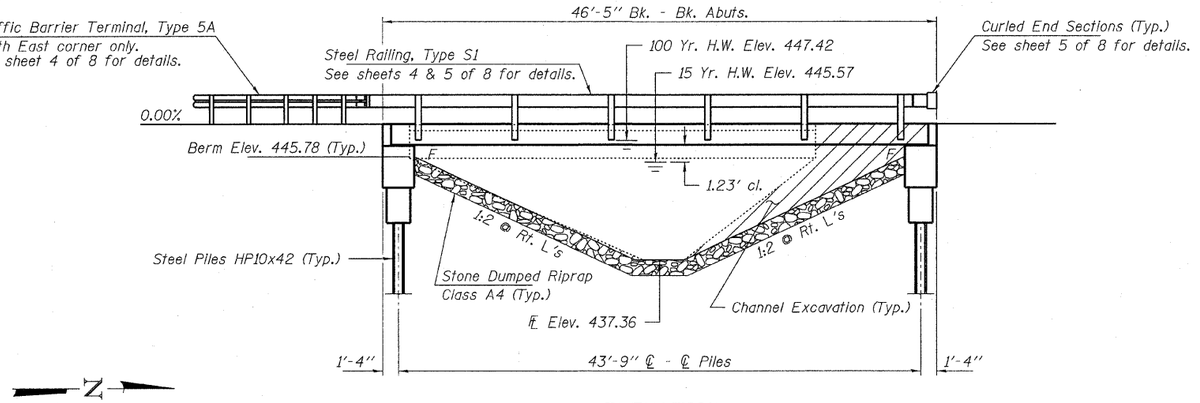
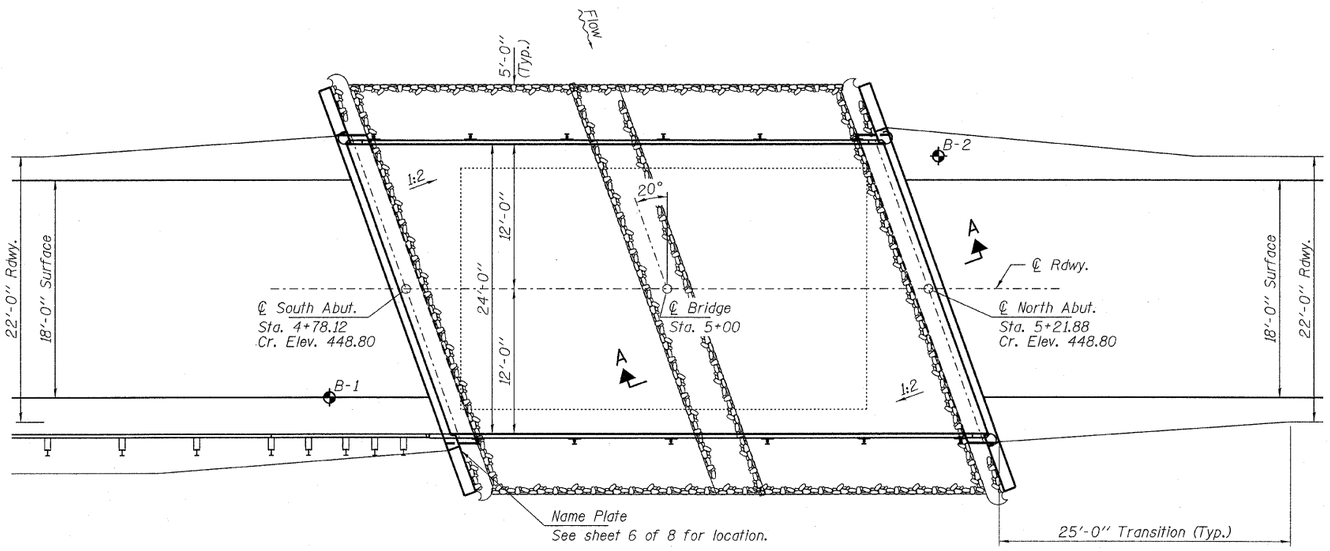
BENCHMARK: Iron Pin, 14.82' Rt. Sta. 4+55.46, Elev. 448.54

EXISTING STRUCTURE NO. 033-3193: Sta. 4+99.7, 35' long single span bridge with a 6" concrete deck on 5 - 28" I-beams with concrete abutments. Structure closed to traffic.

No Salvage



ELEVATION



PLAN

GENERAL NOTES

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

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 (IL Modified). 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.

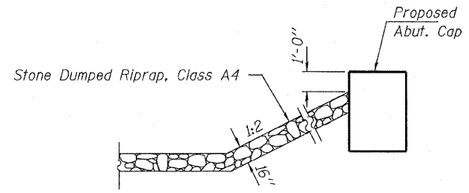
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

See Sheets 8 of 8 for Borings.

SHELTON CREEK
BUILT 2010 BY
HAMILTON COUNTY
SEC. 06-04126-00-BR
DAHLGREN ROAD DISTRICT
STR. NO. 033-3302
LOADING HL-93

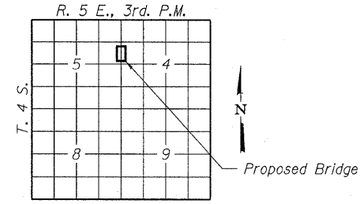
NAME PLATE

See Std. 515001



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.			60
Stone Dumped Riprap, Class A4	Ton			135
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		23.6	23.6
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,080		1,080
Reinforcement Bars	Pound		2,560	2,560
Steel Railing, Type S1	Foot	88		88
Furnishing Steel Piles HP10x42	Foot		280	280
Driving Piles	Foot		280	280
Name Plates	Each		1	1

DESIGNED -	V.J.H.
CHECKED -	S.W.M.
DRAWN -	D.T.M.
CHECKED -	D.A.B.

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½"ϕ low lax. strands)
fpbt = 201,960 psi (½"ϕ low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2007 AASHTO LRFD with all applicable interims.
50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.304g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.725g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 1.24 Sq. Mi.
Existing Low Grade Elev. 446.0 @ Sta. 7+50
Proposed Low Grade Elev. 446.0 @ Sta. 7+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	876	165.5	185.8	445.57	0.05	0.04	445.66	445.61
Base	100	1560	183.5	233.5	447.42	0.06	0.07	447.48	447.49

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. Meggenson 12/17/2009
ILLINOIS STRUCTURAL NO. 081-6064 Expires 11-30-2010

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 033-3302

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS
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SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0070.130 DATE: 12/17/09

SHEET NO. 1
8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
52	06-04126-00-BR	HAMILTON	11	4
DAHLGREN ROAD DISTRICT		CONTRACT NO. 99416		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT: BROS-065(048)		