85411

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	1
F.H.W.A. REG.	ILLINOIS	PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR
PROPOSED LOCAL AGENCY IMPROVEMENT
FEDERAL AID BRRP PROJECT
HENRY COUNTY

HENRY COUNTY SECTION 01-00130-00-BR
PROJECT BRS-238(104) JOB C-92-102-01
FAS RTE 238 CONTRACT 85411

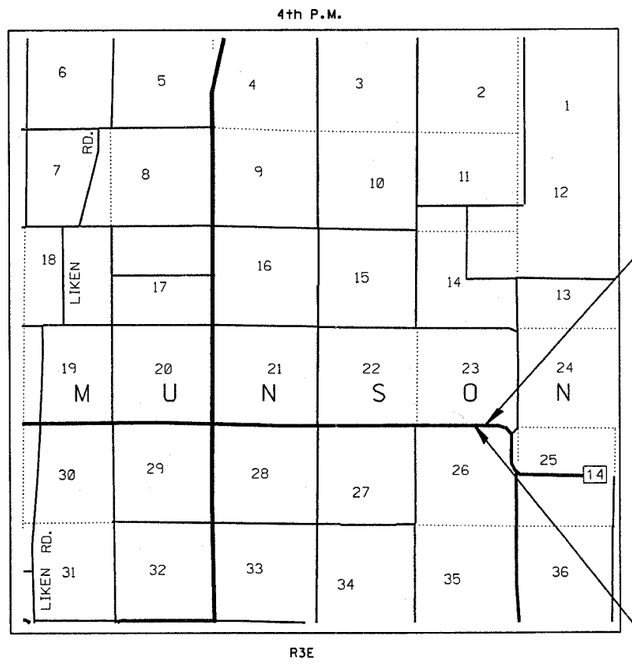
INDEX OF SHEETS

TRAFFIC CONTROL STANDARDS

702001-06 280001-03 72011
728001 729001 BLR 21-6

CONSTRUCTION TYPE CODE X080-2A
SCHEDULE OF QUANTITIES

CODE	QUANTITY	UNIT	DESCRIPTION
20200100	367	Cu.Yds.	Earth Excavation
20300100	1310	Cu.Yds.	Channel Excavation
25000330	0.97	Acre	Seeding, Class 6
25000400	88	Pound	Nitrogen Fertilizer Nutrient
25000500	88	Pound	Phosphorous Fertilizer Nutrient
25000600	88	Pound	Potassium Fertilizer Nutrient
25100115	1.94	Acre	Mulch, Method 2
28000300	4	Each	Temporary Ditch Checks
28100707	280	Sq.Yds.	Stone Dumped Riprap, Class A4
35101400	925	Ton	Aggregate Base Course, Type B
50100100	1	Each	Removal of Existing Structures
50200100	142	Cu.Yds.	Structure Excavation
50300225	36.6	Cu.Yds.	Concrete Structures
50400405	2940	Sq.Ft.	P P Conc Dk Bm 21 Dp
50800105	3800	Pound	Reinforcement Bars
50900205	210	Foot	Steel Railing, Type S1
51201400	1359	Foot	Fur. Stl. Pile HP 10X42
51202305	1359	Foot	Driving Piles
51203400	2	Each	Test Pile Stl HP 10X42
51204650	20	Each	Pile Shoes
51500100	1	Each	Name Plate
542D0220	80	Foot	P Cul CL D 1 15"
58100200	326.6	Sq.Yds.	WaterPrf Membrane System
58300100	630	Foot	PC Mortar Fairing CSE
63100075	2	Each	Traffic Barrier Terminal Type 5A
67100100	1	L. Sum	Mobilization
LR631020	2	Each	Traffic Barrier Terminal Type 1
XX005685	19.2	Cu.Yds.	Class SI Concrete Encasement



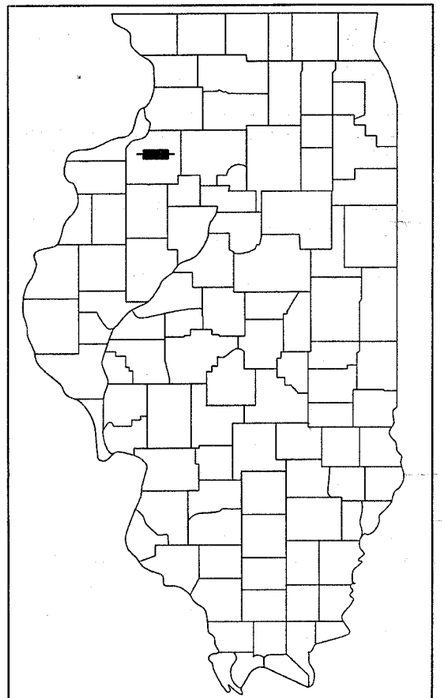
LOCATION MAP

NET LENGTH OF SECTION = 600 FEET = 0.114 MILES

Section 01-00130-00-BR Ends at Station 105+50.

Section includes a three span bridge (30',45',30') with precast prestressed concrete deck beams (21" deep) on pile bent concrete abutments, skewed 10° left ahead. Also included are aggregate surface approach roadways.

SECTION 01-00130-00-BR Begins at Station 99+50.



LOCATION OF SECTION INDICATED THUS: ■

STEVEN L. BRANDAU 42625 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS Exp. 11/30/07

THESE PLANS WERE PREPARED BY ME OR BY THE FULL TIME MEMBERS OF MY STAFF.

STEVEN L. BRANDAU
P.E. 42625

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED March 27 2007
HENRY COUNTY ENGINEER

PASSED April 11, 2007
DISTRICT #2 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW April 11, 2007
DEPUTY DIRECTOR OF HIGHWAYS REGION #2 ENGINEER

CALL J.U.L.I.E.
BEFORE YOU DIG
800-892-0123

Major Collector (Less Than 400)

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	2
F.H.W.A. REG.	ILLINOIS	PROJECT		

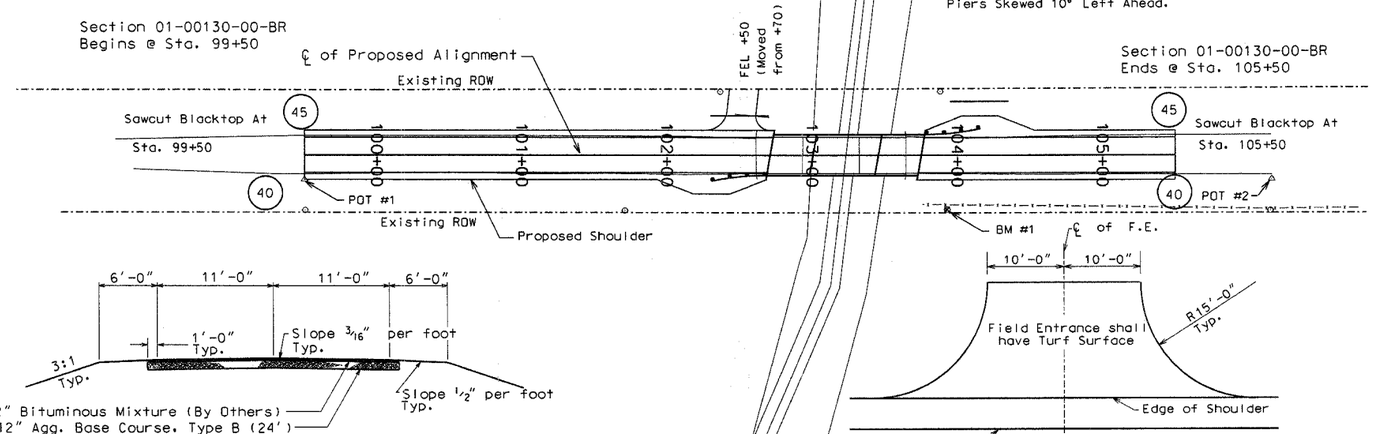
N

BM 1 - 60P Nail in PP
Sta. 103+93, 37.7' Rt.
Elev. 191.97

(40) - Ft. From Right of Way To Survey Line

Existing Structure: A Three Span Precast Concrete Deck Beam Bridge On Wooden Pile bent abutments And Piers Skewed 0 degrees.

Proposed Structure: A 105' (30'-45'-30') Three Span Precast Prestressed Concrete Deck beam Bridge (21" Deep) on Pile Bent Abutments And Piers Skewed 10° Left Ahead.



TYPICAL CROSS SECTION

FIELD ENTRANCE DETAIL

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

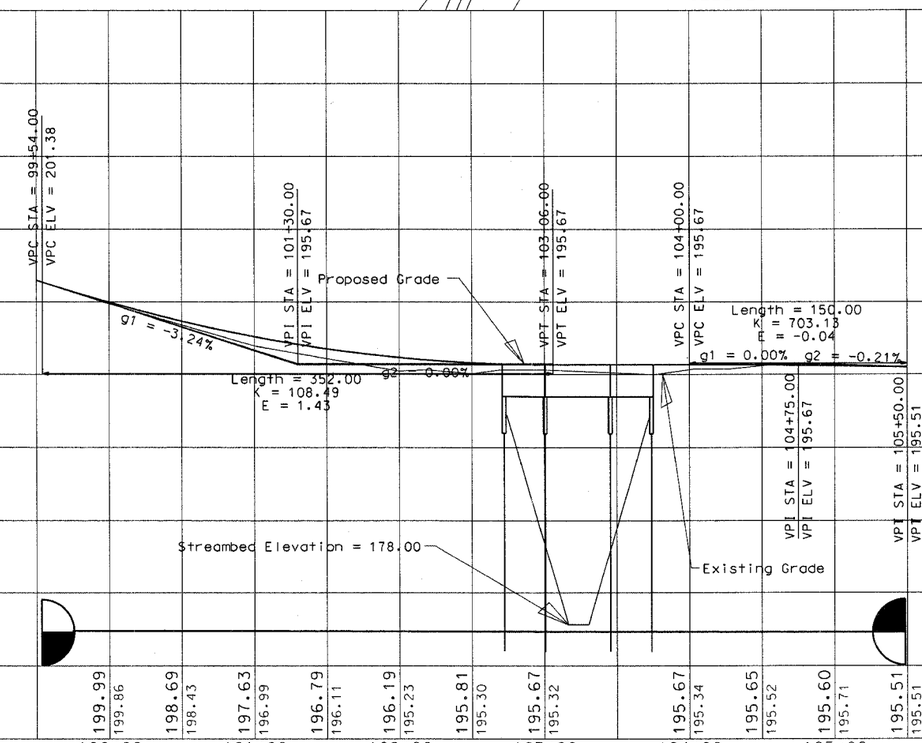
CALL J.U.L.I.E.
BEFORE YOU DIG
1-800-892-0123

UTILITIES

GENESEO TELEPHONE CO.
111 EAST FIRST ST.
GENESEO, IL. 61254
MATT STORM
1(309)944-2103- X012

AMEREN IP
1824 KNOX HIGHWAY 9
GALESBURG, IL. 61401
STEVE RALSTON
1(618)236-6207

MID AMERICAN ENERGY
2811 5th AVE.
ROCK ISLAND, IL.
SCOTT BULL
1(309)793-3870



TRAFFIC BARRIER TERMINAL TYPE 1

Sta. 102+53.75 Rt.	1 Each
Sta. 103+91.25 Rt.	1 Each

TRAFFIC BARRIER TERMINAL TYPE 5A

Sta. 102+67 Rt.	1 Each
Sta. 103+78 Rt.	1 Each

SEEDING QUANTITIES

Seeding Class 6	0.97 Acre
Phosphorous Fert. Nutr.	88 lbs.
Nitrogen Fert. Nutr.	88 lbs.
Potassium Fert. Nutr.	88 lbs.
Mulch Method 2	1.94 Tons

COORDINATES	NORTHING	EASTING
POT #1	10000.00	10000.00
POT #2	10000.00	10666.53
Sta. 99+50	10017.00	10000.03
Sta. 105+50	10016.62	10600.03

AGGREGATE BASE COURSE TYPE B

Sta. 99+50 To 102+70, 925 Tons

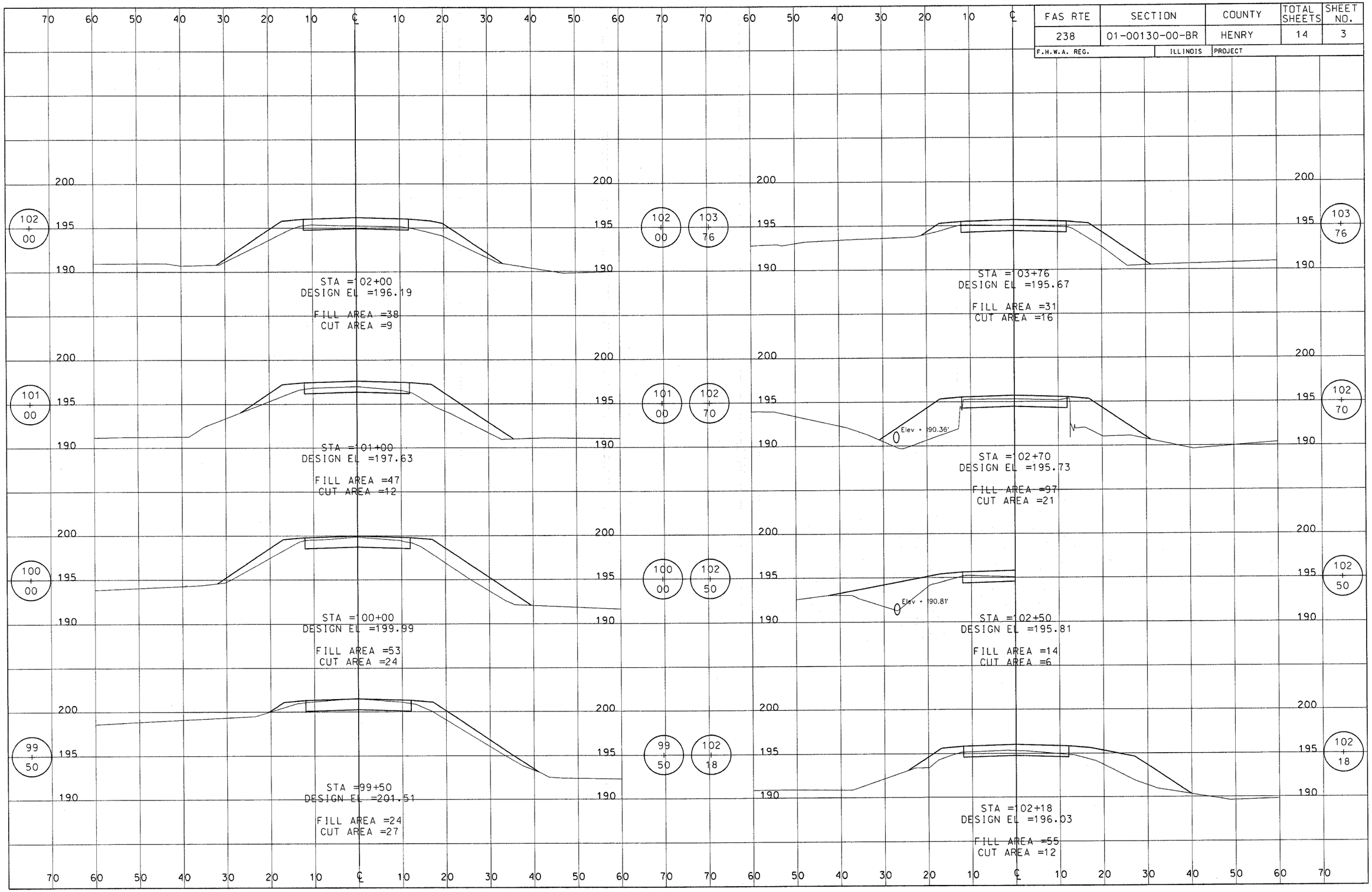
PIPE CULVERT 15" CLASS D, TYPE 1 ROUND

Sta. 102+50 40' FEL ℄ Up = 191.26 ℄ Dn. = 190.36
Sta. 104+15 40' ℄ Up = 188.50 ℄ Dn. = 188.25

Earth Excavation	368 Cu.Yds.
Channel Excavation	1310 Cu.Yds.
Structure Excavation	142 Cu.Yds.

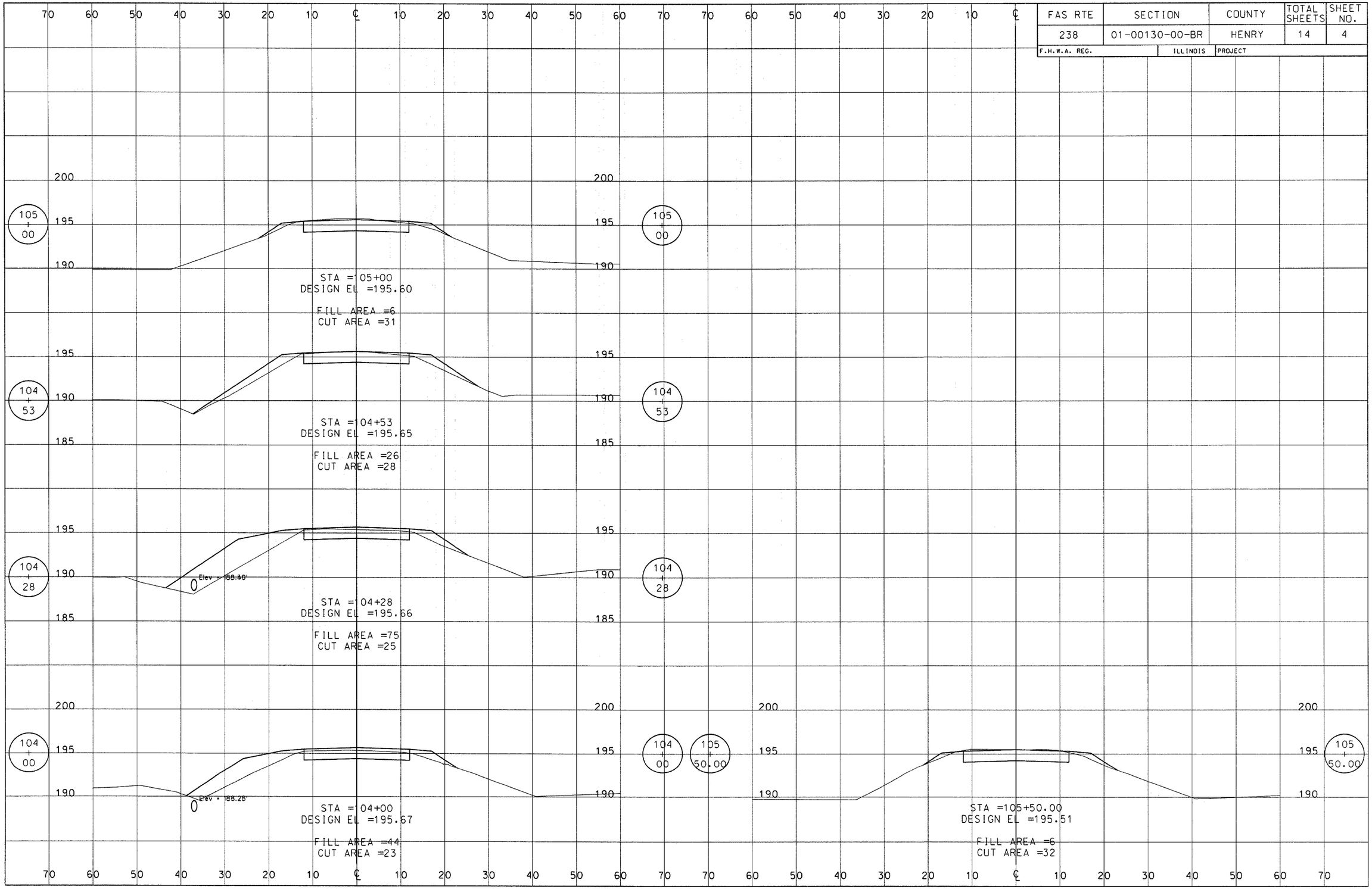
85411

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	3
F.H.W.A. REG.	ILLINOIS	PROJECT		



85411

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	4
F.H.W.A. REG.	ILLINOIS	PROJECT		



FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
~~1232~~ 238	01-00130-00-BR	HENRY	~~13~~ 14	~~4~~ 5
F.H.W.A. REG.	ILLINOIS	PROJECT		

B.M. 1 60p Nail in Power Pole
Sta. 103+93, 38' Rt.
Elev. 191.97

Existing Structure is a three span precast concrete deck beam bridge on wooden piles.

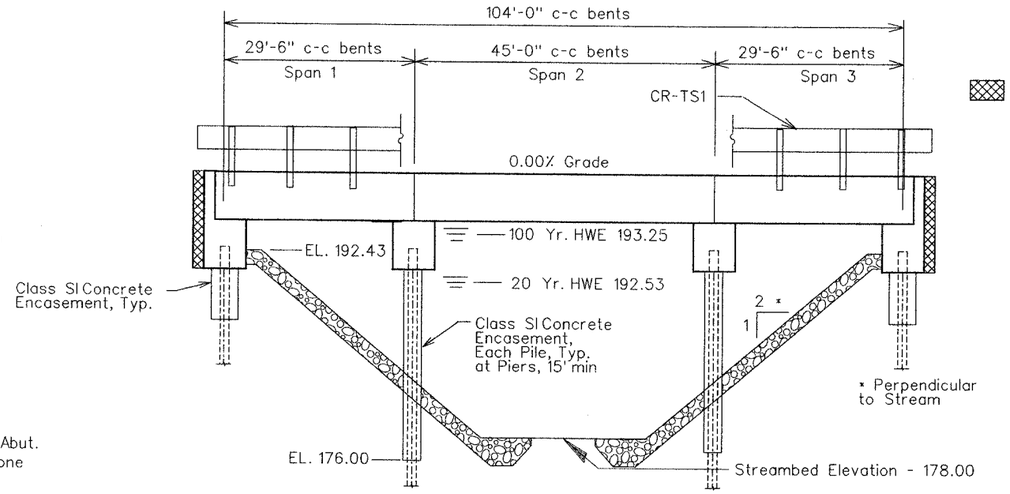
Any salvageable material shall become the property of the Henry County Highway Department

PILE DATA - (2 ABUTS)

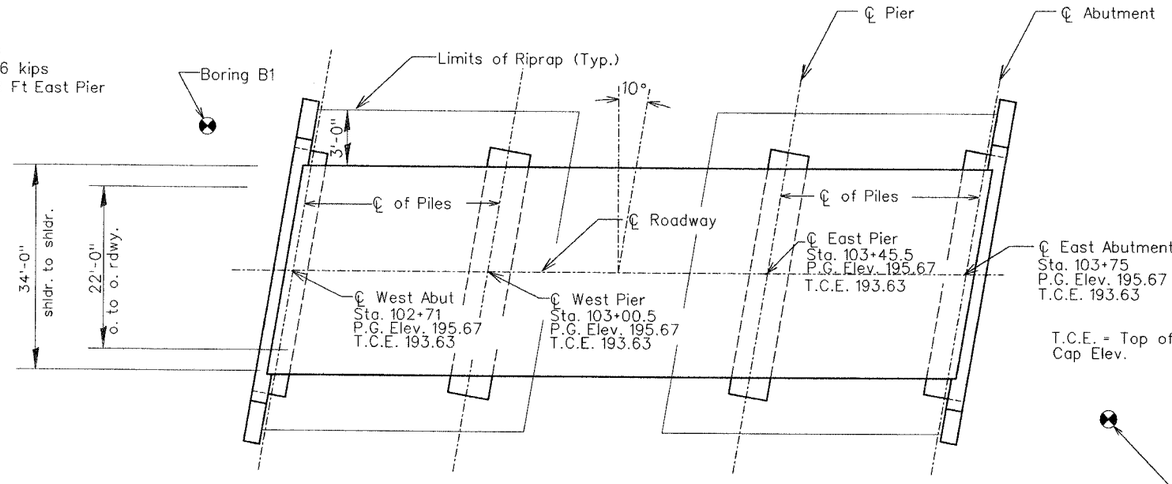
Type : Steel HP 10x42
Nominal Req'd Bearing : 180 kips
Allowable Resistance Available : 60 kips
Est. Length : 73 Ft West Abut, 78 East Abut.
Number Req. : 8 (Includes 2 Test Piles, one at each abutment)

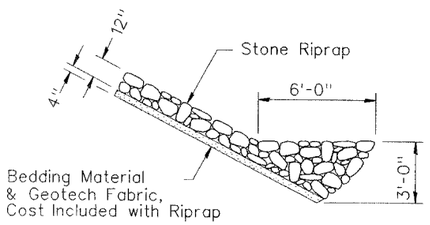
PILE DATA - (2 PIERS)

Type : Steel HP 10x42
Nominal Req'd Bearing : 228 kips
Allowable Resistance Available : 76 kips
Est. Length : 73 Ft West Pier, 78 Ft East Pier
Number Req. : 12



▨ - Structure Excavation





STONE RIPRAP ANCHOR DETAIL

DESIGN SPECIFICATIONS

2002 AASHTO, W/ Applicable Interims
HS20-44 Loading Load Factor Design

I certify that to the best of my knowlege, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for this style of structure and complies with the requirements of the current AASHTO Standard Specifications for highway bridges.

LICENSED STRUCTURAL ENGINEER
KEITH E. BRANDAU
81-4905
CHAMPAIGN
STATE OF ILLINOIS

Keith E. Brandau 3/22/07
Keith E. Brandau Date
Illinois Structural No. 4905
License Expires 11/30/2008

WATERWAY INFORMATION

Drainage Area = 26.9 Sq. Miles — Low Grade Elev. 195.51 @ Sta. 105+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E. Exist.	Natural H.W.E. Prop.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	3905	457	682	192.53		1.19	0.29	193.72	192.82
Base	100	5718	457	738	193.25		2.83	0.71	196.08	193.96

GENERAL NOTES

Class MS or SI Concrete shall be used in the Piers and Abutments.

Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.

Masonry material salvaged from the existing structure shall not be reused and shall be disposed of off site by the Contractor.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53, Grade 60.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The contractor shall drive 2 test piles in a permanent location, one at each abutment as directed by the Engineer before ordering the remainder of piles.

All construction joints shall be bonded.

A Calcium Nitrate Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

The abutments shall not be backfilled until the deck beams are in place and dowel pins have been grouted and cured.

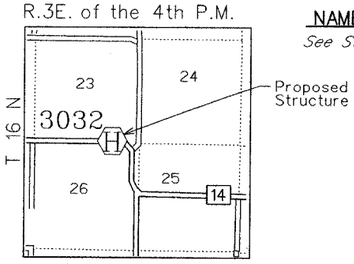
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structure	Each			1
Stone Dumped Riprap, Class A4	Sq. Yd.		280	280
Waterproofing Membrane System	Sq. Yd.	326.6		326.6
P.P. Conc. Deck Beam 21"	Sq.Ft.	2940		2940
Furnishing Steel Piles, HP 10x42	Foot		1359	1359
Driving Piles	Foot		1359	1359
Test Piles Steel HP 10x42	Each		2	2
Concrete Structures	Cu.Yd.		36.6	36.6
Reinforcement Bars	Pound		3800	3800
Structure Excavation	Cu.Yd.		142	142
Name Plate	Each		1	1
Steel Railing, Type S-1	Foot	210		210
Pile Shoes	Each		20	20
Class SI Concrete Encasement	Cu. Yd		19.2	19.2
Portland Cement Mortar Fairing Course	Foot	630		630

STATION 103+23 SPRING CREEK
BUILT 2007
SEC. 01-00130-00-BR
HENRY COUNTY
LOADING HS20-44
STR. NO. 037-3349

NAME PLATE
See Std. CN

R.3E. of the 4th P.M.



LOCATION SKETCH

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 238)
SHEET TITLE: GENERAL PLAN & ELEVATION

Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 557
CHAMPAIGN, ILLINOIS 61824-0557
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK KEB | APP. KEB

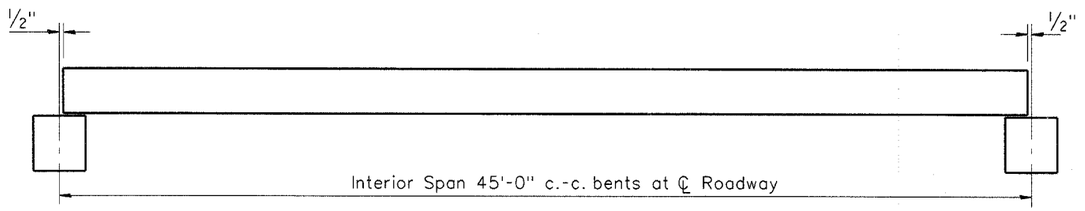
PROJECT NO. 07066
DATE 03.01.07
SHEET 4 OF 14 SHEETS

GENERAL PLAN & ELEVATION
SECTION 01-00130-00-BR
HENRY COUNTY
STR. NO. 037-3349

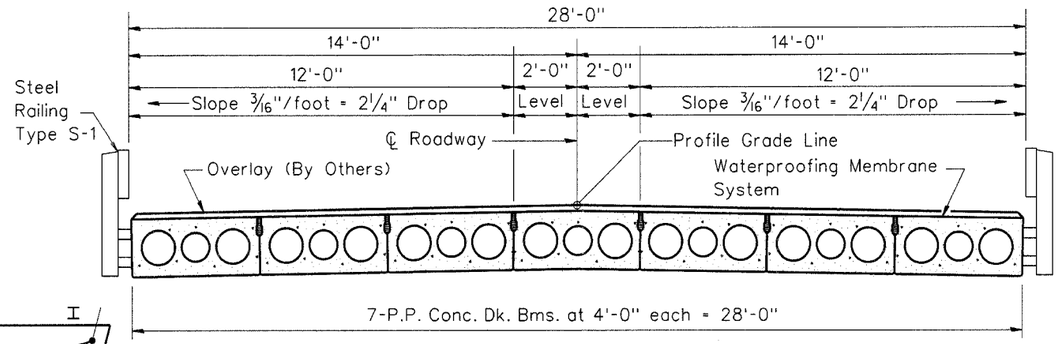
07066-general plan & elevation.dgn 3/22/2007 11:11:11 AM

85411

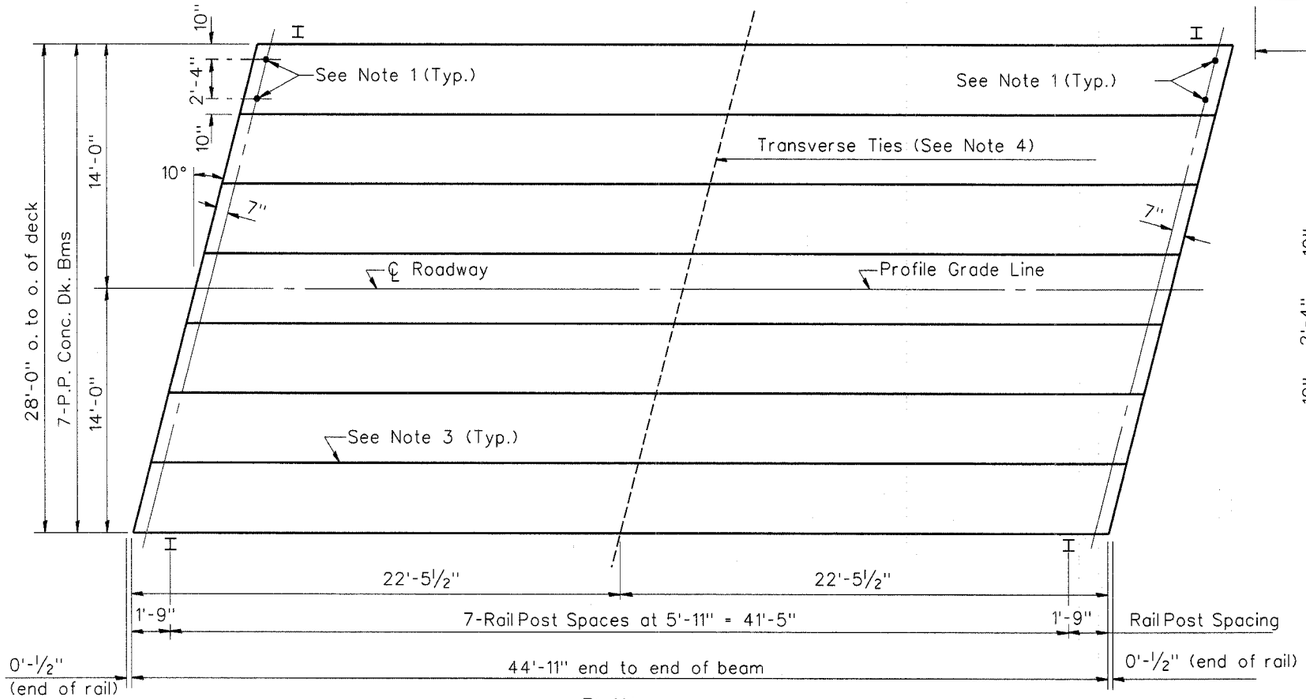
FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	6
F.H.W.A. REG.	ILLINOIS	PROJECT		



TYPICAL ELEVATIONS

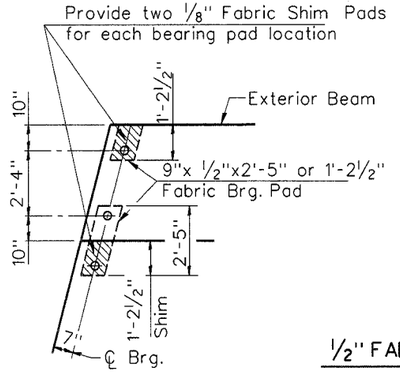


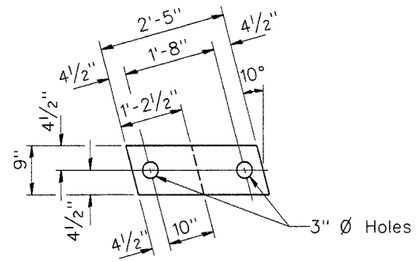
CROSS SECTION



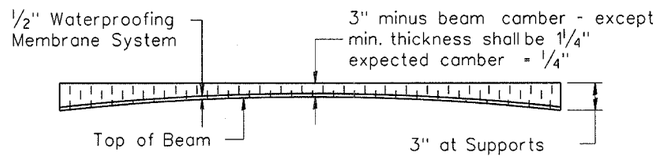
PLAN

(10 ° = Designated Skew Angle)

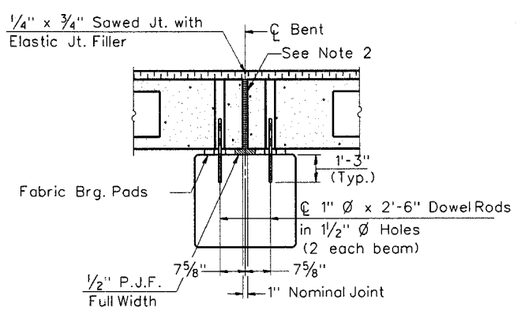




1/2" FABRIC BRG. PAD DETAILS



PROFILE OF OVERLAY *BY OTHERS*



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" rods in the transverse tie assembly shall be tightend 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. 21" Dp.	1260 Sq. Ft.
Steel Railing, Type S-1	90 Ft.
Waterproofing Membrane System	140 Sq. Yds.
Portland Cement Mortar Fairing Course	270 Ft.

SPAN 2

P.P.C. DECK BEAM SUPERSTRUCTURE

28' RDWY.	21" BMS.	45' SPAN	LEFT

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: P.C.C. DECK BEAM SUPERSTR., SPAN 2

Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 3526 61824-0557
CHAMPAIGN, ILLINOIS
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

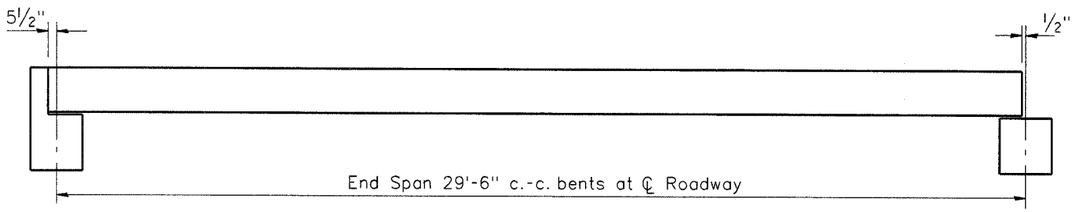
PROJECT NO. 07066

DATE 03.01.07

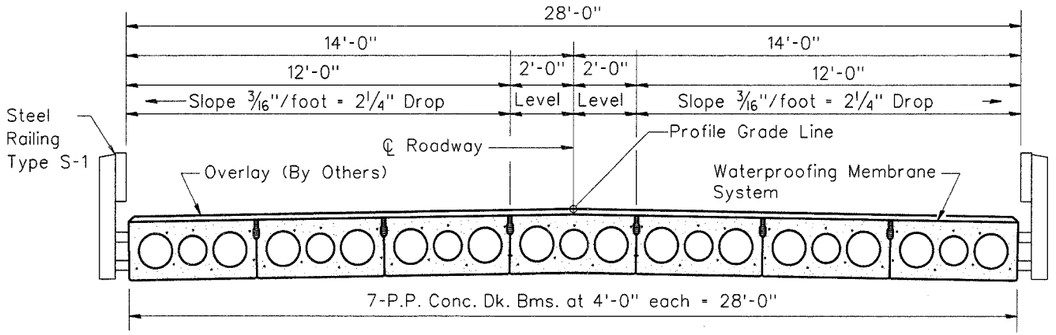
SHEET 5 OF 13 SHEETS

85411

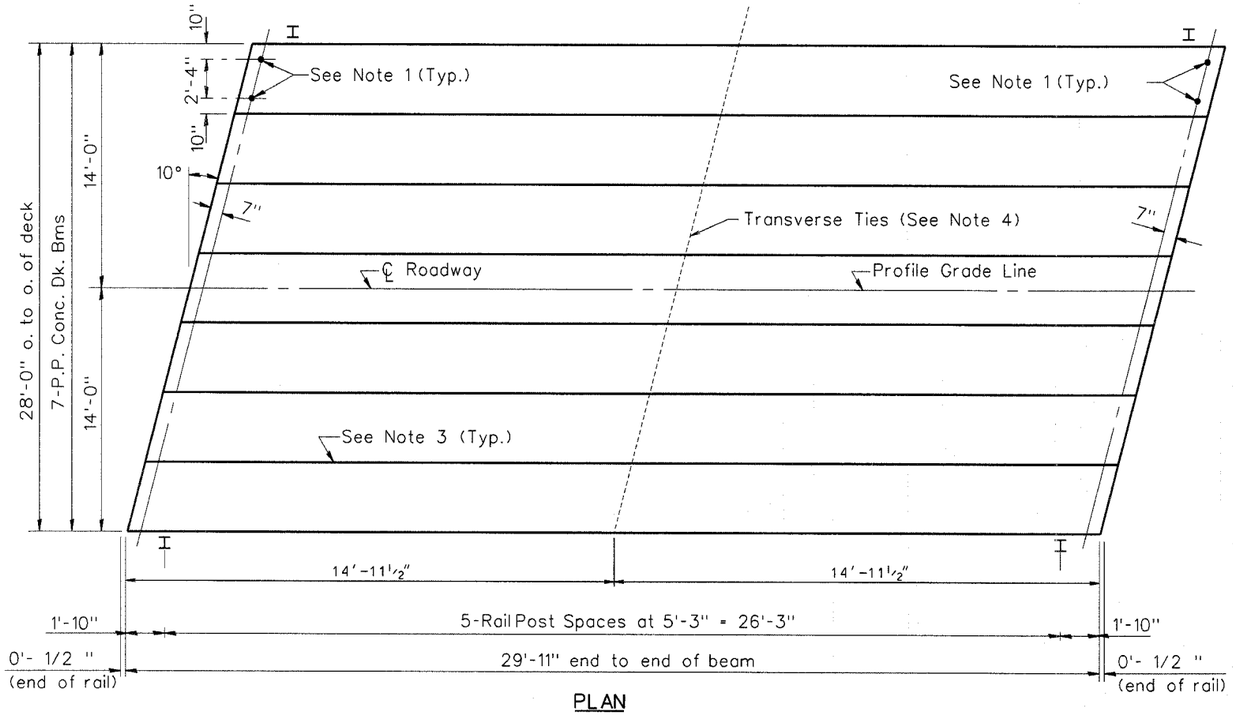
FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	7
F.H.W.A. REG.	ILLINOIS	PROJECT		



TYPICAL ELEVATIONS

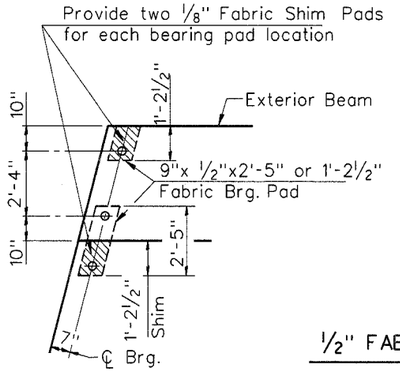


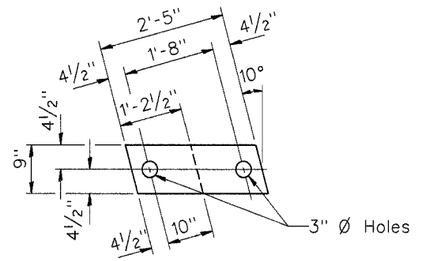
CROSS SECTION



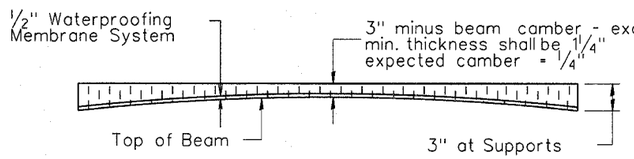
PLAN

(10 ° = Designated Skew Angle)





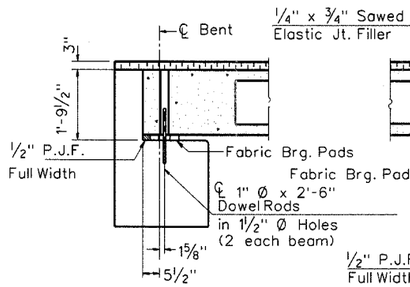
½" FABRIC BRG. PAD DETAILS



PROFILE OF OVERLAY *BY OTHERS*

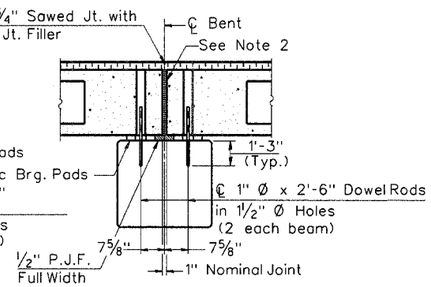
NOTES

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" rods in the transverse tie assembly shall be tightend to a snug fit and the threads set. Pockets that receive transverse tie bar outside shall be filled with grout after transverse tie assembly is in place.



SECTION AT ABUTS.

(Along ℄ Beams)



SECTION AT PIERS

(Along ℄ Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 21" Dp.	840 Sq. Ft.
Steel Railing, Type S-1	60 Ft.
Waterproofing Membrane System	93.3 Sq. Yds.
Portland Cement Mortar Fairing Course	180 Ft.

SPANS 1 & 3

P.P.C. DECK BEAM SUPERSTRUCTURE

28' RDWY.	21" BMS.	30' SPAN	LEFT

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: P.C.C. DECK BEAM DETAILS

Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 557
CHAMPAIGN, ILLINOIS 61824-0557
TELEPHONE 217 352 7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

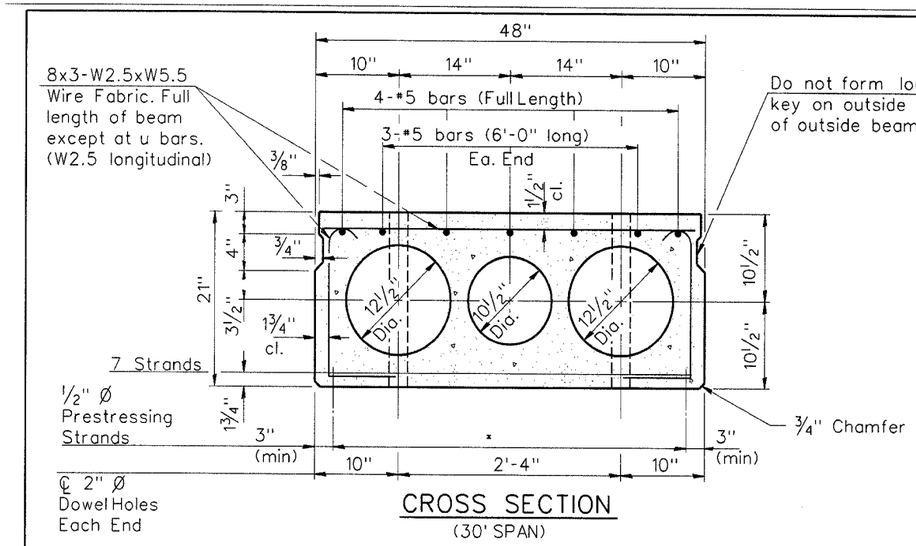
DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

PROJECT NO. 07066

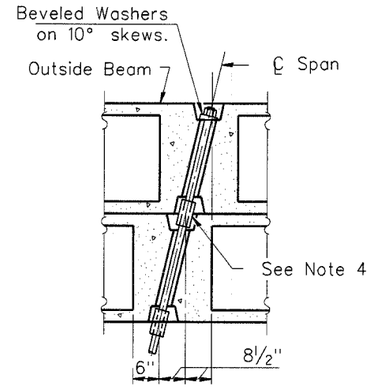
DATE 03.01.07

SHEET 6 OF 13 SHEETS

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	8
F.H.W.A. REG.	ILLINOIS	PROJECT		



CROSS SECTION
(30' SPAN)



PARTIAL PLAN
TRANSVERSE TIE ASSEMBLY

NOTES

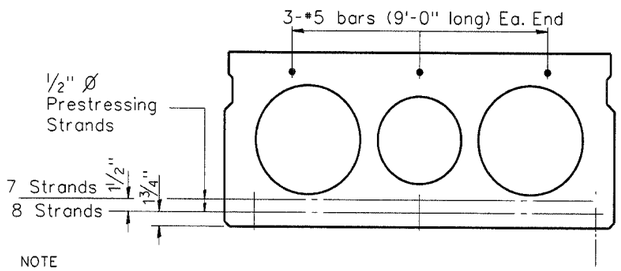
1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to AASHTO M-31 or M-322, Grade 60.
4. On 0°, 5° and 10° skews, alternate approved transverse tie rods of increased segmental length are acceptable.
5. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
6. When Waterproofing Membrane System is specified, the top surface of the beams shall be screeded with a straightedge and finshed with a hand float. The finished surfaceshall be free of depressions or high spots with sharp corners and the top edge of keysshall 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.

* 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 ½"
   Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

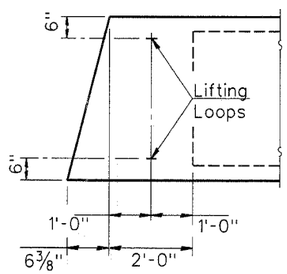
DESIGN STRESSES

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



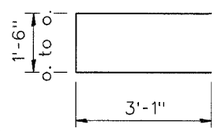
NOTE
The std. reinf. shown on the 30' span cross section is typical for all spans, except as shown.

CROSS SECTION
(45' SPAN)



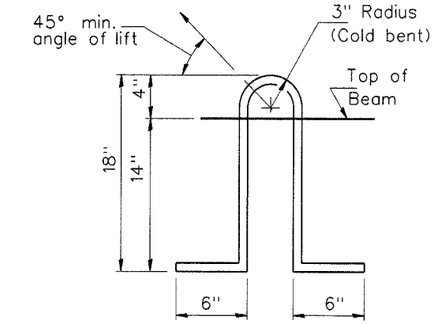
END BLOCK DETAILS

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.



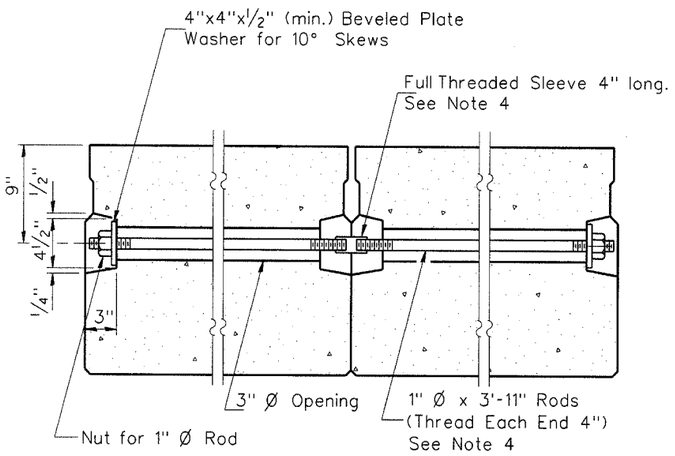
BAR U

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

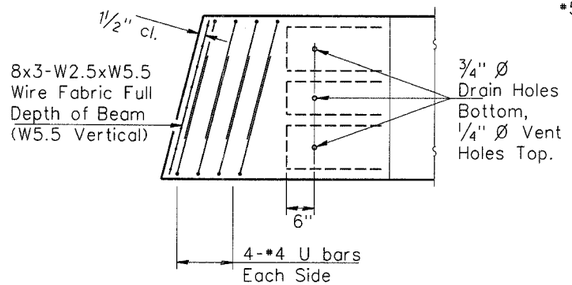


LIFTING LOOP DETAIL

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



SECTION ALONG TRANSVERSE TIE ASSEMBLY



END REINFORCEMENT
(SKEWED)

P.P.C. DECK BEAM DETAILS

28' ROADWAY	21" x 48" BEAMS

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: P.C.C. DECK BEAM DETAILS

DESCRIPTION | DATE | REVISION

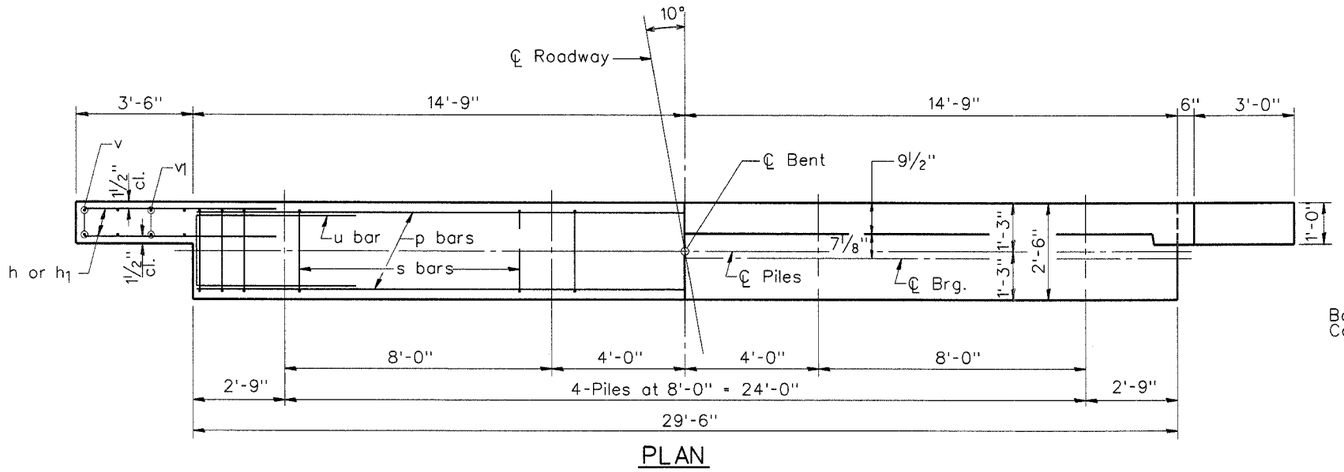
Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 557
CHAMPAIGN, ILLINOIS 61824-0557
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

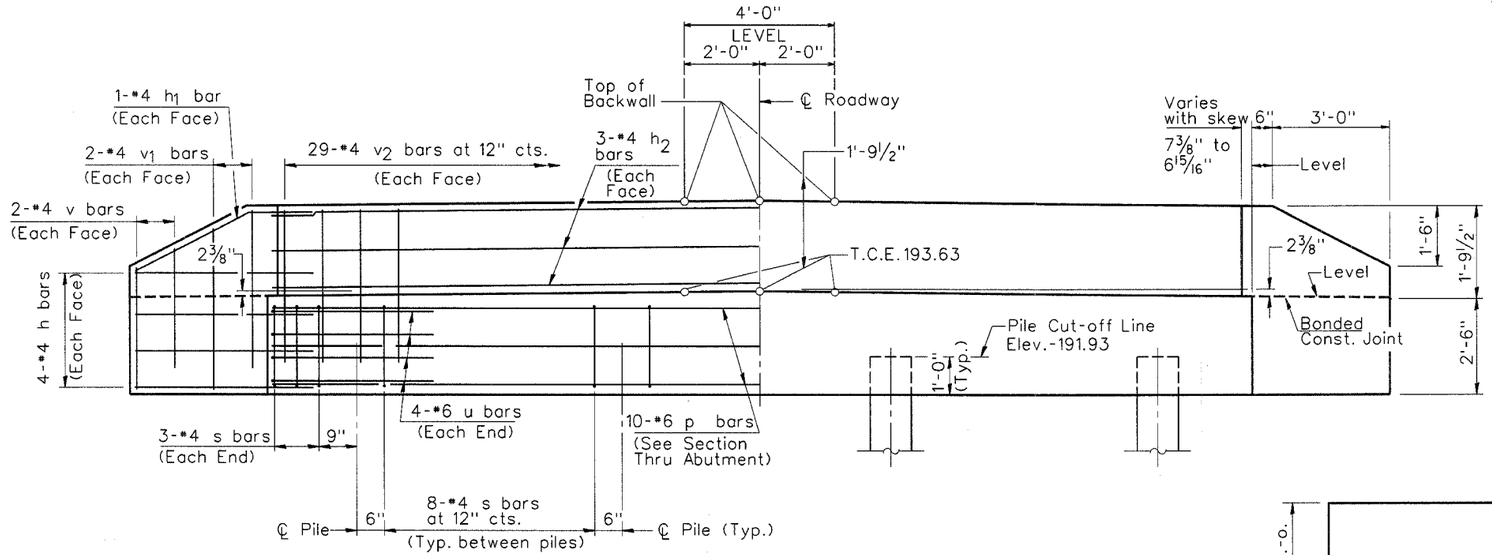
PROJECT NO. 07066
DATE 03.01.07
SHEET 7 OF 13 SHEETS

85411

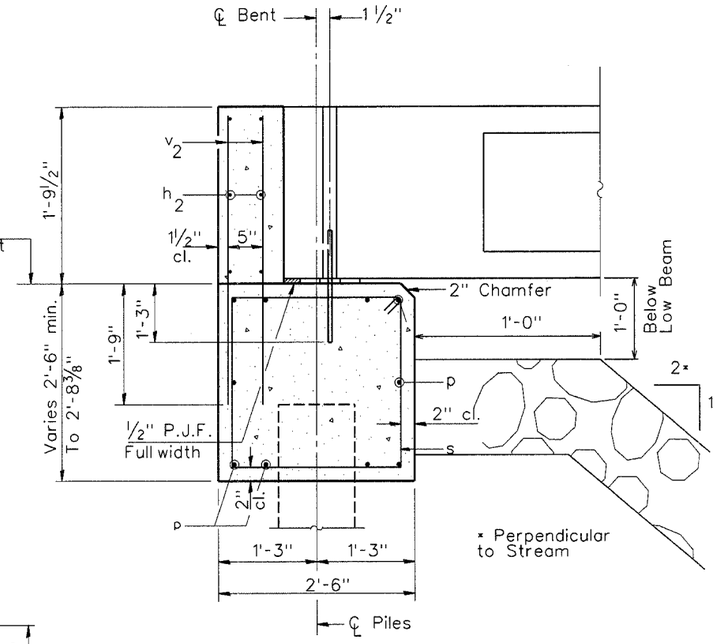
FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	9
F.H.W.A. REG.	ILLINOIS	PROJECT		



PLAN



ELEVATION



SECTION THRU ABUTMENT

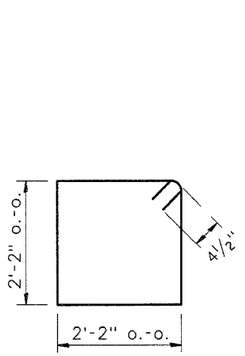
(At Right Angles)
To ℄ Abut

NOTES

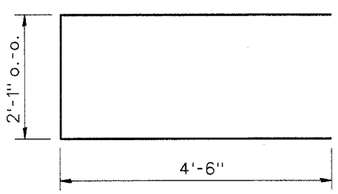
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.

DESIGN STRESSES

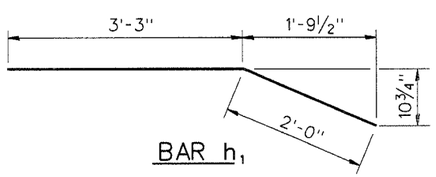
f'c = 3,500 psi
fy = 60,000 psi



BAR s



BAR u



BAR h1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	
h 1	4	#4	5'-3"	
h 2	6	#4	29'-3"	
p	10	#6	29'-3"	
s	30	#4	9'-5"	
u	8	#6	11'-1"	
v	8	#4	2'-8"	
v1	8	#4	3'-8"	
v2	58	#4	3'-5"	
Concrete Structures			9.7 Cu. Yds.	
Reinforcement Bars			1110 Pound	

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: PILE BENT ABUTMENT

Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 557
CHAMPAIGN, ILLINOIS 61824-0557
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK KEB | APP. KEB

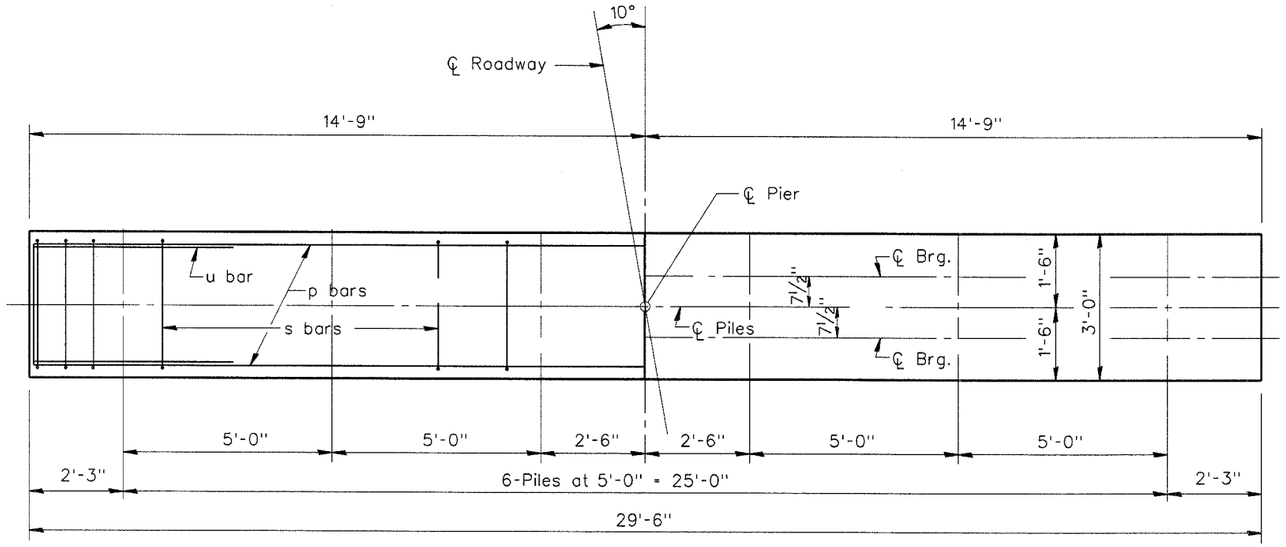
PROJECT NO. 07066

DATE 03.01.07

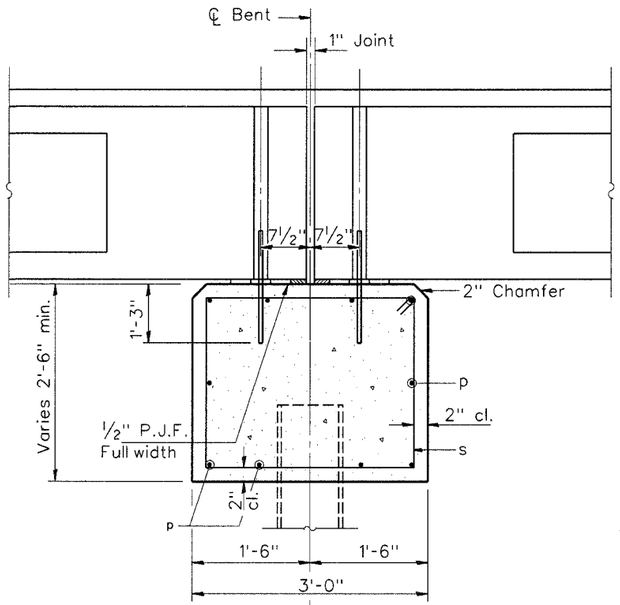
SHEET 8 OF 13 SHEETS

85411

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	10
F.H.W.A. REG.	ILLINOIS	PROJECT		

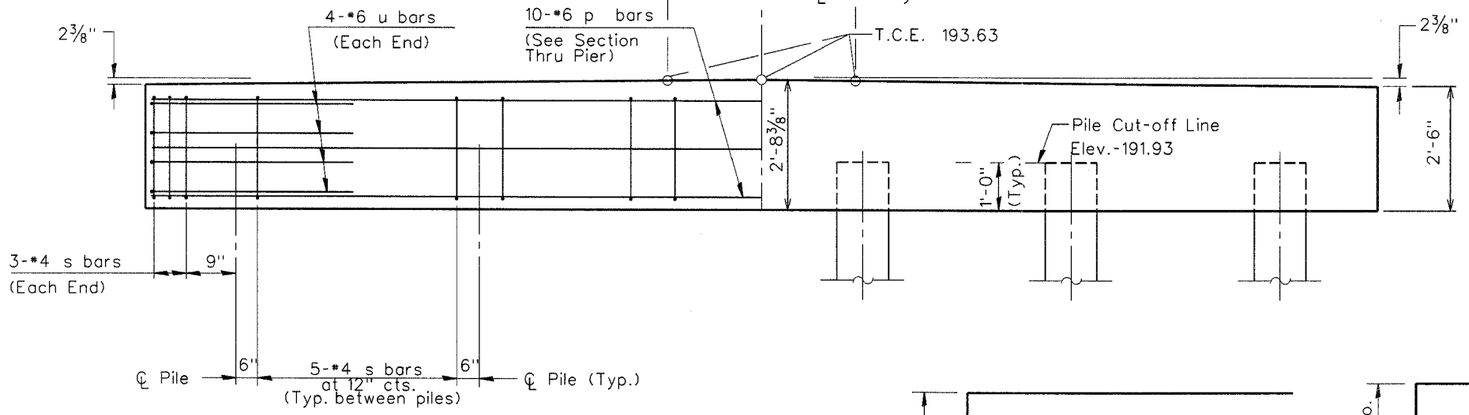


PLAN



SECTION THRU PIER

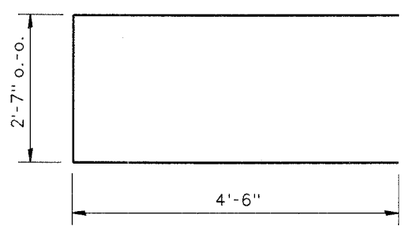
(At Right Angles to ℄ Pier)



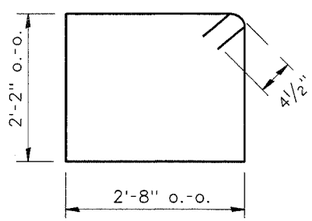
ELEVATION

DESIGN STRESSES

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



BAR u1



BAR s1

BILL OF MATERIAL FOR ONE PIER

Bar	No.	Size	Length	Shape
p	10	#6	29'-3"	
s1	31	#4	10'-5"	
u1	8	#6	11'-7"	
Concrete Structures			8.6 Cu. Yds.	
Reinforcement Bars			790 Pound	

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: PILE BENT PIER

Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 5570
CHAMPAIGN, ILLINOIS 61824-0557
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

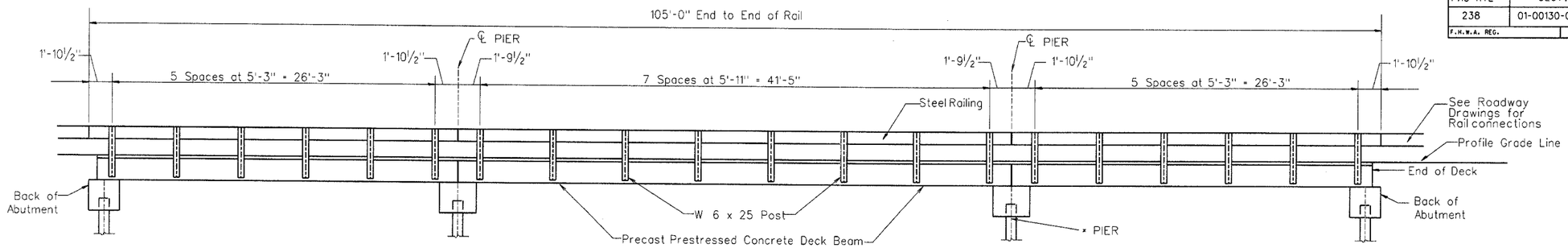
PROJECT NO. 07066

DATE 03.01.07

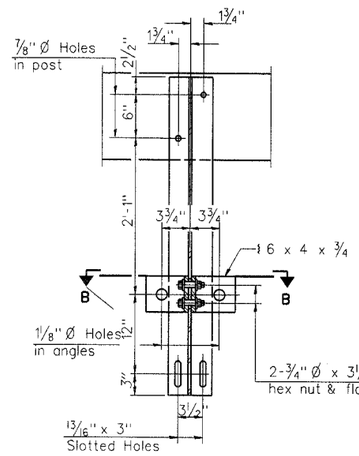
SHEET 9 OF 13 SHEETS

85411

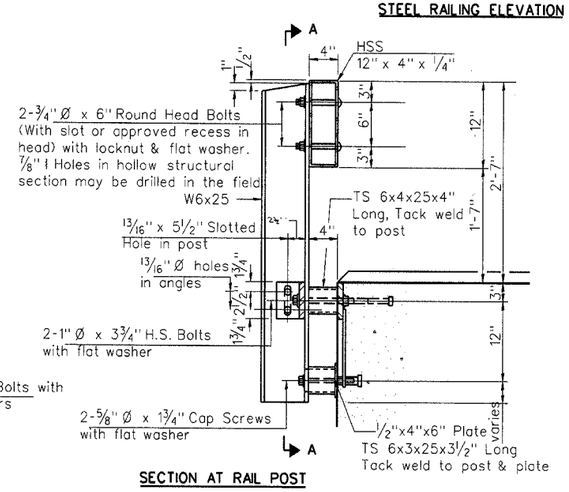
FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	11
F.H.W.A. REG.	ILLINOIS	PROJECT		



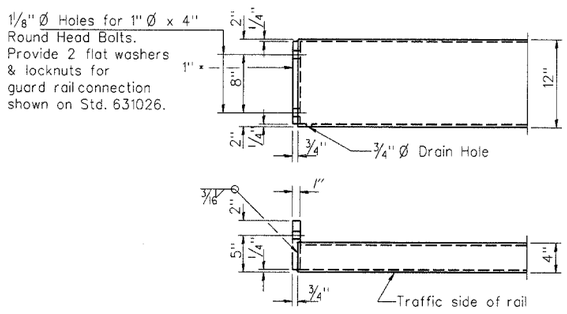
STEEL RAILING ELEVATION



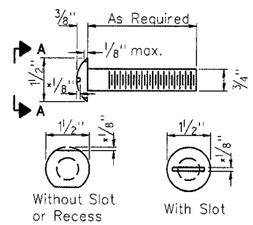
SECTION A-A



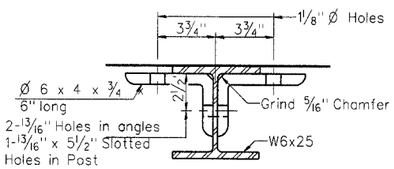
SECTION AT RAIL POST



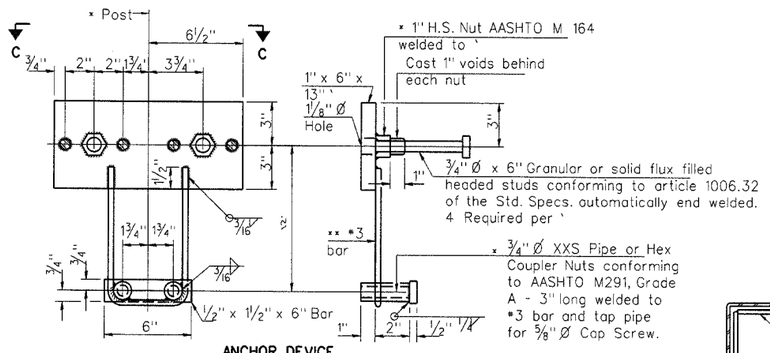
END OF RAIL DETAILS



VIEW A-A
ROUND HEAD BOLT

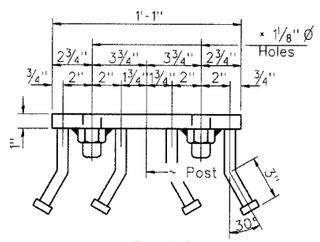


SECTION B-B

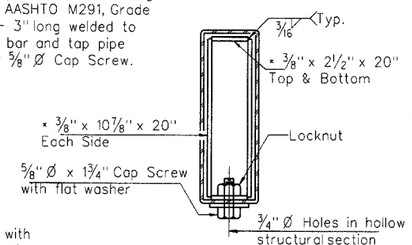


ANCHOR DEVICE

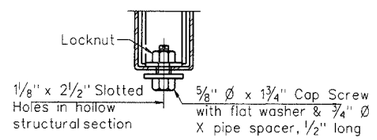
* Threaded areas shall be plugged or blocked off during casting of beam.



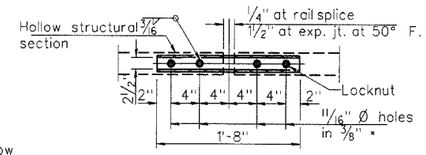
VIEW C-C



SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL

** 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 ½".

NOTES

1. Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.
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 requirements of ASTM designation A 307 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. All field drilled holes shall be coated with an approved zinc rich paint before erection.
8. The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place ⅛" fabric bearing pad between the post and concrete.
9. The ¾" Ø high strength bolts used to connect the 6 x 4 x ¾ angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" Ø high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional ⅛ turn. The ⅝" Ø cap screws in bottom of posts shall be tightened to a snug fit only.
10. For multi-span bridges, sufficient ¼" 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.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing Type S-1	Foot	210

TYPE S-1
STEEL RAILING

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: TYPE S-1 STEEL RAILING

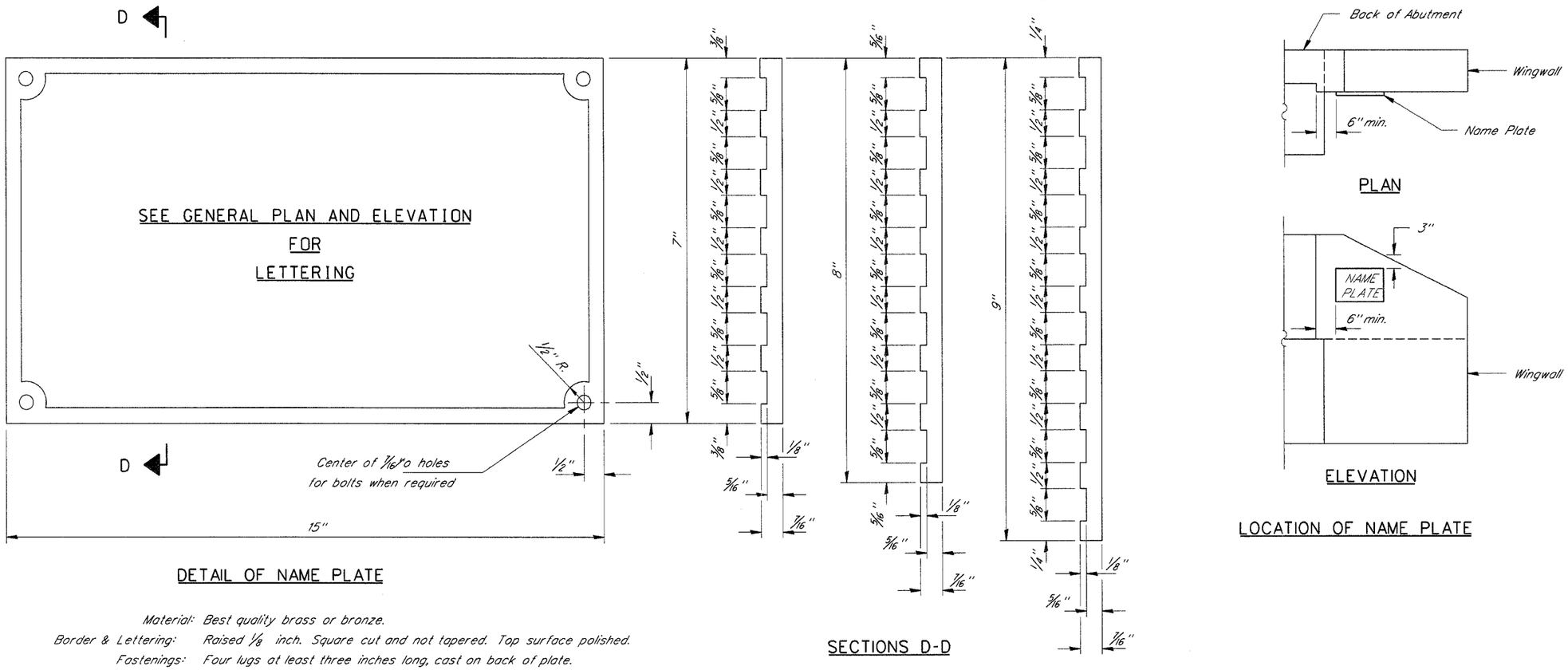
Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 557
CHAMPAIGN, ILLINOIS 61824-0557
PHONE 217-352-7688 FAX 217-352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

PROJECT NO. 07066
DATE 03.01.07
SHEET 10 OF 13 SHEETS

85411

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	12
F.H.W.A. REG.	ILLINOIS	PROJECT		



DETAIL OF NAME PLATE

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

SECTIONS D-D

PLAN

ELEVATION

LOCATION OF NAME PLATE

NAME PLATE	
STANDARD CN	

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: NAME PLATE

Sodemann and Associates, Inc.
3340 NORTH NEIL STREET
POST OFFICE BOX 457
CHAMPAIGN, ILLINOIS 61824-0557
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

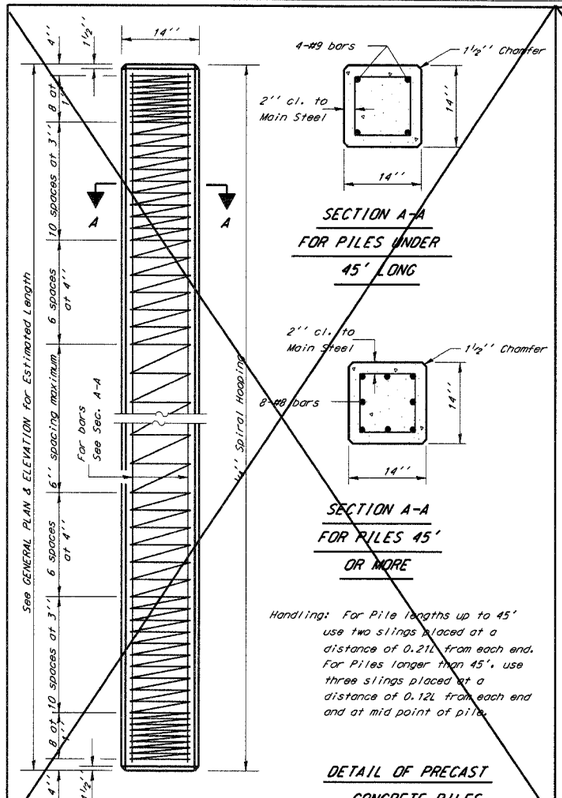
DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

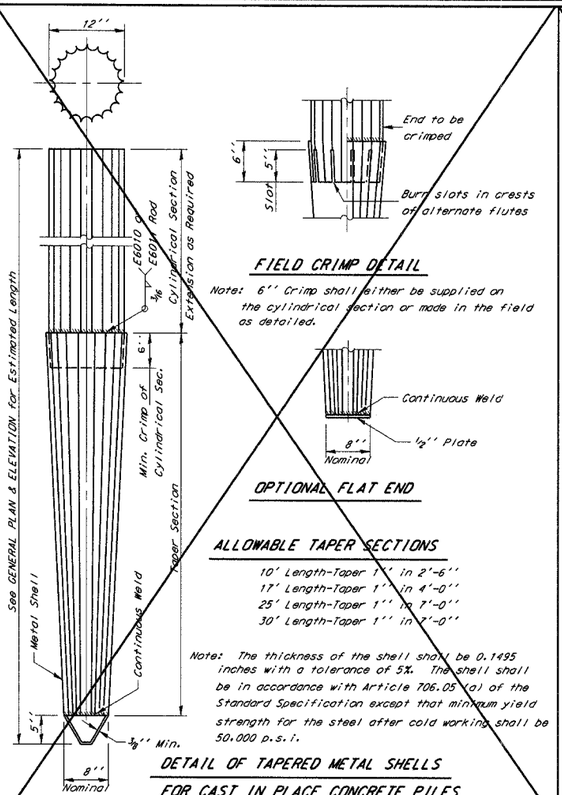
PROJECT NO. 07066

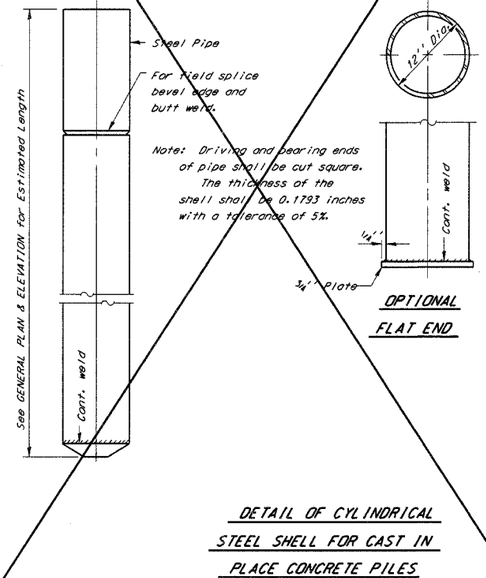
DATE 03.01.07

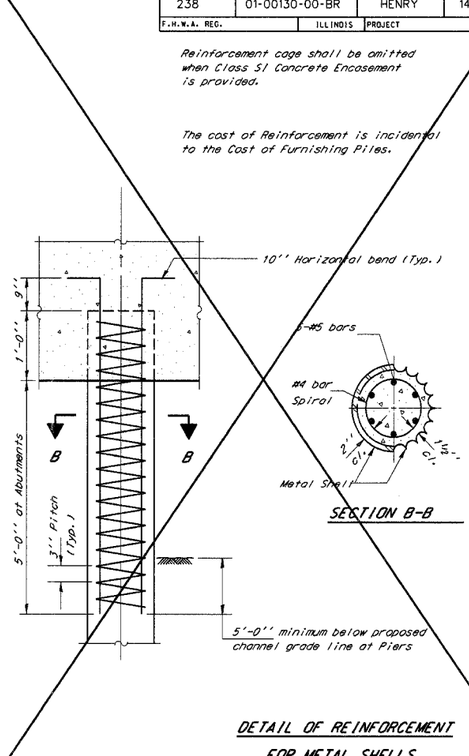
SHEET 11 OF 13 SHEETS

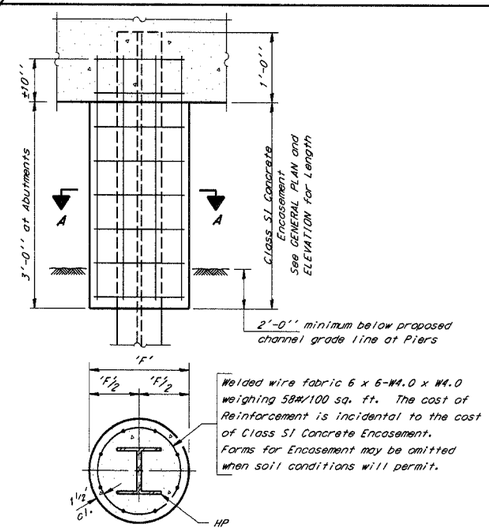
85411



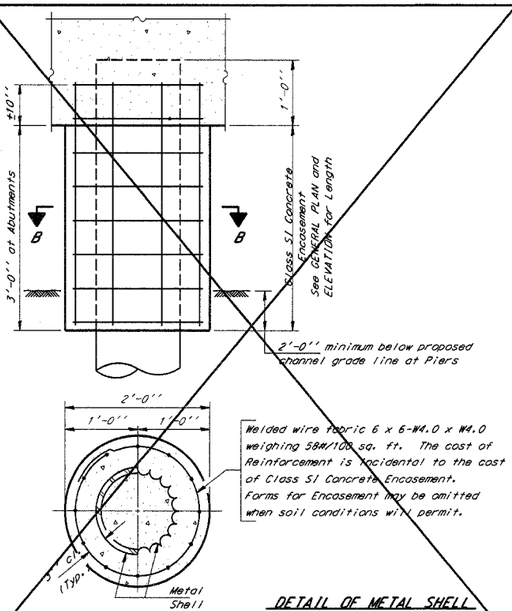








Pile	'F'
~~HP8~~	~~1'-6''~~
HP10	1'-9''
~~HP12~~	~~2'-0''~~



QUANTITIES/LIN. FT. OF ENCASEMENT

(STEEL PILES)

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

(METAL SHELL PILES)

Pile Size	Item	Quantity
~~12'' Dia.~~	~~Class SI Concrete Encasement~~	~~0.807 C.Y.~~

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	13
F.H.W.A. REG.	ILLINOIS	PROJECT		

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: PILE DETAILS

Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 557
CHAMPAIGN, ILLINOIS 61824-0557
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

PROJECT NO. 07066
DATE 03.01.07
SHEET 12
OF 13 SHEETS

PILE DETAILS

STANDARD CX-1

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
238	01-00130-00-BR	HENRY	14	14
F.H.W.A. REG.	ILLINOIS	PROJECT		

Surface 193.8

D	N	Qu	Mc		
				7"	Dark brown/black clayey TOPSOIL, moist
	7	1.5P	26.6	3.0'	Tough dark brown SILTY CLAY, moist
5	12	1.25P	23.0	6.0'	Tough brown/gray SILTY CLAY, moist
	5	0.75P	31.2		
	4	0.75P	33.4	11.0'	Stiff dark brown SILTY CLAY, very moist
10	3	0.58B	37.8		
	4	0.95B	32.2	16.0'	Soft to stiff gray SILTY CLAY LOAM, very moist
15	4	0.87B	35.1	18.0'	Stiff brown SILTY CLAY, very moist
	2	-	31.7	20.5'	Very loose gray SILT, very moist
20	2	0.37B	32.6	23.0'	Soft gray SILTY CLAY LOAM, very moist
	0	-	43.2		
25	4	-	33.5	28.5'	Very loose gray SILTY LOAM, very moist
	5	-	30.6		
30					
	6	-	32.3		
35				38.5'	Loose gray SILT, very moist
	26	-	-		
40				42.0'	Firm gray SANDY LOAM, saturated
	17	-	23.9		
45					
	10	-	27.5	50.0'	Firm gray SILT, very moist
50					
	2	-	31.4		
55				58.5'	Very loose gray SILT, very moist
	41	-	29.4	60.0'	Dense gray SILT, very moist
60					
	16	-	-		
65				68.5'	Firm gray SANDY LOAM, saturated
	11	1.44	19.8		
70				72.0'	Tough brown/gray SILTY CLAY, moist
	50/5"	-	-	73.9'	Very dense gray SHALE
75					Auger Refusal @ 73.9'
80					

BORING NO. B-1
Sta. 102+52, 30' Lt.

Surface 194.7

D	N	Qu	Mc		
	5	2.25P	19.6	3.5'	FILL - Dark brown SILTY CLAY, moist
	6	2.5P	19.4	6.0'	Very tough brown SILTY CLAY, moist
5	4	1.25P	30.5	8.5'	Tough brown SILTY CLAY, moist
	4	0.75P	31.4		
10	4	0.79B	35.5		
	3	0.54B	38.3	15.5'	Stiff to soft brown SILTY CLAY LOAM, very moist
15	3	0.41B	34.8		
	3	0.21B	31.8		
20	4	0.54B	34.3	23.0'	Soft gray SILTY CLAY LOAM, very moist
	3	-	29.1	25.0'	Very loose gray SILT, moist
25	3	-	30.9		
	3	-	23.6		
30					
	3	-	22.8		
35				38.5'	Very loose gray SILT, very moist
	21	-	-		
40				43.0'	Firm brown SANDY LOAM, saturated
	10	-	-		
45				47.0'	Firm brown/gray SANDY LOAM, saturated
	6	-	20.8		
50				53.5'	Loose brown/gray SILTY LOAM, very moist
	7	-	25.1		
55				57.0'	Loose gray SILT, very moist
	4	-	-		
60				62.0'	Very loose brown SANDY CLAY LOAM, saturated
	81	-	-		
65					
	46	-	-		
70				72.0'	Very dense to dense SANDY CLAY LOAM, saturated
	30	-	-		
75				77.0'	Dense brown SANDY LOAM, saturated
	77/11"	-	15.2	79.4'	Very dense gray weathered SHALE
80					Auger Refusal @ 79.4'

BORING NO. B-2
Sta. 104+09, 16' Rt.

BORING DATA

N - Standard Penetration Test - Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 lb. hammer falling 30"
Qu - Unconfined Compression Strength - Tons/Sq.Ft.
Mc - Water Content - Percentage of oven dry weight - %
D - Depth
P - Penetrometer
B - Bulge Failure
S - Shear Failure
E - Estimated Value

DESCRIPTION | DATE | REVISION

PROJECT TITLE: HENRY COUNTY BRIDGE
SECTION 01-00130-00-BR (FAS 1232)
SHEET TITLE: BORING LOGS

Sodemann and Associates, Inc.
340 NORTH NEIL STREET
POST OFFICE BOX 557
CHAMPAIGN, ILLINOIS 61824-0557
TEL 217 352-7688 FAX 217 352-7922
ENGINEERING / ANALYSIS / MANAGEMENT

DES. KEB | DRN. JAB | CHK. KEB | APP. KEB

PROJECT NO. 07066
DATE 03.01.07
SHEET 13 OF 13 SHEETS