

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PLANS FOR PROPOSED
 FEDERAL-AID HIGHWAY BRIDGE PROGRAM

LAWRENCE COUNTY
 SECTION 09-08134-00-BR
 PETTY ROAD DISTRICT
 STRUCTURE NO. 051-3298
 PROJECT NO. BROS-101(036)
 JOB NO. C-97-002-11
 TR 10 A

INDEX OF SHEETS

- 1 COVER SHEET
- 2 PLAN & PROFILE
- 3-4 CROSS SECTIONS
- 5-13 BRIDGE PLANS & BORINGS

- STANDARDS:
- 280001-06 - EROSION CONTROL
 - 515001-03 - NAME PLATE
 - 701901-01 - TRAFFIC
 - BLR 21-8 - TRAFFIC
 - BLR 22-6 - TRAFFIC

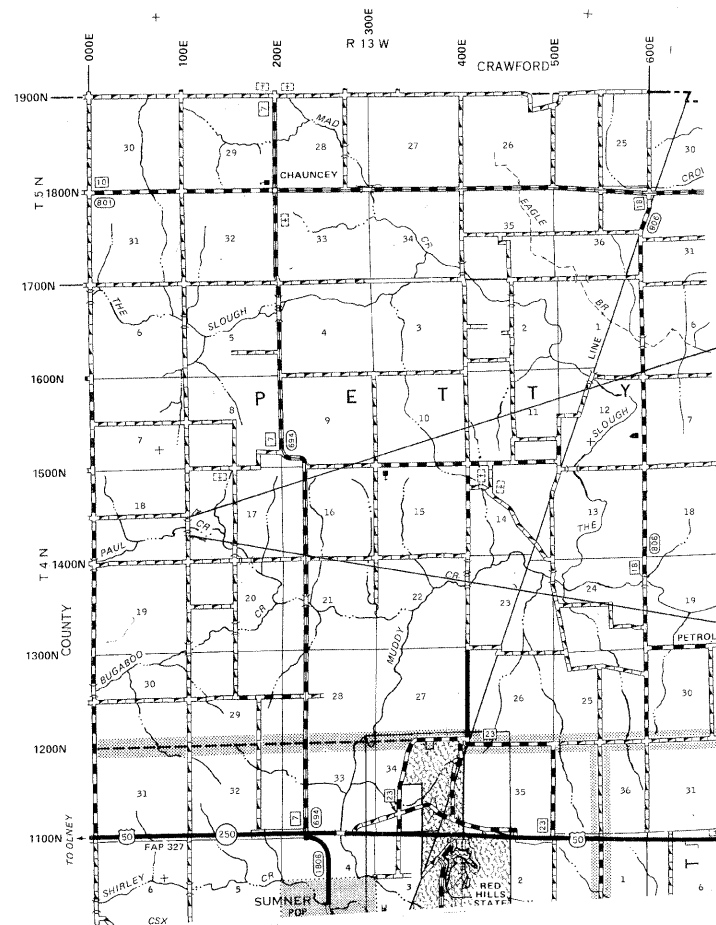
SCALES

- PLAN 1 INCH = 50 FEET
- PROFILE HORZ. 1 INCH = 50 FEET
- PROFILE VERT. 1 INCH = 10 FEET
- CROSS SECTION 1 INCH = 5 FEET

SUMMARY OF QUANTITIES

QUANTITY	UNIT	ITEMS	CODE NO.
44	UNITS	TREE REMOVAL, (OVER 15 UNITS DIAMETER)	20100210
722	CU YD	EARTH EXCAVATION	20200100
25	CU YD	CHANNEL EXCAVATION	20300100
1248	CU YD	FURNISHED EXCAVATION	20400800
0.5	ACRE	SEEDING, CLASS 2 (SPECIAL)	X2501000
36	FOOT	TEMPORARY DITCH CHECKS	28000305
60	FOOT	PERIMETER EROSION BARRIER	28000400
181	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
33	TON	AGGREGATE DITCH (SPECIAL)	Y2830495
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
26.8	CU YD	CONCRETE STRUCTURES	50300225
2.6	CU YD	CONCRETE ENCASEMENT	50300280
1680	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	50400505
2730	POUND	REINFORCEMENT BARS	50800105
116	FOOT	STEEL RAILING, TYPE S1	50900205 *
490	FOOT	FURNISHING STEEL PILES HP 12X53	51201600
490	FOOT	DRIVING PILES	51202305
1	EACH	TEST PILE STEEL HP 12X53	51203600
1	EACH	NAME PLATES	51500100
74	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 15"	542D0220
1	L SUM	MOBILIZATION	67100100
1	L SUM	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	X1010216
344	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800

* Specialty Items



SECTION 09-08134-00-BR
 ENDS STA. 8+00

STA. 5+00 - SPECIAL BRIDGE DESIGN
 PROPOSED PRECAST PRESTRESSED CONCRETE DECK
 BEAM BRIDGE. 1 SPAN @ 60', 28' RDWY., SKEW = 0'
 EXISTING STR. NO. 051-3041
 PROPOSED STR. NO. 051-3298

SECTION 09-08134-00-BR
 BEGINS STA. 2+00

FUNCTIONAL CLASS: RURAL LOCAL ROAD
 ADT = 75
 DESIGN SPEED = 30 MPH

CONTRACT NO. 95638

LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE
 NET LENGTH = 600 L.F. = 0.114 MILES

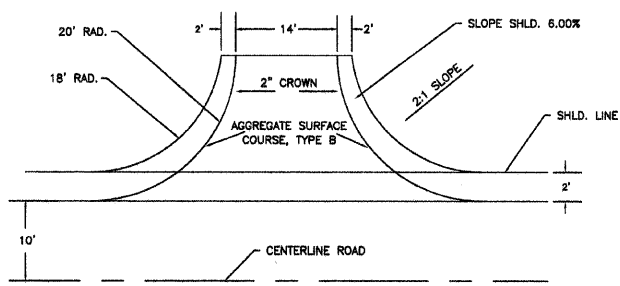
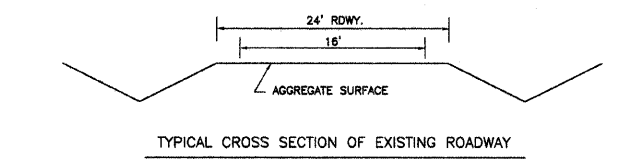
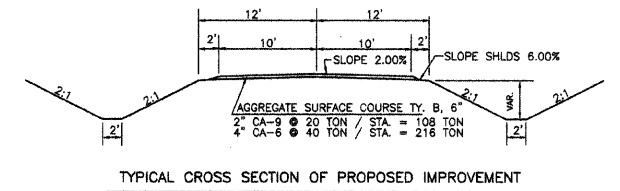
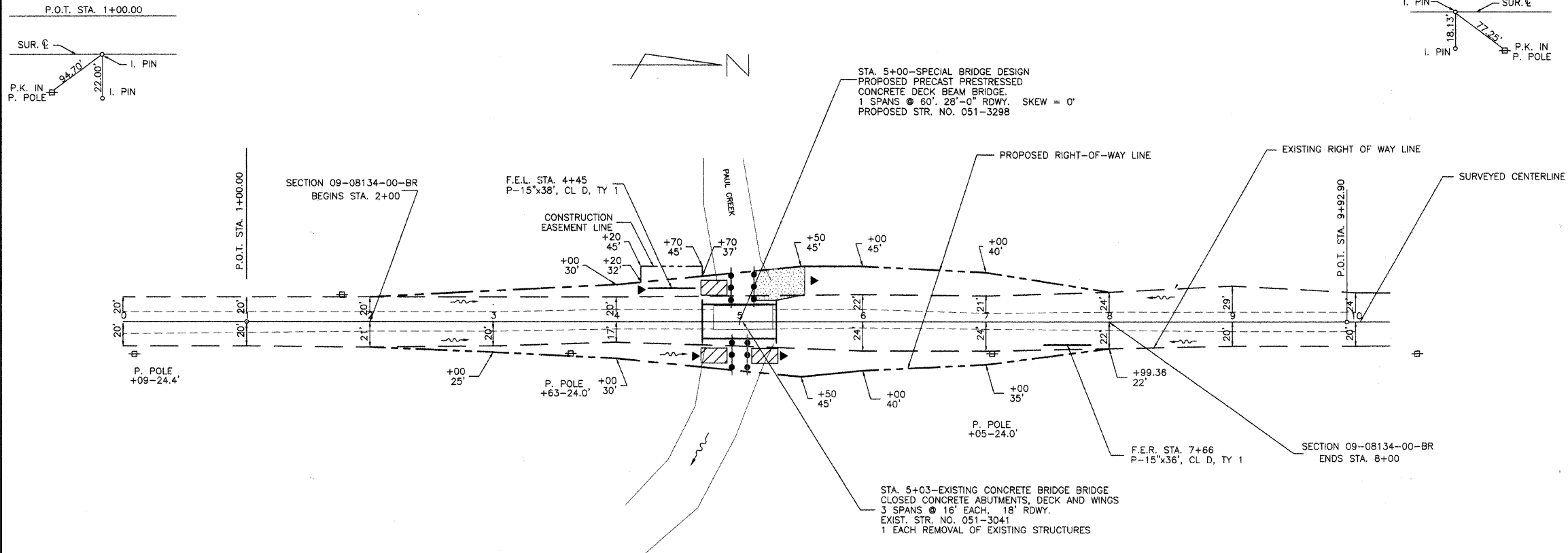
TOLL FREE JOINT UTILITY LOCATING
 INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
 TELEPHONE NO. 1-800-892-0123

PROFESSIONAL DESIGN FIRM #184-000832

John A. Stone
 ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 55012
 LICENSE EXPIRES NOVEMBER 30, 2011
 11/17/2010

ILLINOIS DEPARTMENT OF TRANSPORTATION	
APPROVED: <i>[Signature]</i> 11-17, 2010	LAWRENCE COUNTY ENGINEER
PASSED: <i>[Signature]</i> 11/17, 2010	DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS
RELEASING FOR BID BASED ON LIMITED REVIEW	11/17, 2010
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER	

SECTION	09-08134-00-BR	TOTAL SHEETS	13	SHEET NO.	2
COUNTY	LAWRENCE				
ROAD DIST.	PETTY				
STA. 0+00 TO STA. 10+00		CONTRACT NO. 95638			

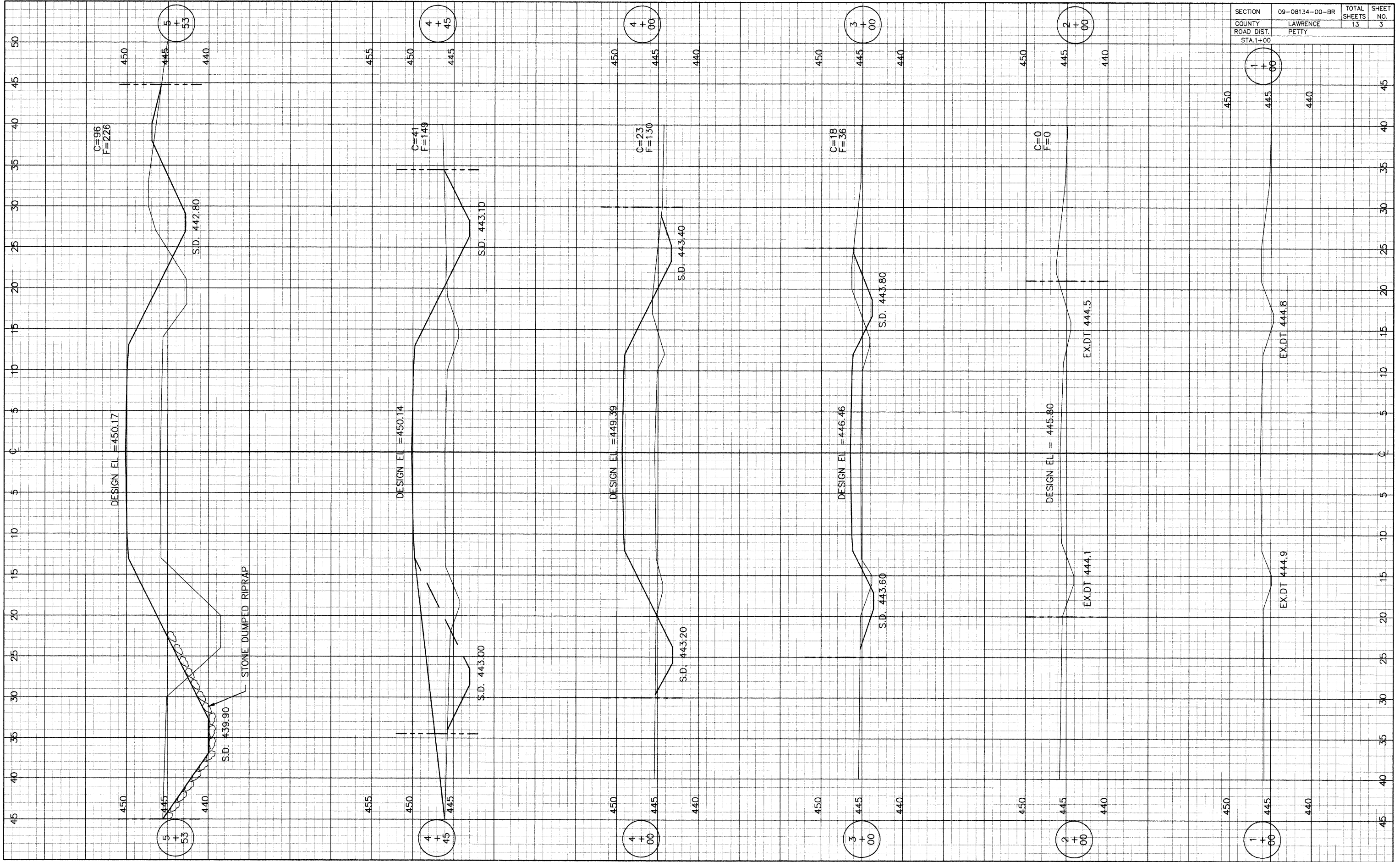


KEITH AND JANE ERNST

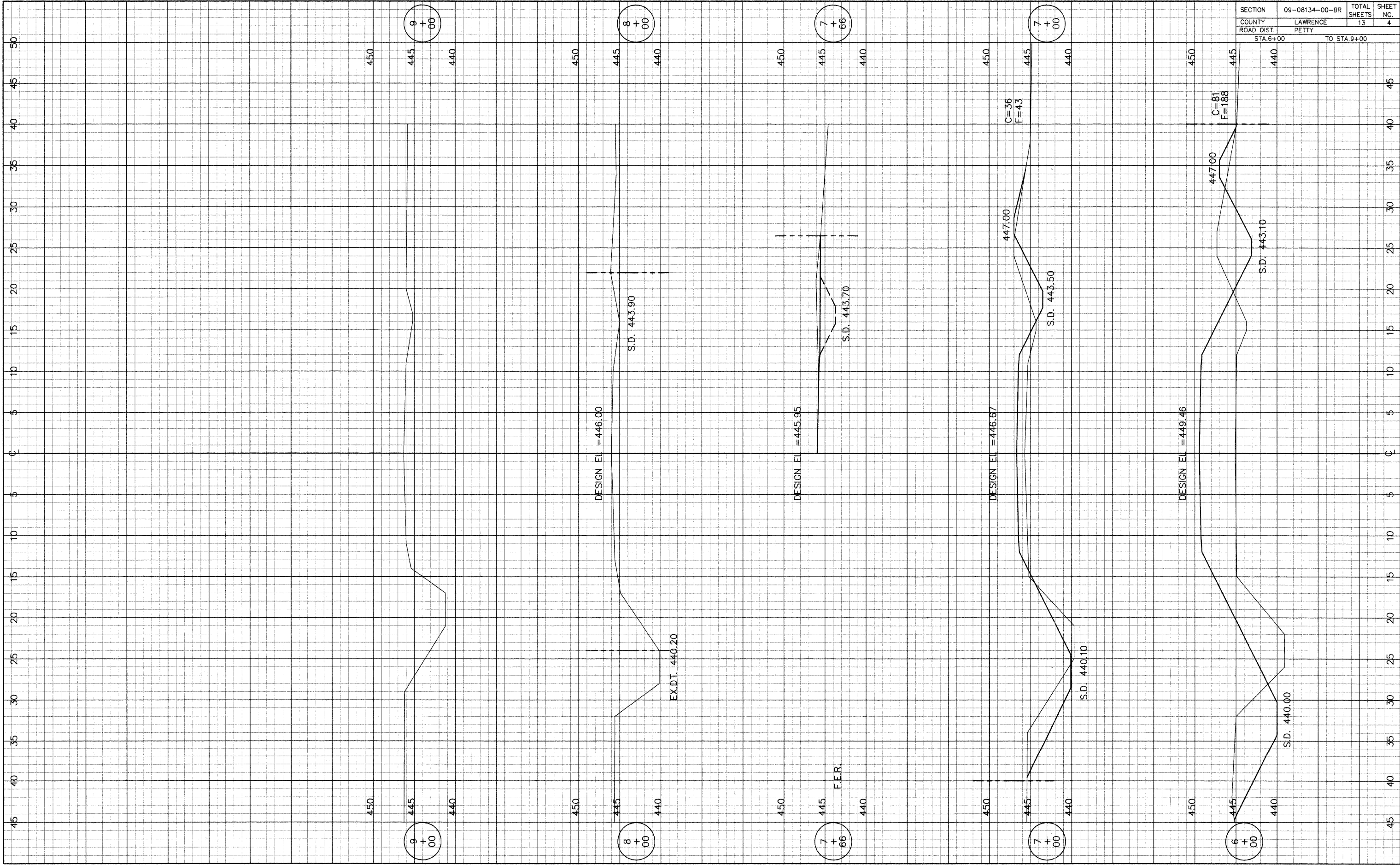
MICHAEL T. WESTALL ETAL

STATION	DESCRIPTION	QUANTITY	UNIT
0+00	B.M. NO. 1 ELEV. 447.66		
0+00	P.K. IN POWER POLE		
0+00	24' RT STA. 0+09		
0+00	TREE REMOVAL OVER 15 UNITS DIAMETER		
0+00	LT. STA. 4+77 = 44 UNITS DIAMETER		
0+00	TEMPORARY DITCH CHECKS		
0+00	LT. STA. 4+20 = 9 FT.		
0+00	RT. STA. 4+65 = 9 FT.		
0+00	LT. STA. 5+60 = 9 FT.		
0+00	RT. STA. 5+30 = 9 FT.		
0+00	TOTAL = 36 FT.		
0+00	PERIMETER EROSION BARRIER		
0+00	BOTTOM CHANNEL SLOPE		
0+00	4 CORNERS BRIDGE = 60 FOOT		
0+00	UTILITIES		
0+00	ELECTRIC: NORRIS ELECTRIC COOP		
0+00	8543 N. STATE HWY. 130		
0+00	NEWTON, IL. 62448		
0+00	618-783-8765		
0+00	SEEDING CLASS 2, SPECIAL		
0+00	STA. 2+00 TO STA. 8+00 = 0.5 ACRES		
0+00	B.M. NO. 2 ELEV. 455.91		
0+00	P.K. IN POWER POLE		
0+00	24' RT STA. 10+50		
0+00	EARTHWORK SCHEDULE		
0+00	EARTH EXCAVATION	722	CU. YD.
0+00	EARTH EXCAVATION (ADJUSTED 25%)	542	CU. YD.
0+00	CHANNEL EXCAVATION	25	CU. YD.
0+00	CANNEL EXCAVATION (ADJUSTED 25%)	19	CU. YD.
0+00	EMBANKMENT	1809	CU. YD.
0+00	FURNISHED EXCAVATION	1248	CU. YD.
0+00	AGGREGATE DITCH (SPECIAL)		
0+00	LT. STA. 4+70 TO 4+93 = 11 TON		
0+00	RT. STA. 4+70 TO 4+93 = 11 TON		
0+00	RT. STA. 5+27 TO 5+50 = 11 TON		
0+00	TOTAL = 33 TON		
0+00	STONE DUMPED RIPRAP, CL A4		
0+00	LT. STA. 5+12 TO 5+53 = 56 TON		
0+00	CONSTRUCT TRANSITIONS		
0+00	FROM EXISTING RDWY. TO PROPOSED 24' RDWY.		
0+00	STA. 2+00 TO STA. 2+50		
0+00	STA. 7+50 TO STA. 8+00		
0+00	FROM PROP. 24' RDWY. TO PROP. 28' RDWY.		
0+00	STA. 4+20 TO STA. 4+70		
0+00	STA. 5+30 TO STA. 5+80		
0+00	QUANTITIES INCLUDED IN THOSE LISTED		
0+00	PROPOSED CENTERLINE GRADE		
0+00	EXISTING CENTERLINE GRADE		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		
0+00	154' V.C.		
0+00	100' V.C.		
0+00	100' V.C.		
0+00	130' V.C.		
0+00	15 YR HWE 446.8		
0+00	100 YR HWE 447.5		

SECTION	09-08134-00-BR	TOTAL SHEETS	13	SHEET NO.	3
COUNTY	LAWRENCE				
ROAD DIST.	PETTY				
STA. 1+00					



SECTION	09-08134-00-BR	TOTAL SHEETS	13	SHEET NO.	4
COUNTY	LAWRENCE				
ROAD DIST.	PETTY				
STA. 6+00		TO STA. 9+00			



BENCHMARK: P.K. nail in power pole. 24' Rt., Sta. 10+50, Elev. 455.91

EXISTING STRUCTURE NO. 051-3041: Sta. 5+03, Three span reinforced concrete slab bridge on closed concrete abutments and wingwalls. 51.0' bk.-bk. abuts.; 19.4' o.-o. deck Structure closed to traffic.

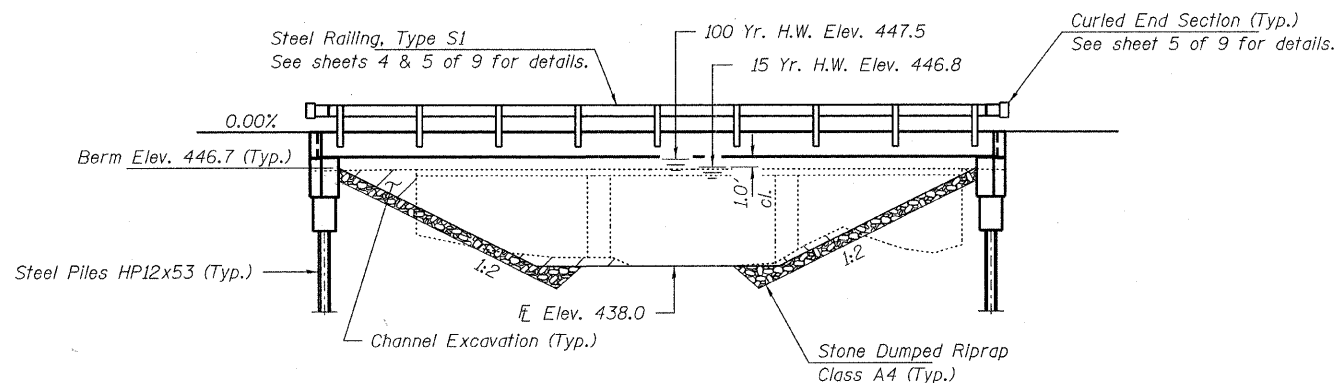
No Salvage

GENERAL NOTES

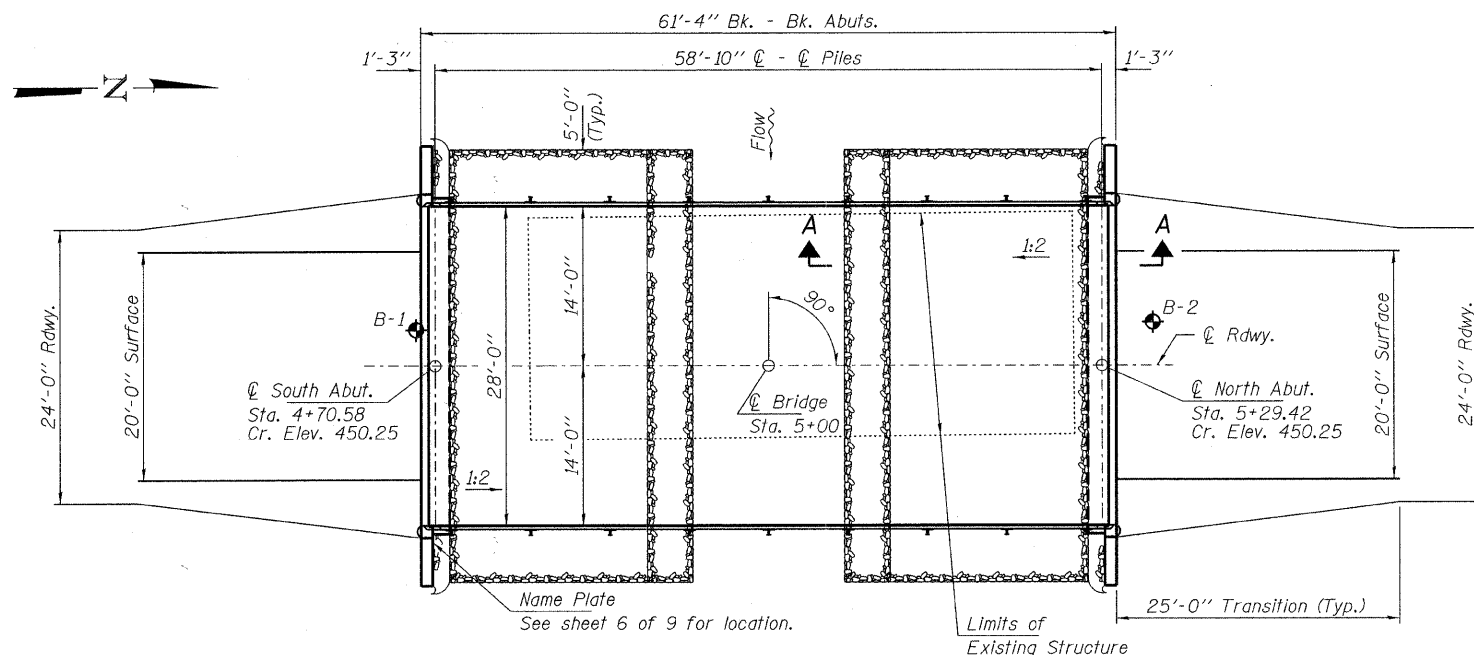
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The Contractor shall drive test pile to 110% of the nominal required bearing specified in production locations at North Abutment or approved by the Engineer before ordering the remainder of piles. Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation. All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

INDEX OF STRUCTURE SHEETS

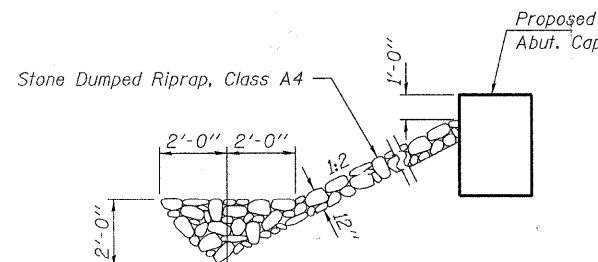
1. General Plan & Elevation
2. Superstructure
- 3.-4. Superstructure Details
5. Steel Railing, Type S1
6. Abutments
7. HP Pile Details
- 8.-9. Borings



ELEVATION

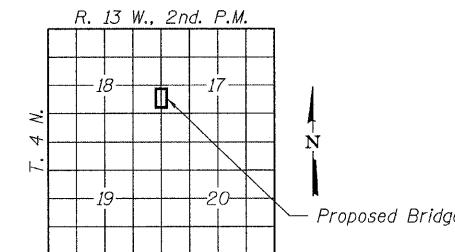


PLAN



SECTION A-A

Note: See Special Provisions for Stone Dumped Riprap, Class A4.



LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			25
Stone Dumped Riprap, Class A4	Ton			125
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		26.8	26.8
Concrete Encasement	Cu. Yd.		2.6	2.6
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,680		1,680
Reinforcement Bars	Pound		2,730	2,730
Steel Railing, Type S1	Foot	116		116
Furnishing Steel Piles HP12x53	Foot		490	490
Driving Piles	Foot		490	490
Test Pile Steel HP12x53	Each		1	1
Name Plates	Each		1	1

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'cl = 5,000 psi
fpu = 270,000 psi (1/2" low lax. strands)
fpbt = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD with all applicable interims. 50#/Sq. Ft. Included in dead load for future wearing surface.

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.232g
Design Spectral Acceleration at 0.2 sec. (S_S) = 0.538g
Soil Site Class = D

WATERWAY INFORMATION

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	3080	292	314	446.8	0.1	0.6	446.9	447.4	
Base	100	5230	292	353	447.5	0.1	0.6	447.6	448.1	
Max. Calc.	500	7130	292	371	447.9	0.1	0.6	448.0	448.5	

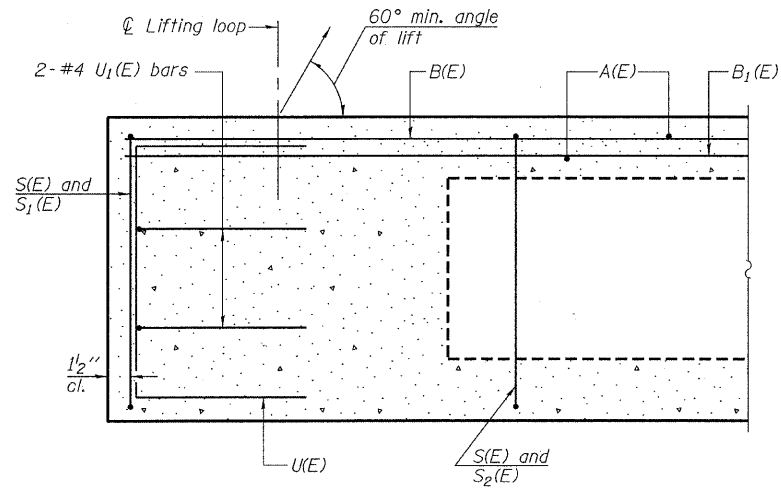
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Specifications."



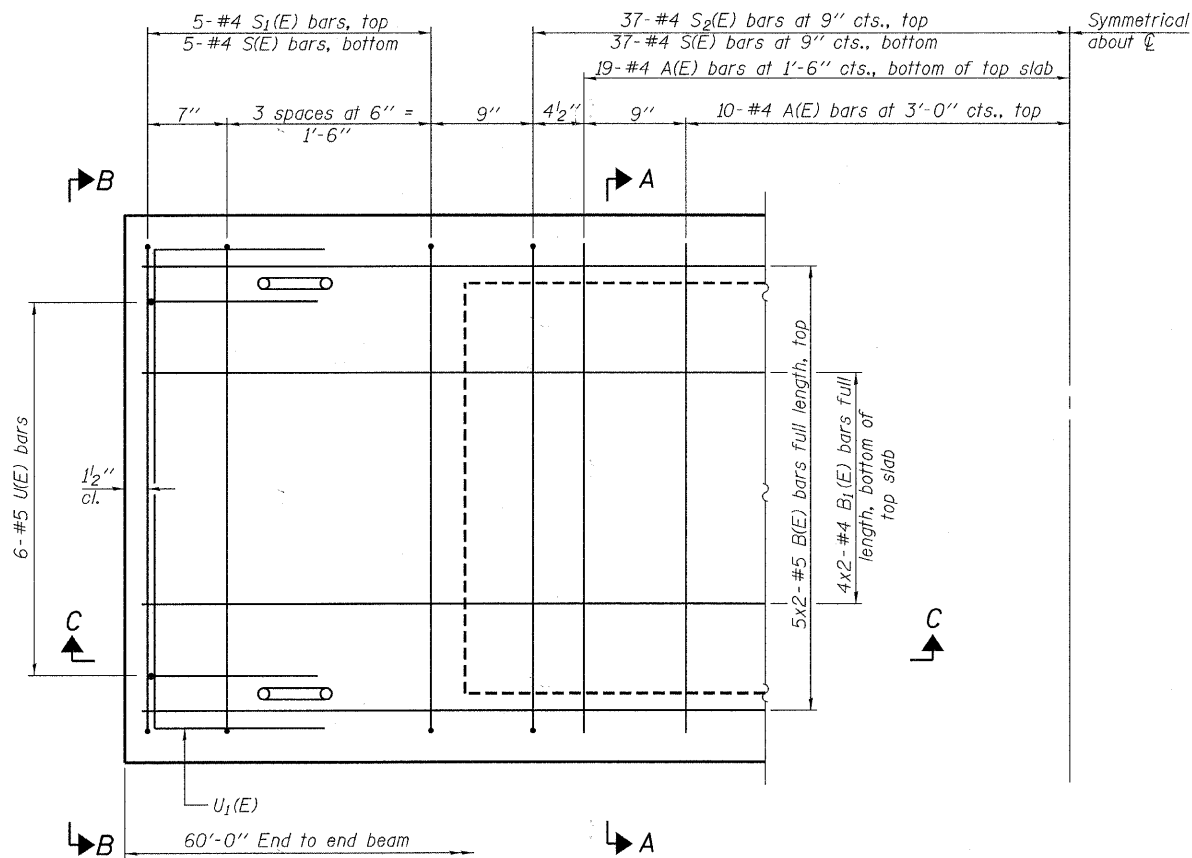
Steven W. Mezzington 11/21/2010
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064 Expires 11-30-2012

**GENERAL PLAN AND ELEVATION
STRUCTURE NO. 051-3298**

HAMPSON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.hlrengineering.com	SHEET NO. 1 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		10A	09-08134-00-BR	LAWRENCE	13	5
PROJECT NUMBER: 10.0092.130 DATE: 04/14/10		PETTY ROAD DISTRICT		CONTRACT NO. 95638		
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT		



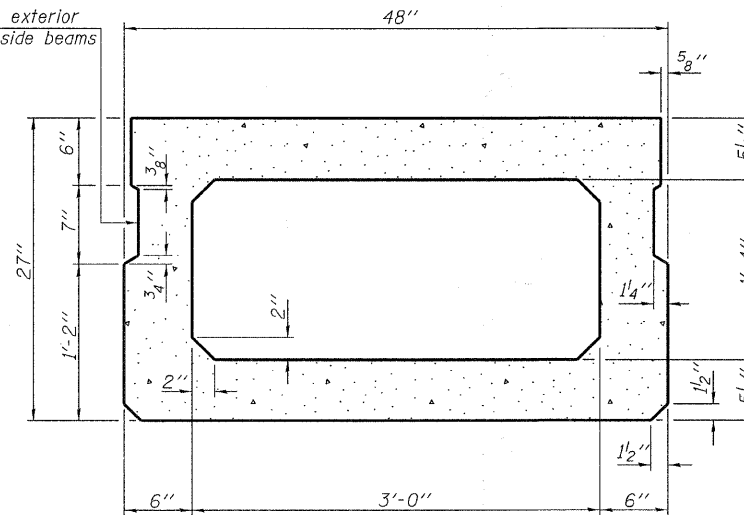
SECTION C-C



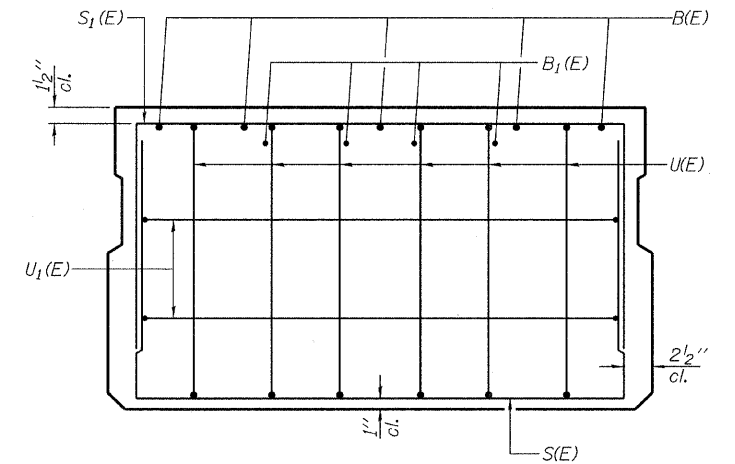
PLAN VIEW

Notes:
 Spacing of S(E) and S₂(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.
 Bars indicated thus 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

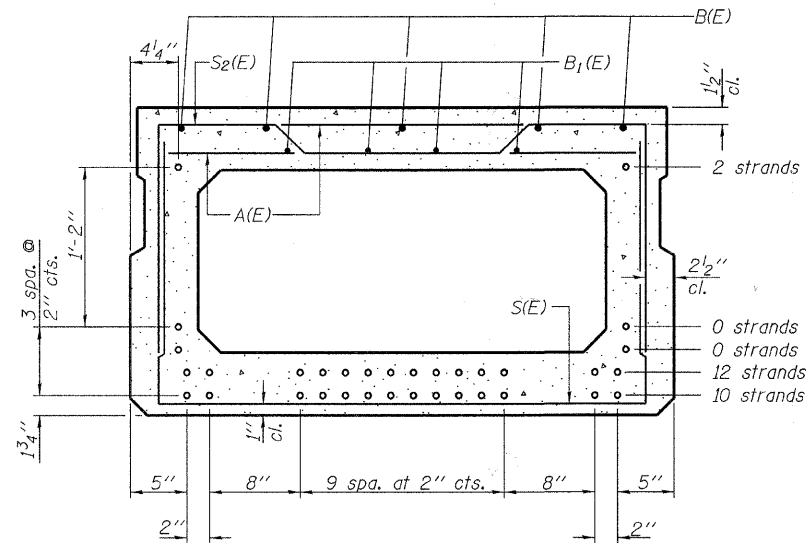
Omit key on exterior face of outside beams



SECTION A-A
(Showing dimensions)



VIEW B-B



SECTION A-A

(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
 ONE BEAM ONLY
 (For information only)

Bar	No.	Size	Length	Shape
A(E)	58	#4	3'-7"	—
B(E)	10	#5	31'-2"	—
B ₁ (E)	8	#4	30'-11"	—
S(E)	82	#4	7'-5"	U
S ₁ (E)	10	#4	6'-11"	U
S ₂ (E)	74	#4	7'-2"	U
U(E)	12	#5	4'-6"	C
U ₁ (E)	4	#4	6'-0"	C

Note: See sheet 3 & 4 of 9 for additional details and Bill of Material.

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.

PD-2748-0

11-1-09

MINIMUM BAR LAP

#4 bar = 2'-0"
 #5 bar = 2'-6"

HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS • STRUCTURAL ENGINEERS • LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.546.3400 www.hrengeering.com

194.00085
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

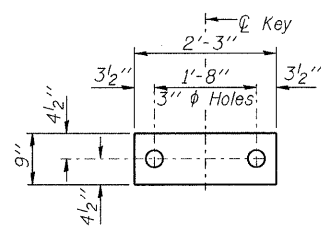
PROJECT NUMBER: 10.0092.130 DATE: 04/14/10

SHEET NO. 2

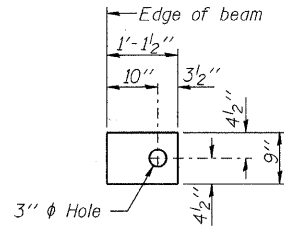
9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
10A	09-08134-00-BR	LAWRENCE	13	6
PETTY ROAD DISTRICT		CONTRACT NO. 95638		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUPERSTRUCTURE
 27" X 48" PPC DECK BEAM
 STRUCTURE NO. 051-3298



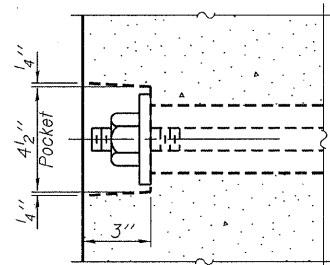
FABRIC BEARING PAD
(Interior - 12 Req'd.)



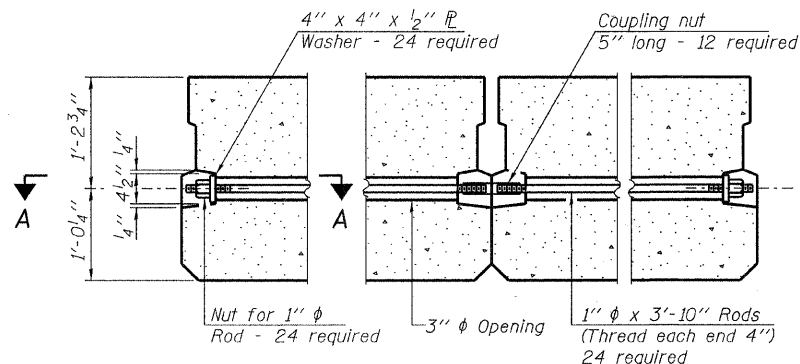
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

FIXED

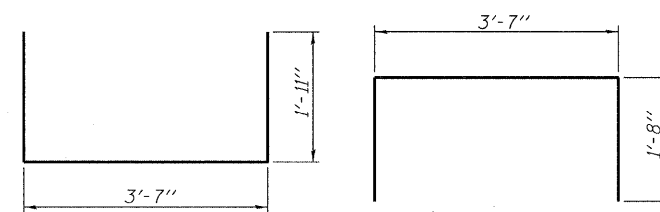
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

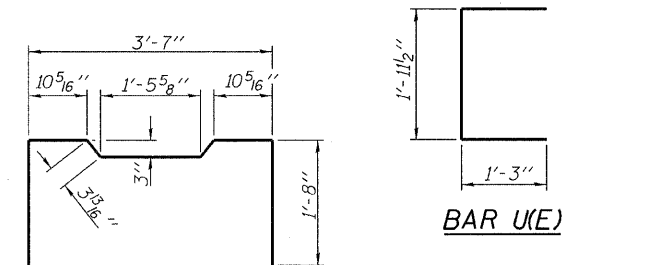


TYPICAL TRANSVERSE TIE ASSEMBLY



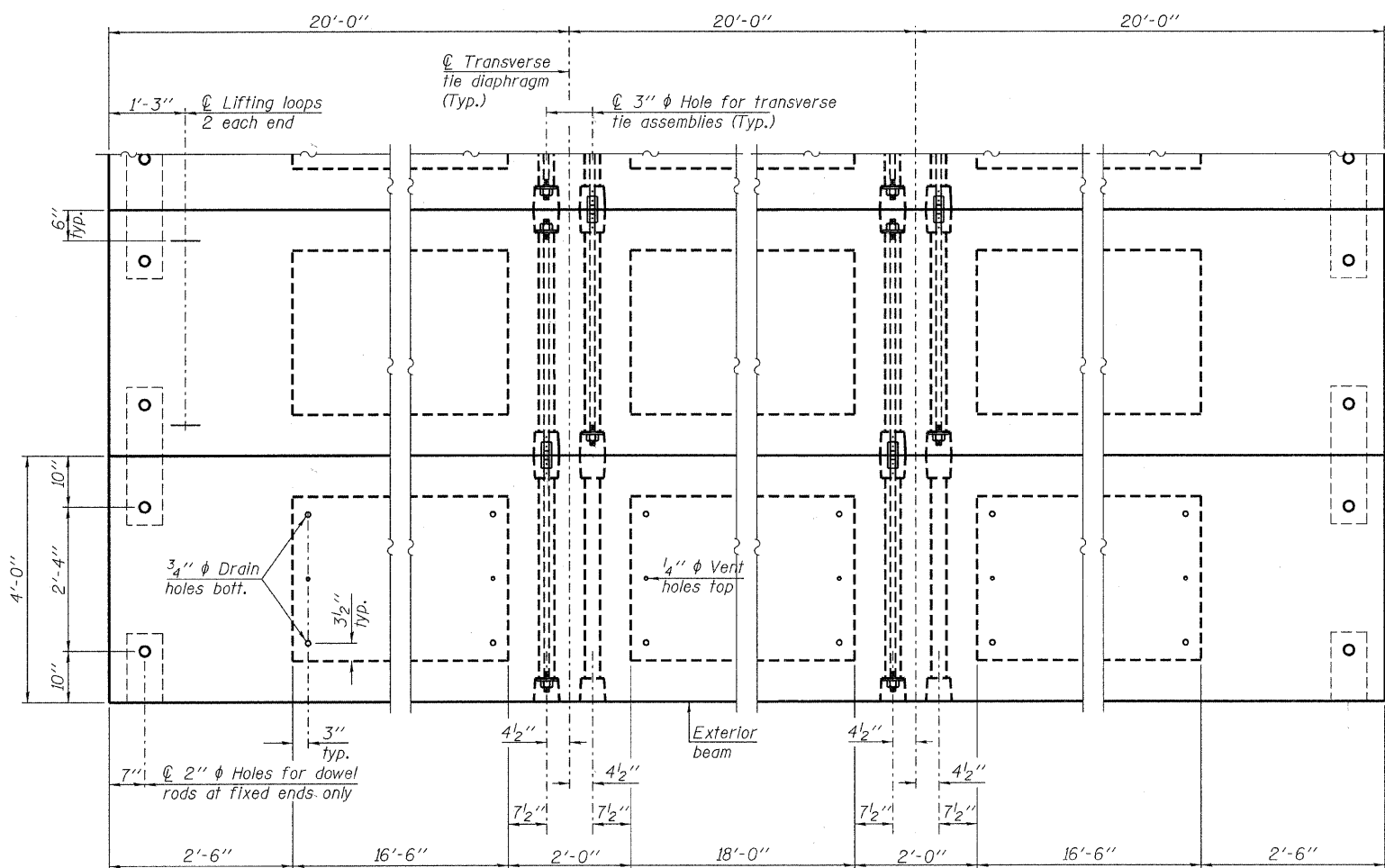
BAR S(E)

BAR S₁(E)

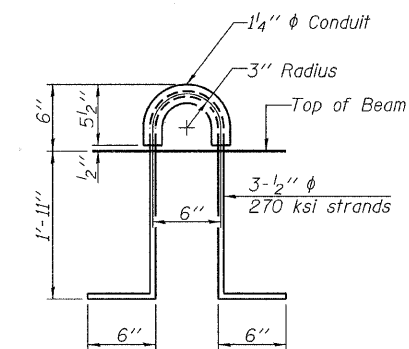


BAR S₂(E)

BAR U₁(E)



PLAN VIEW



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

Note: Connect beams in pairs with the transverse tie configuration shown.

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.

PD-2748-OD

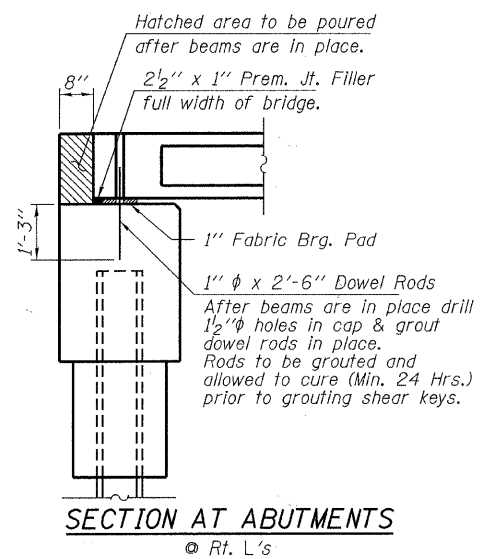
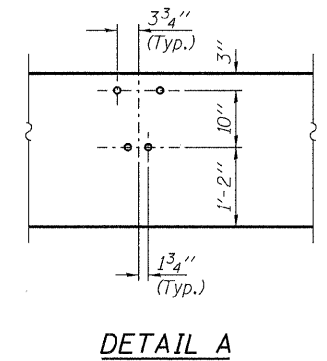
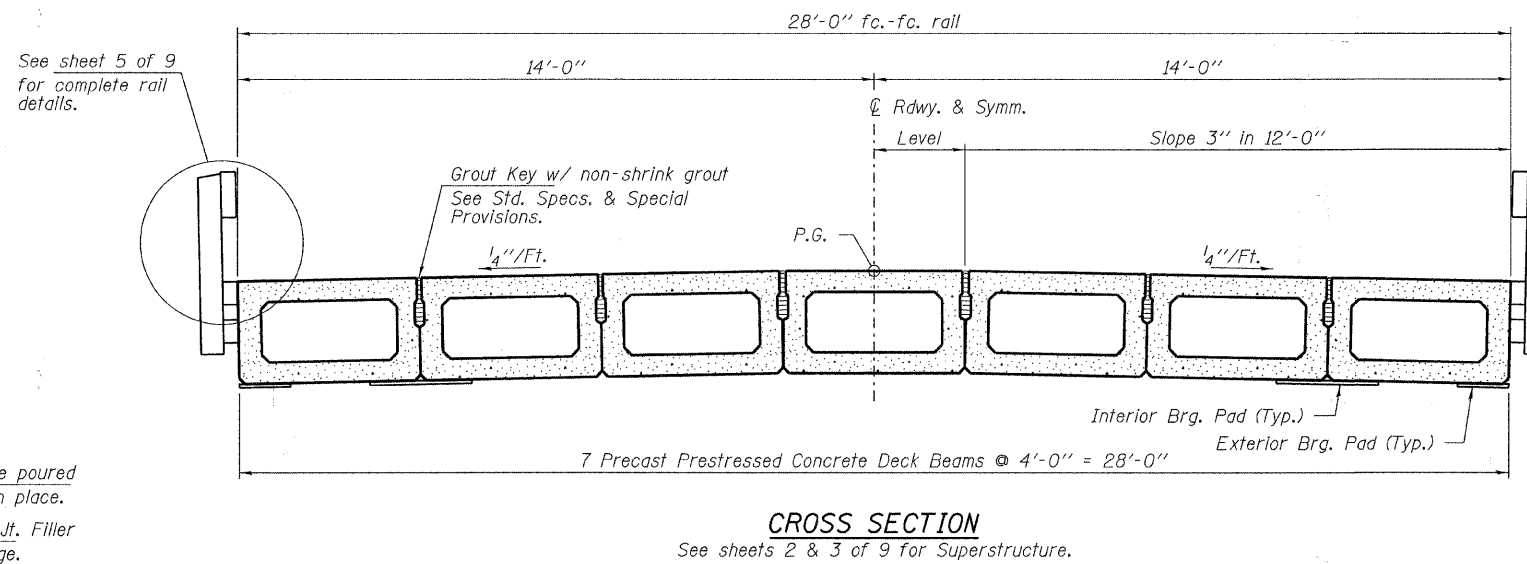
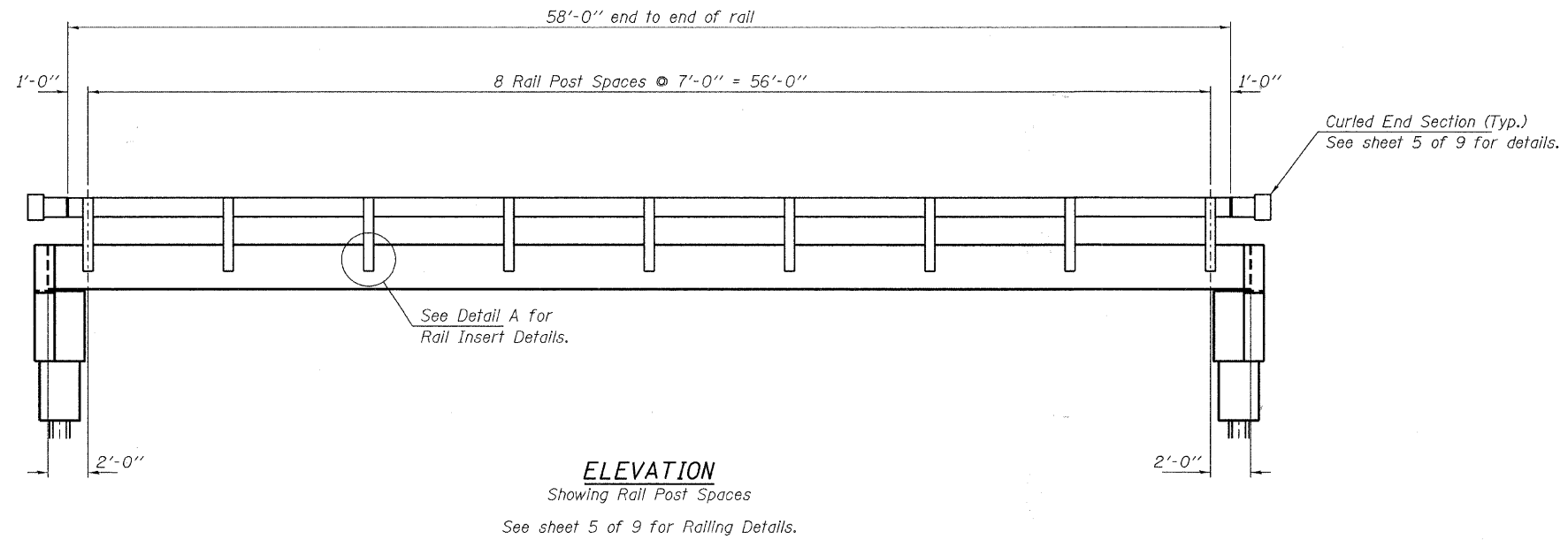
11-1-09

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,680
---	---------	-------

SUPERSTRUCTURE
27" X 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 051-3298

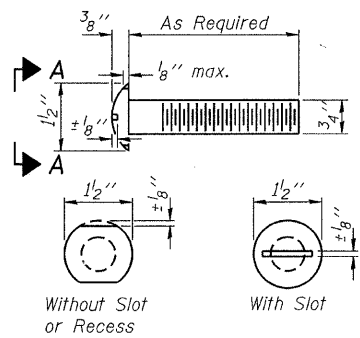
HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS • STRUCTURAL ENGINEERS • LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.hlrengineering.com 184 000569 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION PROJECT NUMBER: 10.0092.130 DATE: 04/14/10	SHEET NO. 3	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	10A	09-08134-00-BR	LAWRENCE	13	7
			PETTY ROAD DISTRICT	CONTRACT NO. 95638		
			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		



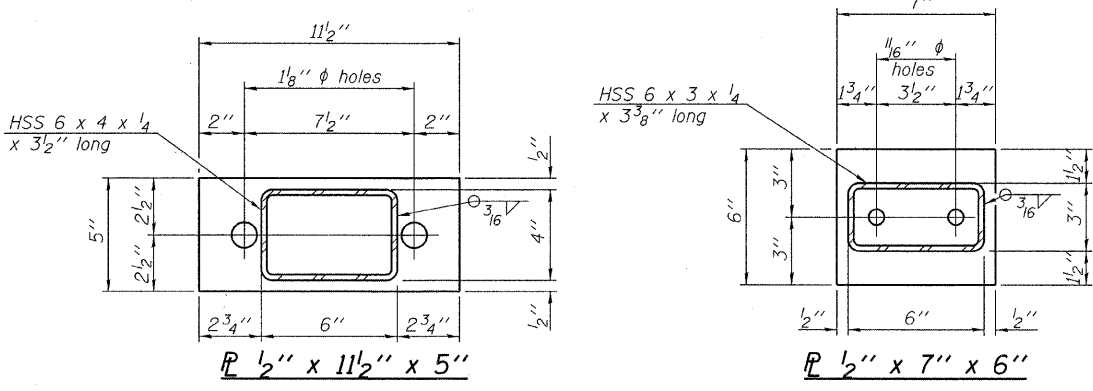
DESIGNED	- A.S.L.
CHECKED	- S.W.M.
DRAWN	- D.A.B.
CHECKED	- S.W.M.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 051-3298

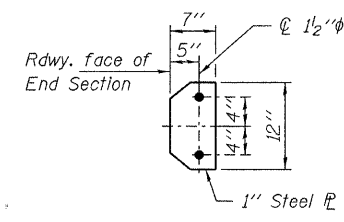
HAMPTON, LENZINI AND RENWICK, INC. <small>CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS</small> HLR <small>184.000959</small> <small>ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION</small>	SHEET NO. 4 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		10A	09-08134-00-BR	LAWRENCE	13	8
PROJECT NUMBER: 10.0092.130		DATE: 04/14/10		PETTY ROAD DISTRICT CONTRACT NO. 95638		
		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



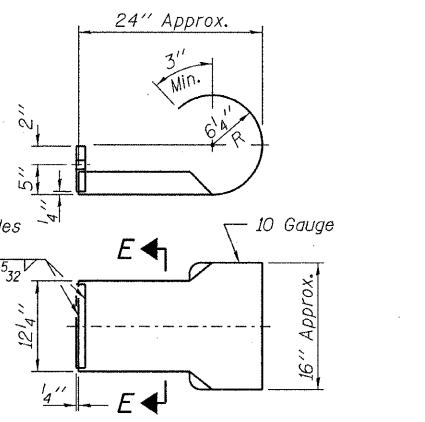
VIEW A-A
ROUND HEAD BOLT



Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)

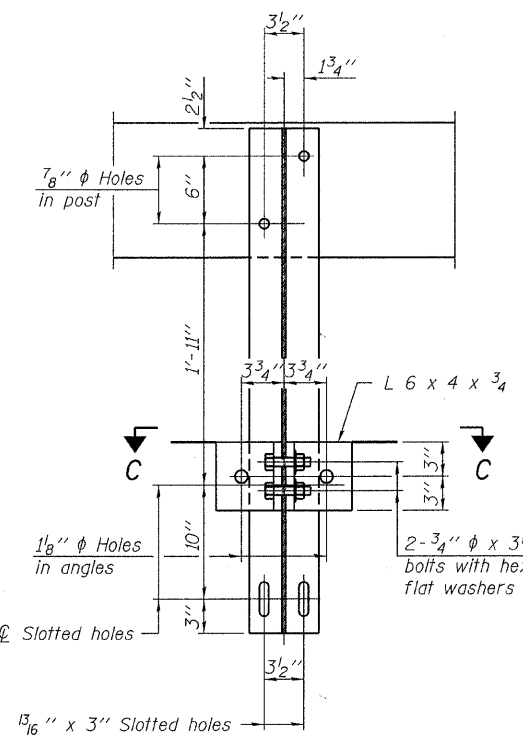


SECTION E-E
CURLLED END SECTION DETAILS

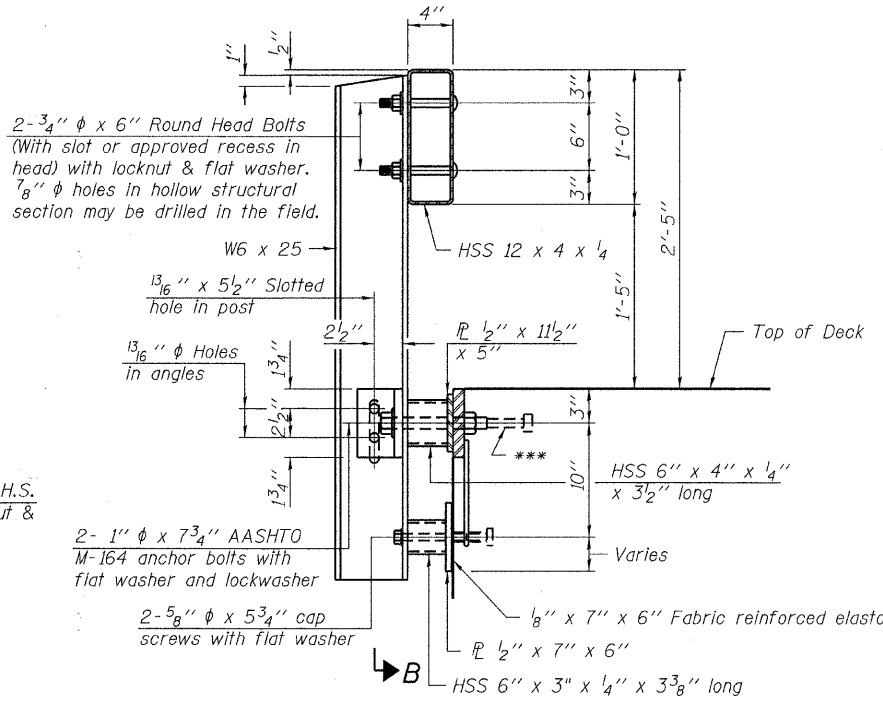


Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4 inch x 6 inch x 1-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

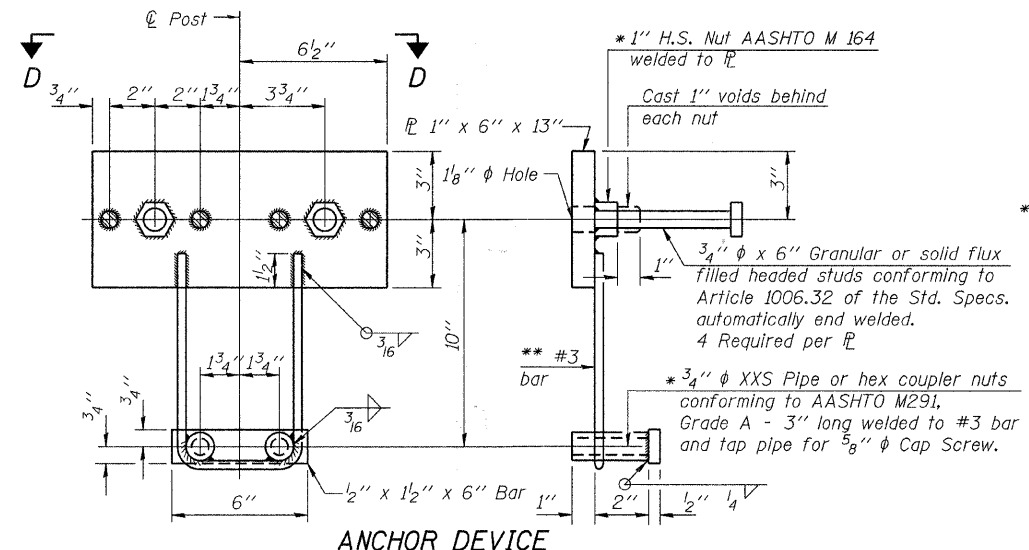
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



SECTION B-B

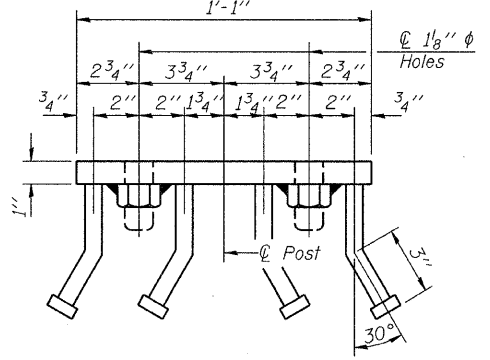


SECTION AT RAILING POST

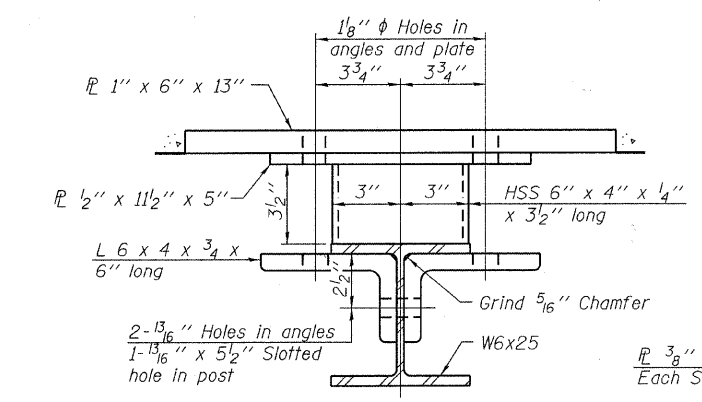


ANCHOR DEVICE

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

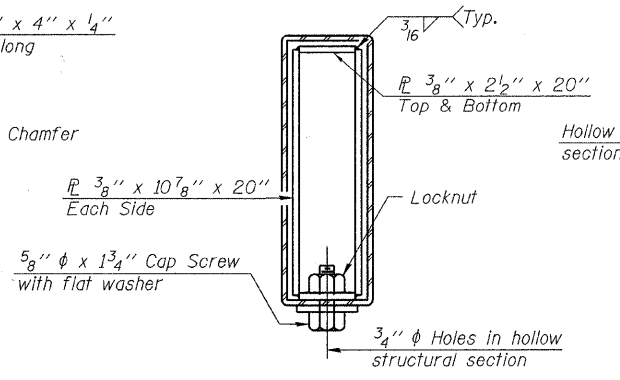


VIEW D-D

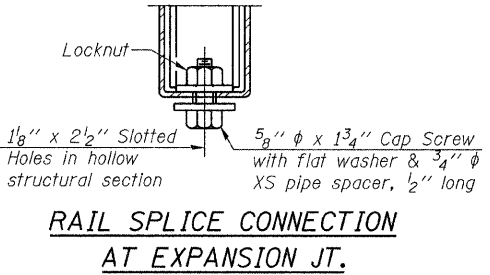


SECTION C-C

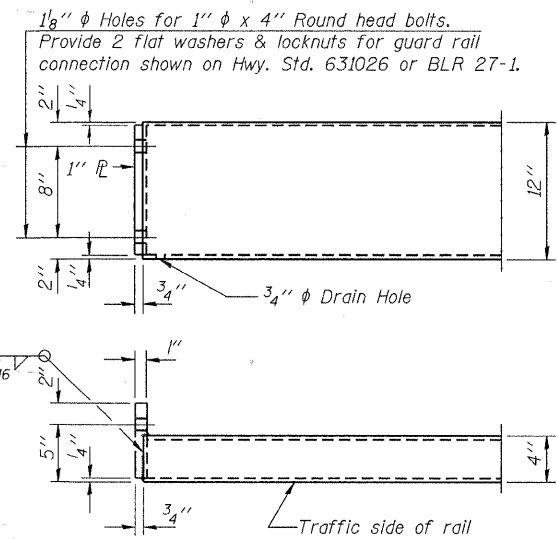
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE AT TYPICAL



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	116

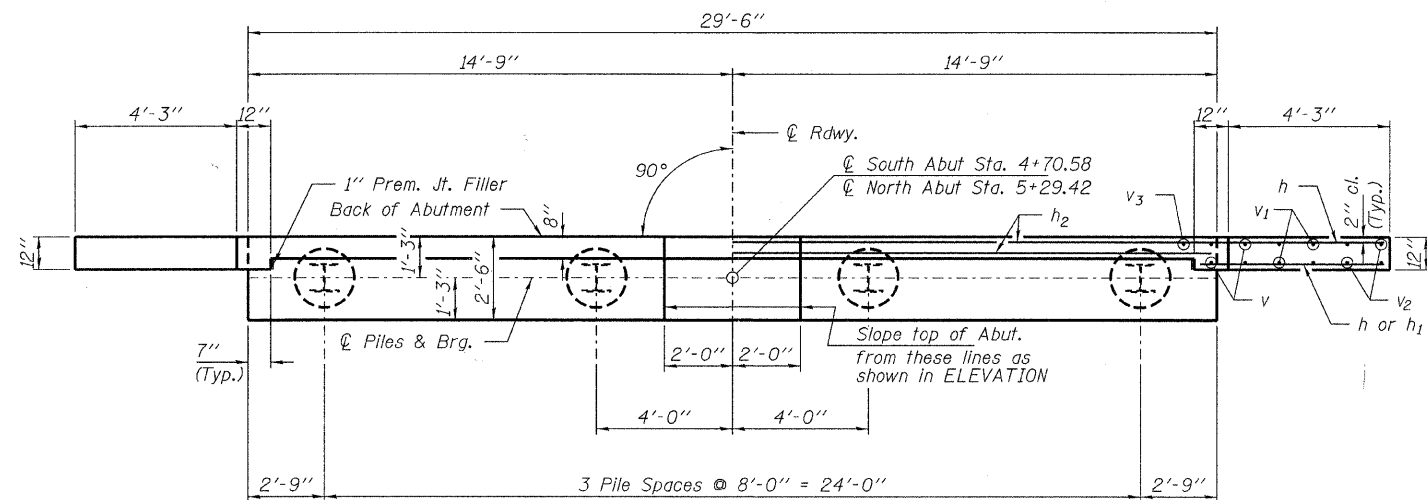
STEEL RAILING, TYPE S-1
STRUCTURE NO. 051-3298

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.
R-23A

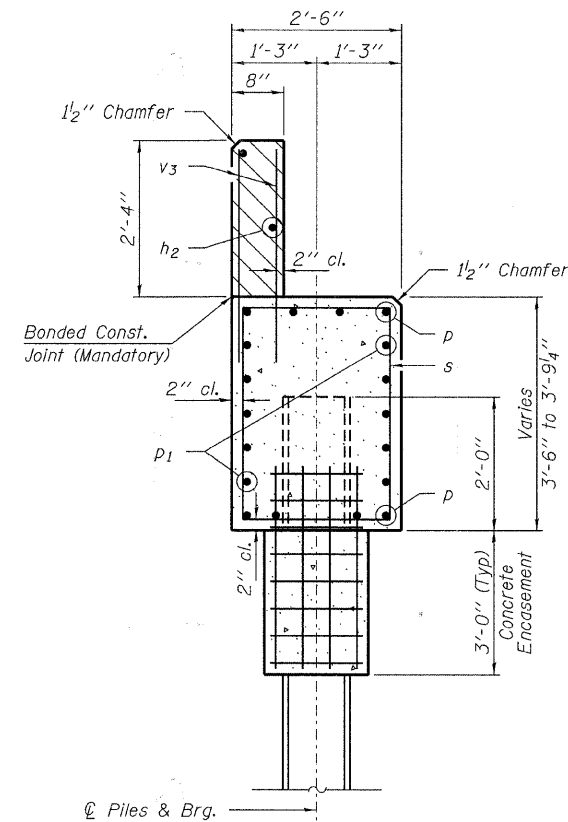
11-1-09 (10'-9" Maximum Post Spacing)

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.00869
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
PROJECT NUMBER: 10.0092.130 DATE: 04/14/10

SHEET NO. 5	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9 SHEETS	10A	09-08134-00-BR	LAWRENCE	13	9
		PETTY ROAD DISTRICT		CONTRACT NO. 95638	
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		

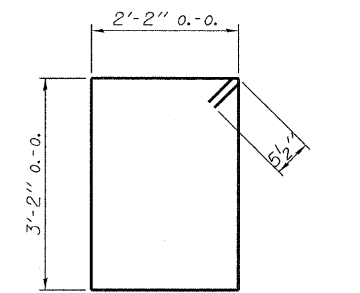


PLAN

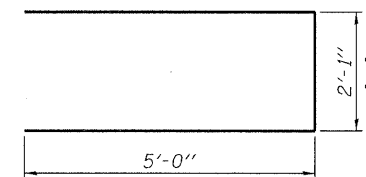


SECTION A-A

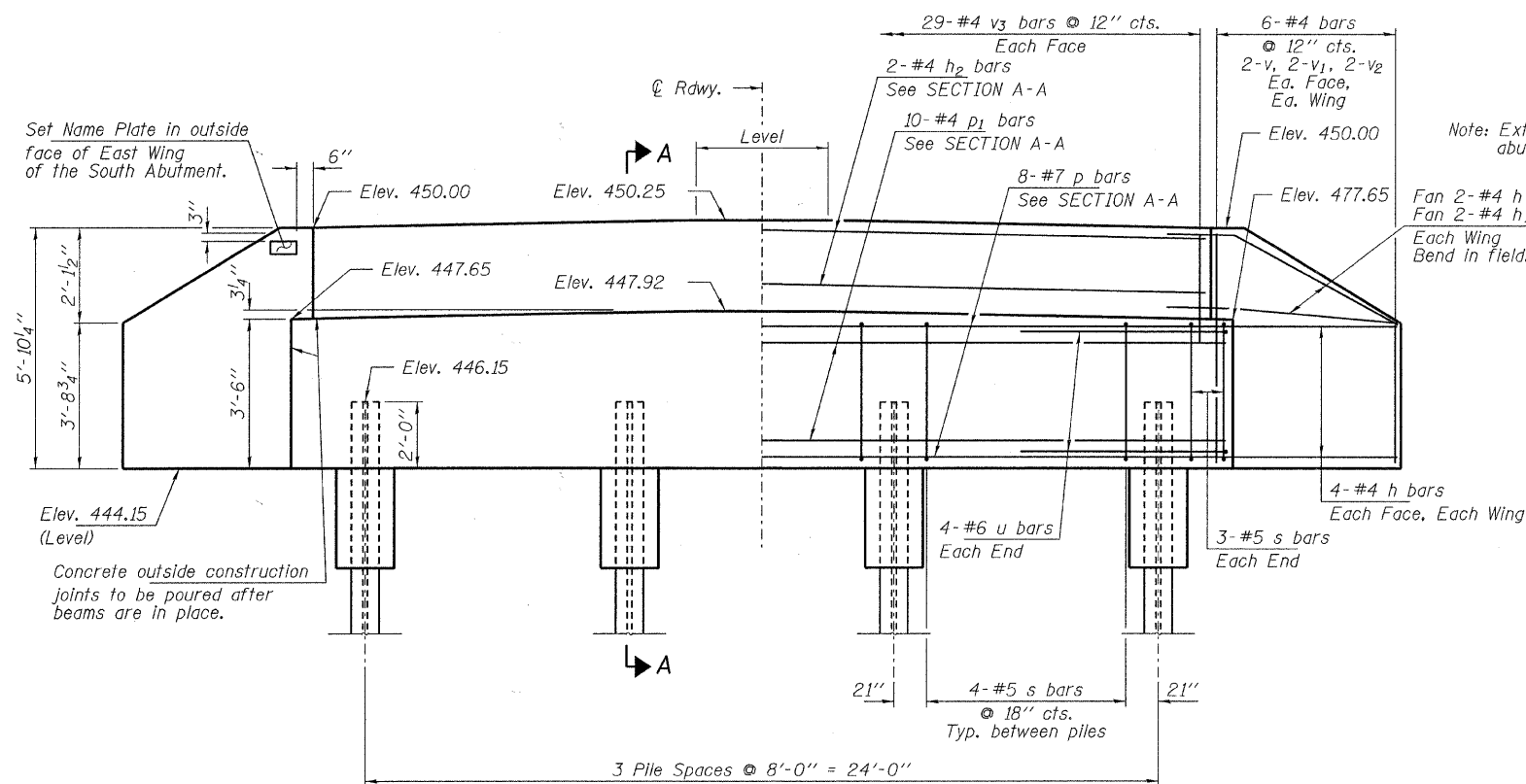
Hatched area to be poured after beams are in place.



BAR s



BAR u



ELEVATION

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	6'-6"	—
h1	8	#4	5'-0"	—
h2	4	#4	29'-2"	—
p	16	#7	29'-2"	—
p1	20	#4	29'-2"	—
s	36	#5	11'-7"	□
u	16	#6	12'-1"	—
v	16	#4	5'-5"	—
v1	16	#4	4'-5"	—
v2	16	#4	3'-5"	—
v3	116	#4	3'-2"	—
Concrete Structures			Cu. Yd.	26.8
Concrete Encasement			Cu. Yd.	2.6
Reinforcement Bars			Pound	2,730
Steel Piles HP12x53			Foot	490
Test Pile Steel HP12x53			Each	1
Name Plates			Each	1

PILE DATA

Type: Steel HP12x53
 No. Req'd. (2 Abuts.): 8
 Factored Resistance Available (Rf): 209 Kips/Pile
 Nominal Required Bearing (Rn): 419 Kips/Pile
 Est. Length: 70 Ft/Pile

Notes: * Includes one test pile to be driven in permanent locations at the North Abutment.

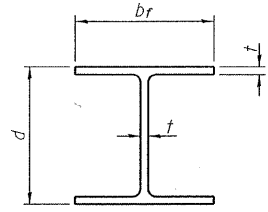
The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.

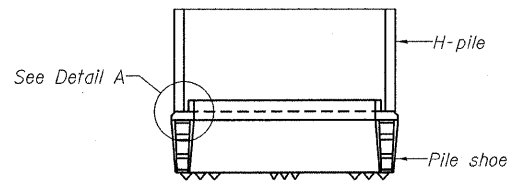
ABUTMENTS
 STRUCTURE NO. 051-3298

HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.hlrengineering.com 184 000950 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION PROJECT NUMBER: 10.0092.130 DATE: 04/14/10	SHEET NO. 6 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		10A	09-08134-00-BR	LAWRENCE	13	10
PETTY ROAD DISTRICT			CONTRACT NO. 95638			
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT			

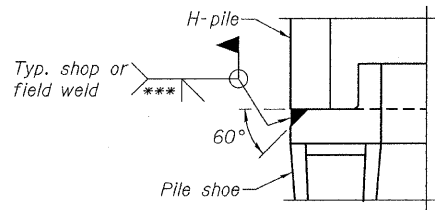


STEEL PILE TABLE

Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

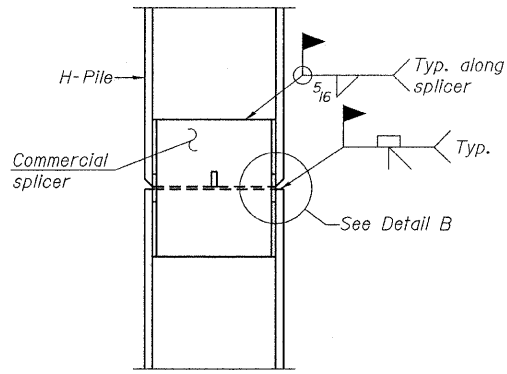


ELEVATION

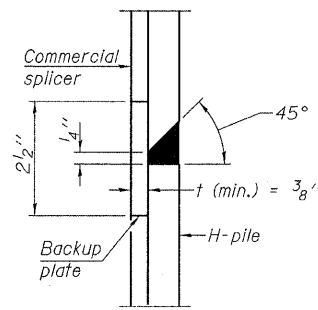


DETAIL A

H-PILE SHOE ATTACHMENT

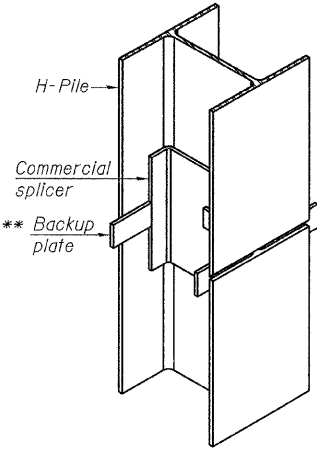


ELEVATION

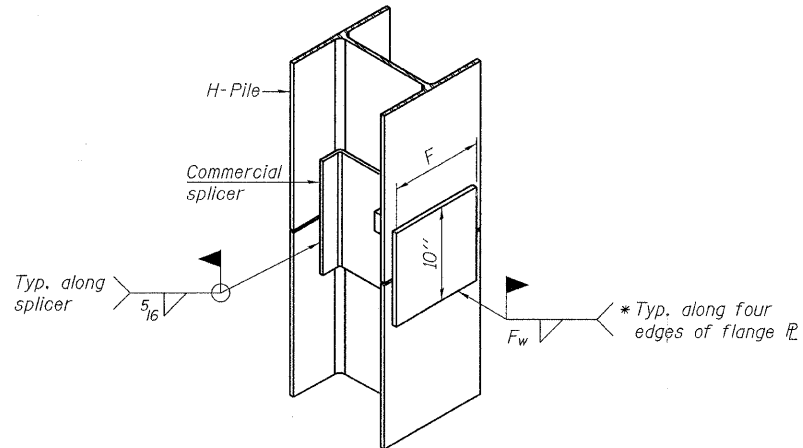


DETAIL "B"

WELDED COMMERCIAL SPLICE



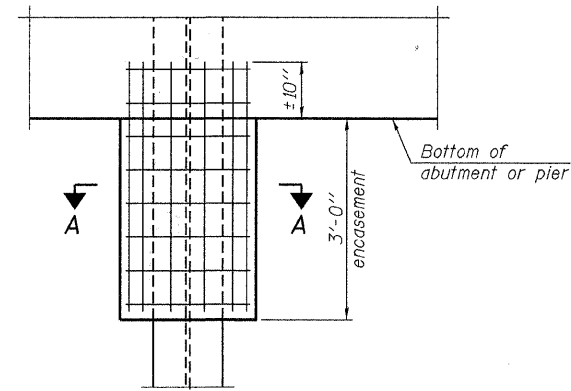
ISOMETRIC VIEW



ISOMETRIC VIEW

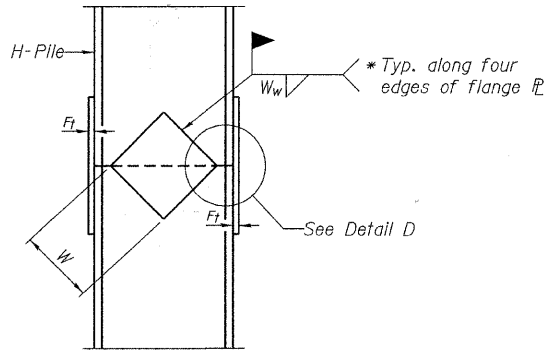
WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

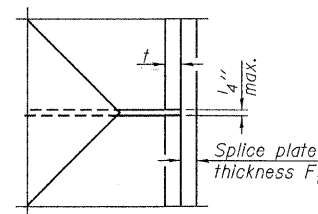


ELEVATION

PILE ENCASEMENT

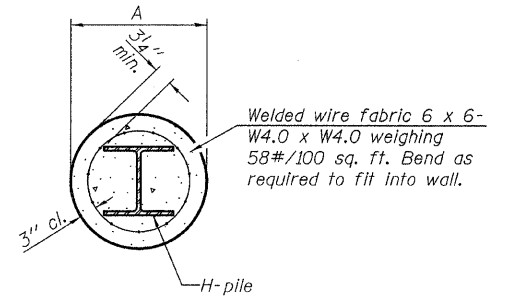


ELEVATION



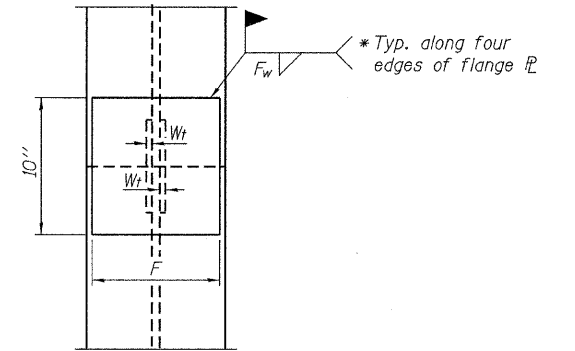
DETAIL D

WELDED PLATE FIELD SPLICE



SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.



END VIEW

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.

F-HP 11-1-09

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.546.3400 www.hlrengineering.com
 184.000955
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
 PROJECT NUMBER: 10.0092.130 DATE: 04/14/10

SHEET NO. 7	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	10A	09-08134-00-BR	LAWRENCE	13	11
9 SHEETS	PETTY ROAD DISTRICT		CONTRACT NO. 95638		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

**HP PILE DETAILS
STRUCTURE NO. 051-3298**

