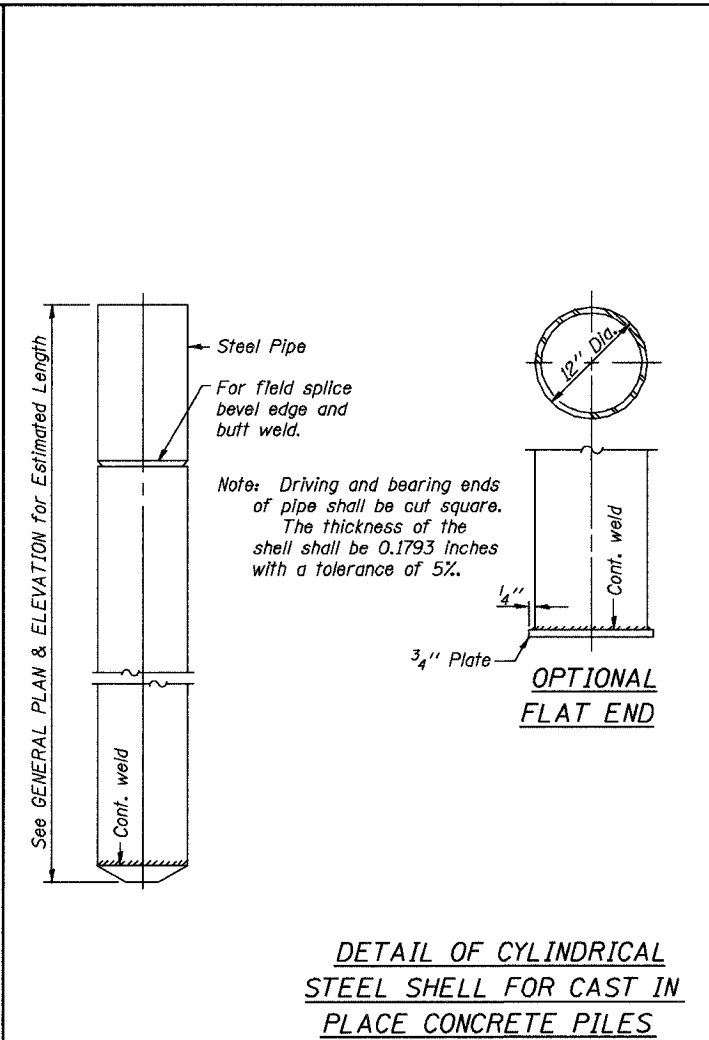
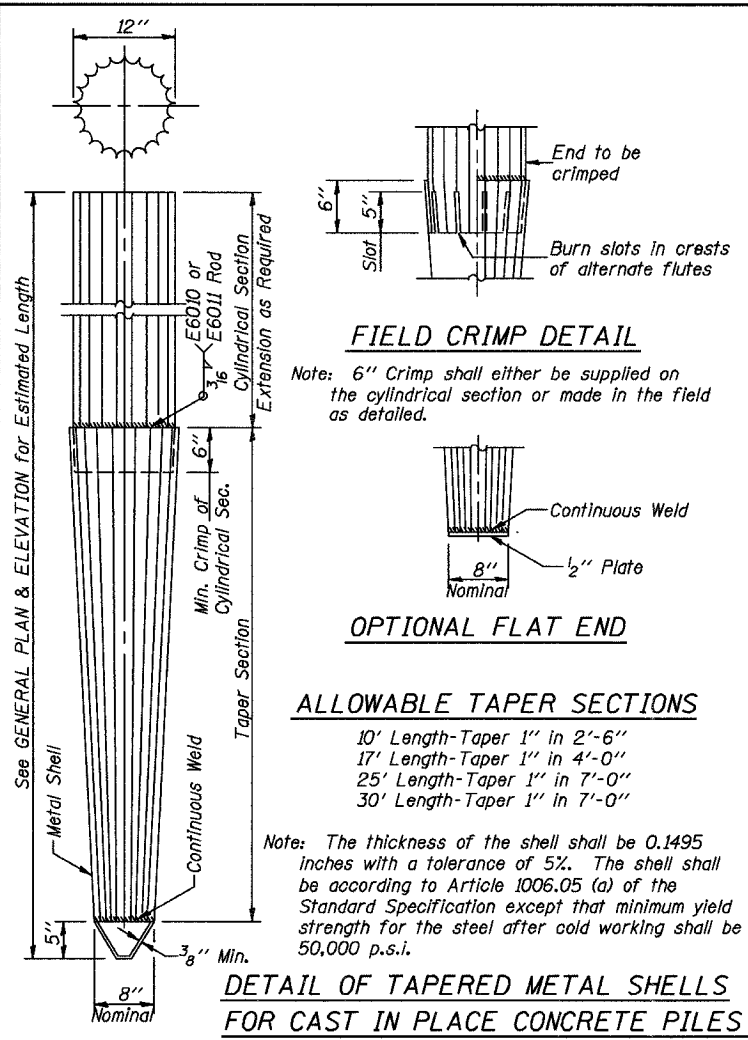
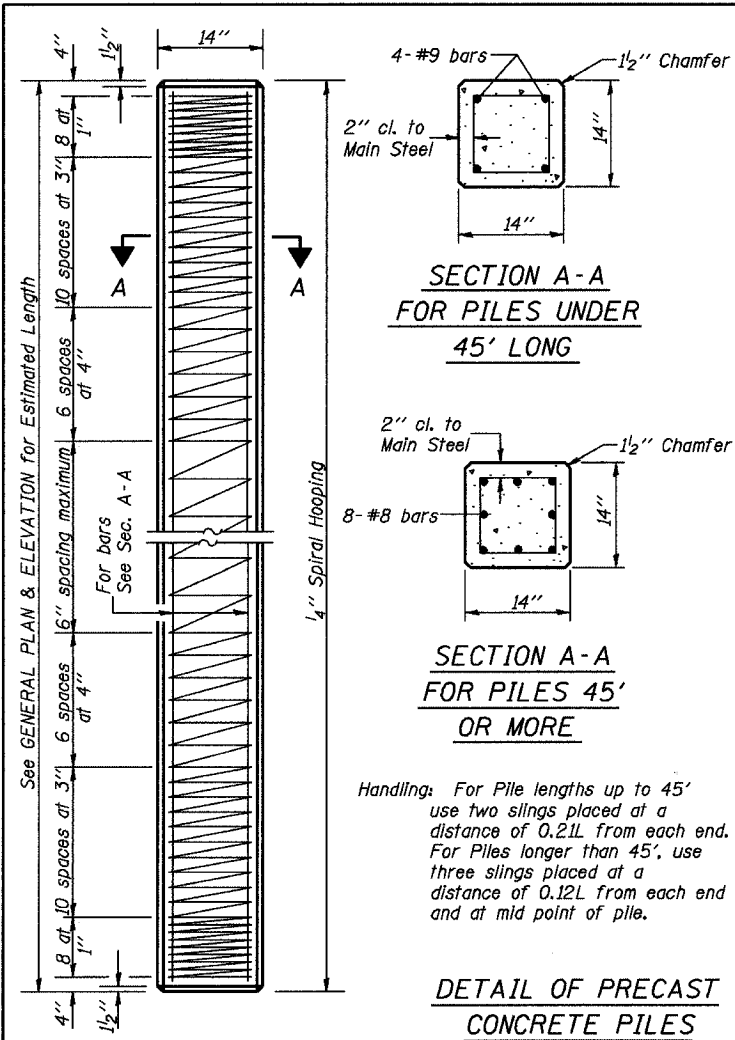
Thomas J. Domagala
 Engineer of Bridge Design

APPROVED APRIL 4, 2005

Ralph E. Anderson
 Engineer of Bridges and Structures

566-7-1 02/RSJ

NAME PLATE
 STANDARD CN



QUANTITIES/FT. OF ENCASEMENT (STEEL PILES)

Pile Size	Item	Quantity
HPB	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.

PILE DETAILS

STANDARD CX-1

Illinois Department of Transportation

PASSED FEBRUARY 1, 2000

Thomas J. Nagasaki
Engineer of Bridge Design

APPROVED FEBRUARY 1, 2000

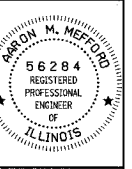
Ralph E. Anderson
Engineer of Bridges and Structures

ISSUES

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	323 W. 3RD ST. P.O. BOX 160 MT. CARMEL, IL 62863
128	03-01128-00-BR	EDWARDS	15	15	
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		PHONE: (618)-262-8651 FAX: (618)-263-3327	
PROJECT * BR05-04723		CONTRACT * 95478		405 W. STATE ST SUITE 1 PRINCETON, IN 47670	
JOB * C-97-129-06		WALSER CREEK		PHONE: (812)-386-7611 FAX: (812)-385-2812	
LEC JOB # H031008ED					



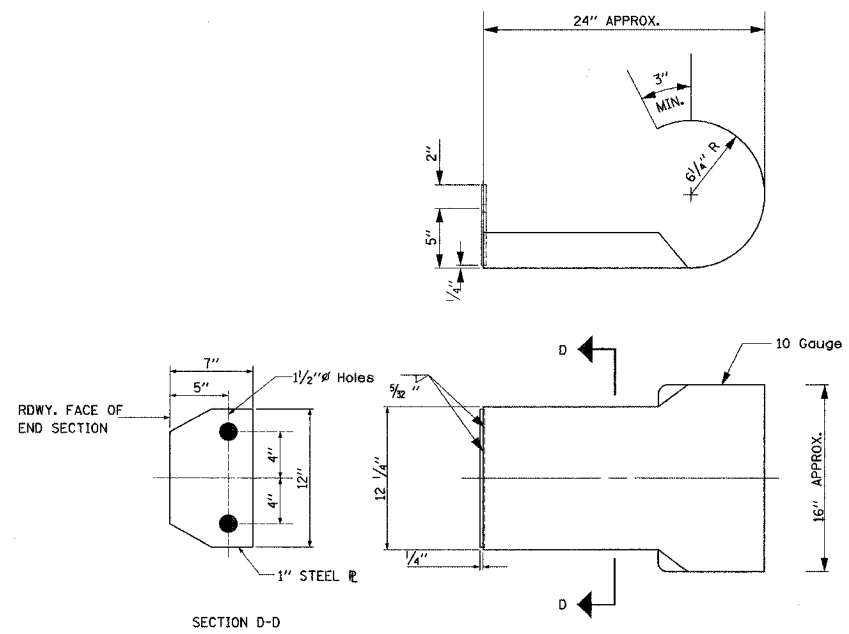
PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00687
(82-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron Mefford
SIGNATURE
5-10-06
DATE
11-30-07
EXPIRES

ROAD DISTRICT 1
TOWNSHIP ROUTE 128
EDWARDS COUNTY, ILLINOIS

CURLED END SECTION DETAIL



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.

SHEET TITLE:

CURLED END SECTIONS DESIGN

SCALE: NONE
BY: AMM
DATE: 5/9/06
REV:

15 OF 15 SHEETS

SHEET NO. 15

C:\p231\03082\03082.dwg 02/02/2006 07:53:34 AM