

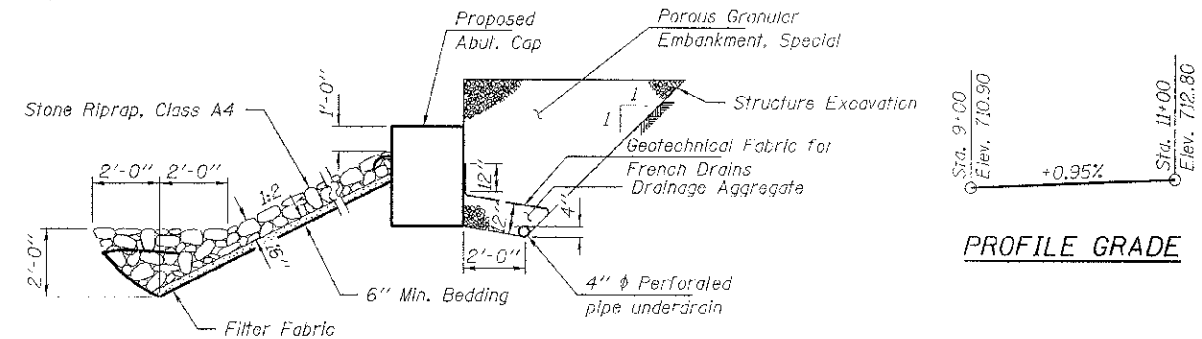
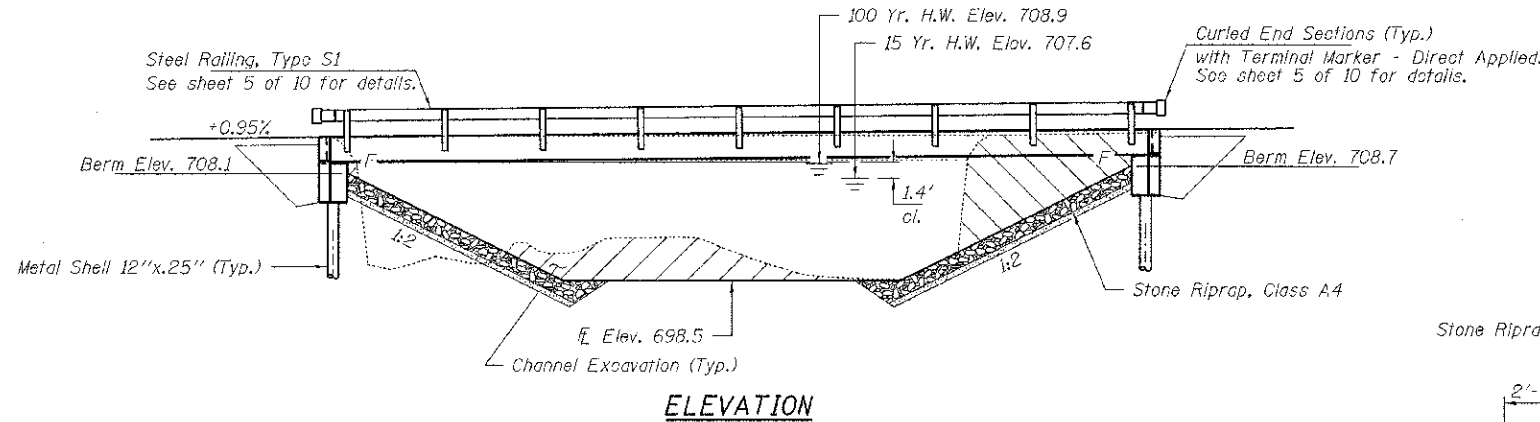
BENCHMARK: Chiseled "□" S.W. of bridge deck, 13.4' Lt., Sta. 9+72, Elev. 711.81

EXISTING STRUCTURE: Sta. 10+00 - Precast Deck Beam Bridge with concrete curb on closed timber abutments and wingwalls. 53.30' FC.-FC Abuts: 27.20' 0.-0. Deck

No Salvage

GENERAL NOTES

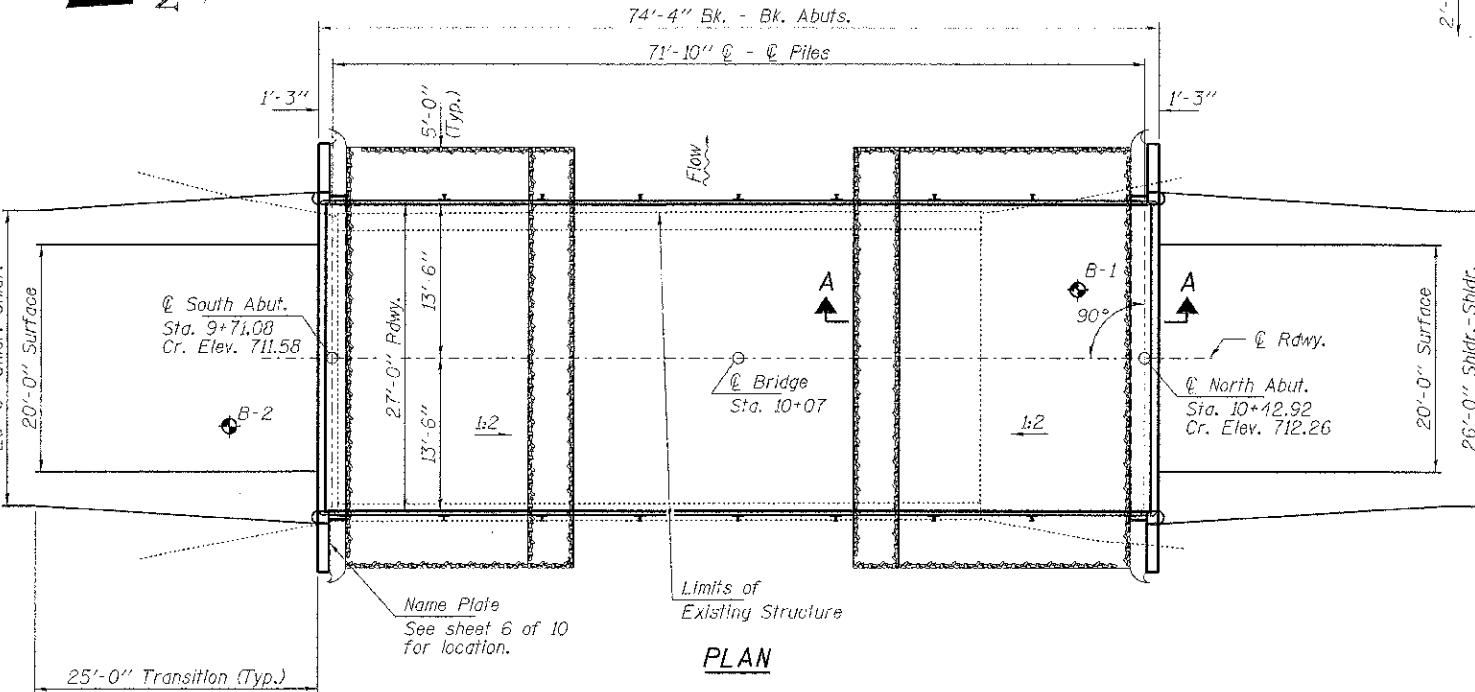
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at South Abutment or approved by the Engineer before ordering the remainder of piles. 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 TEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.



PROFILE GRADE

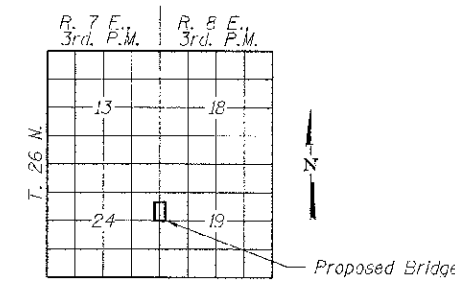
INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 27"x36" PPC Deck Beam
3. 27"x36" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. South Abutment
7. North Abutment
8. Metal Shell Pile Details
- 9-10. Borings



SECTION A-A

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



BUILT 201_ BY
LIVINGSTON COUNTY
SEC. 10-11103-03-BR/10-06124-00-BR
FORREST/CHATSWORTH R.D.
SIR. NO. 053-4202
LOADING HL-93

NAME PLATE
See Std. 515001

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_y = 50,000$ psi (Reinf.)

LOADING HL-93

Design Specifications: 2012 AASHTO LRFD with all applicable interims. 50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.185g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.114g
Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	N. Abut.
	705.4	706.1

WATERWAY INFORMATION

Flood		Freq. Yr.		Opening Sq. Ft.		Natural Head - Ft.		Headwater El.	
		Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.	
Design	10	2050	320	380	707.29	1.05	0.81	708.34	708.10
Base	15	2340	330	400	707.58	1.19	0.91	708.77	708.49
Max. Calc.	100	3790	390	490	708.85	2.03	2.01	710.88	710.86
	500	5090	390	500	709.79	2.18	1.76	711.97	711.55

Existing Low Grade Elev. 710.2 @ Sta. 8+00
Proposed Low Grade Elev. 710.2 @ Sta. 8+00
Drainage Area = 23.4 Sq. Mi.

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. Magnuson 12/26/2012
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2014

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			245
Stone Riprap, Class A4	Sq. Yd.			215
Filter Fabric	Sq. Yd.			215
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		25.4	25.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,971		1,971
Reinforcement Bars	Pound			2,740
Steel Railing, Type S1	Foot	143		143
Furnishing Metal Shell Piles 12"x.25"	Foot		270	270
Driving Piles	Foot		270	270
Test Pile Metal Shell 12"x.25"	Each		1	1
Name Plates	Each		1	1
Porous Granular Embankment, Special	Ton		120	120
Pipe Underdrains for Structures 4"	Foot		90	90

FILE NAME = 110245	USER NAME =	DESIGNED - S.W.M.	REVISED -	STATE OF ILLINOIS LIVINGSTON COUNTY HIGHWAY DEPARTMENT	GENERAL PLAN & ELEVATION STRUCTURE NO. 053-4202 SHEET NO. 1 OF 10 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - D.A.B.	REVISED -			248A	*	LIVINGSTON	19	10
PLOT SCALE =		DRAWN - R.D.H.	REVISED -			FORREST / CHATSWORTH R.D.		CONTRACT NO. 87538		
PLOT DATE = 12/26/2012		CHECKED - D.A.B.	REVISED -			ILLINOIS FED. AID PROJECT				