B.M. - B.M.#1 R.R. spike in Power Pole, 23.0' RT., STA. 49+46.3, EL. 453.53

B.M.#2 R.R. spike in 14" Oak Tree, 21.7' LT., STA. 50+48.3, EL. 454.53

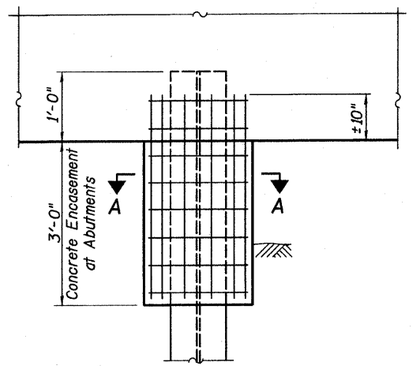
Existing Structure - The existing structure is a two span with timber deck and timber stringers. Substructure is comprised of timber abutment caps, piling, back wall and retaining walls. S.N. 061-3135

Salvage - None

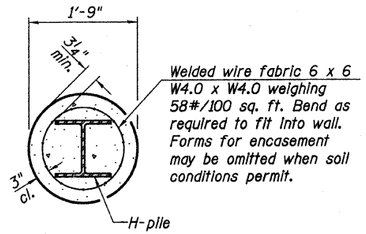
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 297	07-06117-00-BR	MARION	12	4
FEDERAL AID PROJECT		ILLINOIS	PROJECT	

CONTRACT NO.

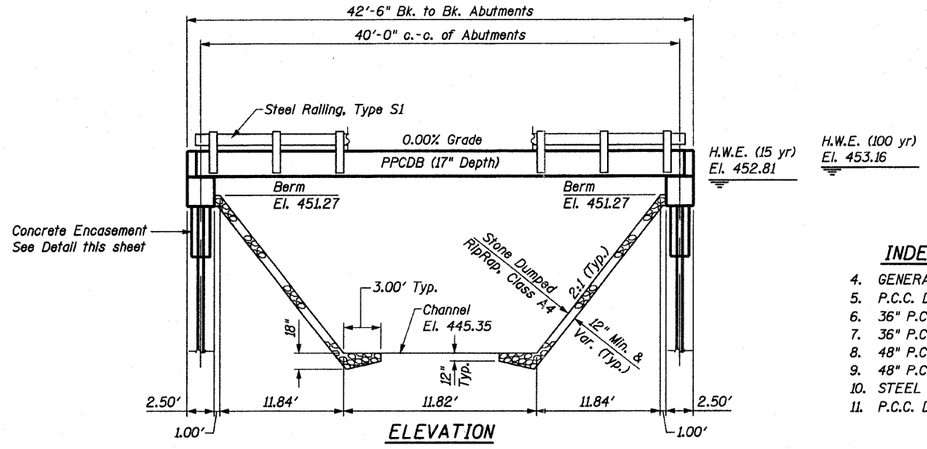


ELEVATION

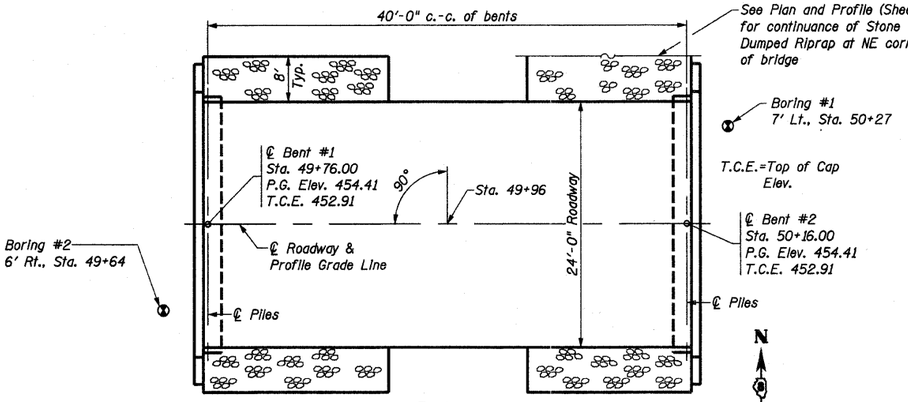


SECTION A-A

PILE ENCASEMENT
(0.086 C.Y./Ft.)



ELEVATION



PLAN

INDEX OF SHEETS

BILL OF MATERIAL - BRIDGE ONLY

Item	Unit	Super	Sub. Piers	Sub. Abuts.	Total
Removal of Existing Structures	Each				1
Concrete Structures	Cu. Yd.			16.6	16.6
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	984			984
Steel Railing, Type S1	Foot	82			82
Reinforcement Bars	Pound			2240	2240
Furnishing Steel Pile HP 10x42	Foot			455	455
Driving Piles	Foot			455	455
Test Pile Steel HP 10x42	Each			1	1
Name Plates	Each			1	1
Concrete Encasement	Cu. Yd.			2.1	2.1

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (IL Modified). See Supplemental Specifications.

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

See Section 502 of the Standard Specifications for Structural Excavation.

Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel at the ROW line. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

See Special Provisions for Soil Borings.

Do not scale these drawings.

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

The contractor shall drive 1 test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.

The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

A corrosion inhibitor shall be used in the concrete for the precast prestressed concrete deck beams, according to Article 1020.05(b)(12) and 1020.06 of the Standard Specifications.

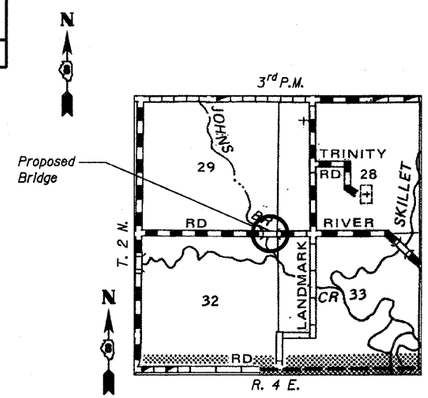
DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications with 2008 and 2009 Interims

LOADING HL-93
Allow 50# / Sq. Ft. for Future Wearing Surface.

SEISMIC DATA
Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 26
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 58
Soil Site Class = D

STATION 49+96
JOHNS BRANCH
SEC. 07-06117-00-BR BUILT 201_
PROJECT NO. BROS-0121(056)
MARION COUNTY
LOADING HL93
STR. NO. 061-3315

LETTERING FOR NAME PLATE
Locate Name Plate at Southeast Corner of Bridge (See Std. 515001-03)



LOCATION SKETCH

PILE DATA (2-ABUTS.)

Pile Type and Size:	Steel Piles, HP10x42
Nominal Required Bearing:	213 kips
Allowable Resistance Available:	71 kips
Estimated Pile Length:	65 Feet
Number of Production Piles:	7
Number of Test Piles:	1 (located in Bent #2)

WATERWAY INFORMATION

Drainage Area = 3.69 Sq. Mi. Low Grade Elev. 451.94 @ Sta. 47+80

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E. Ft.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater Elev. - Ft. Exist.	Headwater Elev. - Ft. Prop.
Design	15	996	120	198	452.81	N/A	0.36	N/A	453.17
Base	100	1600	120	198	453.16	N/A	0.55	N/A	453.71
Overtopping									
Max. Calc.	500								

WILLIAM D. LUEKING
81-4341
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

Date of License Expiration : 11-30-2012

Date: 09-13-2011
Signature: William D Luekings

I certify that to the best of 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 Standard Specifications for Highway Bridges.

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

PREPARED FOR: AECOM 200705482

Date: 08/15/2011
Design: WDL
Drawn: JSD
Job No.: 51010

GENERAL PLAN & ELEVATION
TR 297
JOHNS BRANCH
SECTION 07-06117-00-BR
MARION COUNTY
STATION 49+96