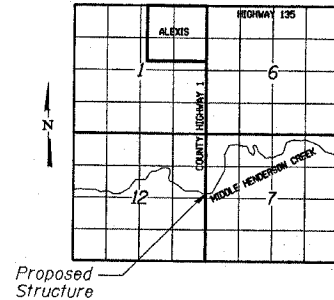


BENCHMARK:
Cotton spindle in power pole south of bridge, west of County Highway 1. Elevation 100.00.

Top of bridge curb at north end of west curb. Elevation 99.55.

EXISTING STRUCTURE:
The existing bridge is a two span steel stringer structure, with concrete deck and timber bent piers. The structure is 63.0' back to back of closed concrete abutments and is 25.0' out to out of deck.



LOCATION SKETCH

LOADING HS20

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 (17th Edition) AASHTO Standard Specifications for Highway Bridges

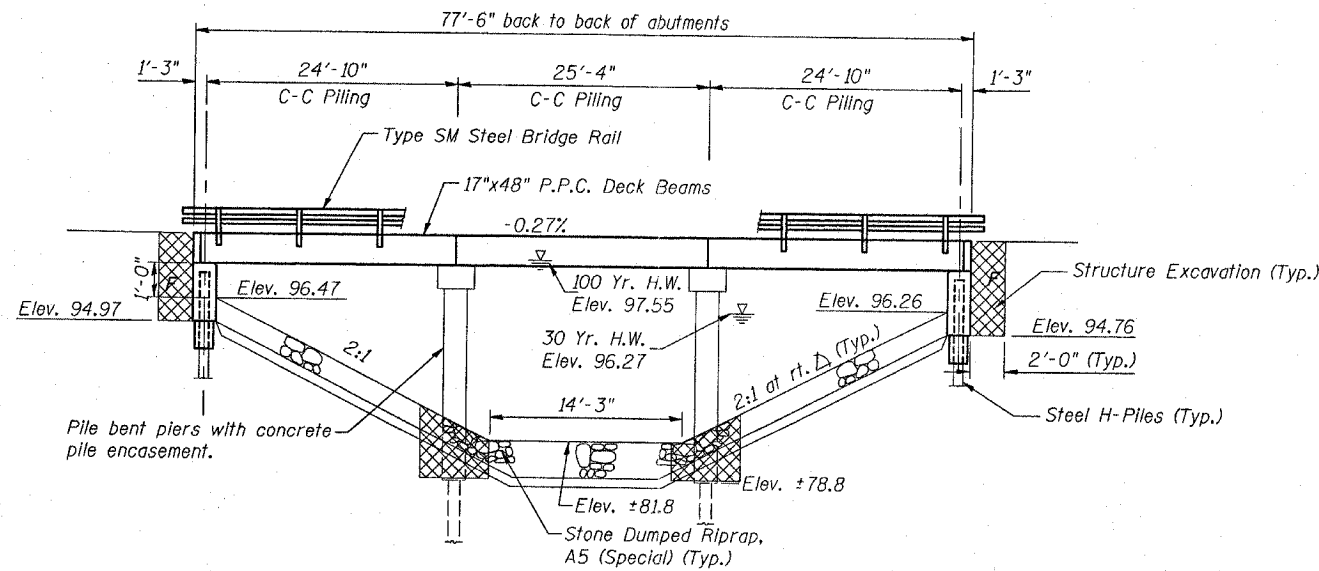
DESIGN STRESSES

Super: $f'_c = 5,000$ p.s.i.
 $f'_{cl} = 4,000$ p.s.i.
 $f'_s = 270,000$ p.s.i. ($\frac{1}{2}$ " ϕ Strand)
 $f'_{sl} = 201,960$ p.s.i. ($\frac{1}{2}$ " ϕ Strand)
 $f_y = 60,000$ p.s.i.

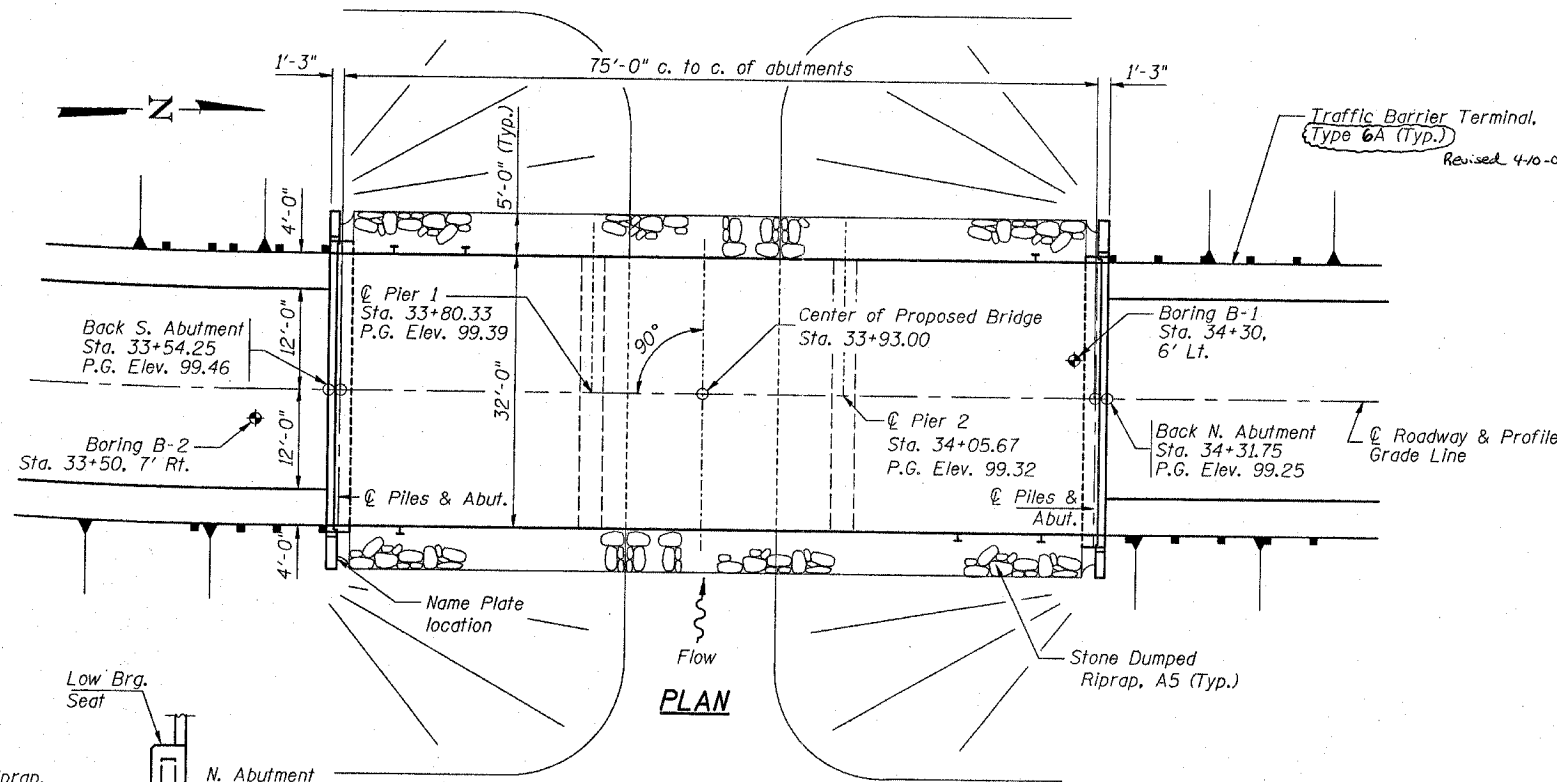
Sub: $f'_c = 3,500$ p.s.i.
 $f_y = 60,000$ p.s.i.

SEISMIC DATA

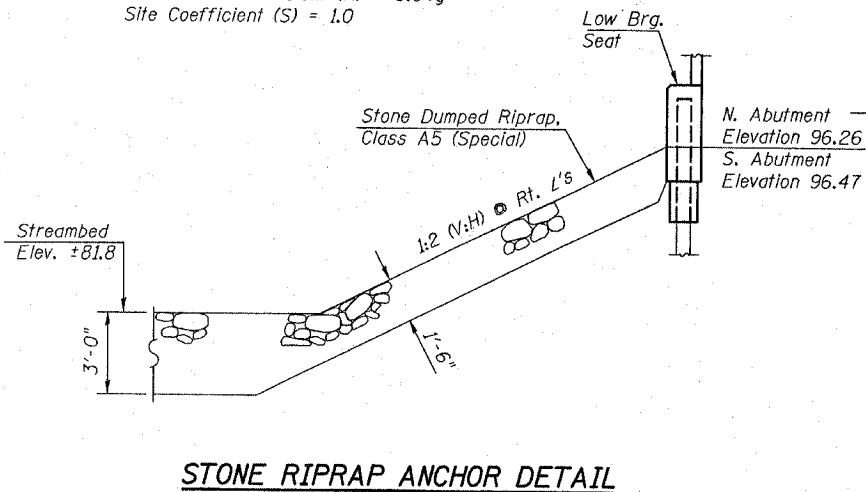
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0



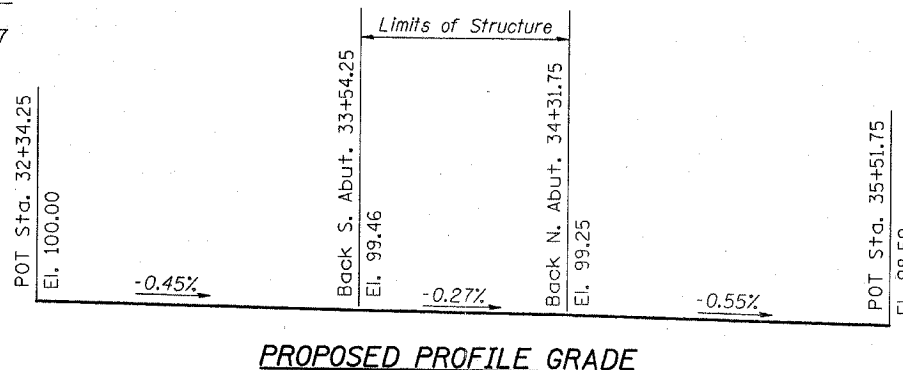
ELEVATION



PLAN



STONE RIPRAP ANCHOR DETAIL



PROPOSED PROFILE GRADE

**MIDDLE HENDERSON CREEK
BUILT 200 BY
WARREN COUNTY
SEC. 04-00035-01-BR
F.A.S. RT. 405 STA. 33+93
STR. NO. 094-3036 LOADING HS20**

NAME PLATE

Locate Name Plate at Southeast Corner of Bridge (See Std. 515001-02)

NOTES:

- The Contractor shall drive 1 test pile (at pair 1) in a permanent location as directed by the Engineer before ordering the remainder of piles.
- A Calcium Nitrite Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The top surface of the beams shall be finished according to Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a min. of $\frac{1}{4}$ ".
- All construction joints shall be bonded.
- Reinforcement bars shall conform to the requirements of AASHTO M-31, M322 grade 60.
- The location of the proposed north abutment is near the existing abutment location. Care must be taken during construction to locate existing substructure elements to prevent damage or conflicts with the new pile locations. If conflicts arise and modifications are required of the pile locations or design, the Engineer should be contacted immediately for resolution and structural approval.

BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB.	TOTAL
Removal of Existing Structures	Each	-	-	1
Bituminous Materials (Prime Coat)	Sq. Yd.	28	-	28
Bit. Conc. Surface Use Superpave, Mix C, N50	Ton	49	-	49
Waterproofing Membrane System	Sq. Yd.	276	-	276
Concrete Structures	Cu. Yd.	-	36.2	36.2
Reinforcement Bars, Epoxy Coated	Lb.	-	4180	4180
Steel Bridge Rail, Type SM	Foot	155	-	155
P.P. Conc. Deck Beams (17" Depth)	Sq. Ft.	2424	-	2424
Name Plates	Each	-	1	1
Furnishing Steel Piles HP 10 x 42	Foot	-	513	513
Driving Steel Piles	Foot	-	513	513
Test Piles, Steel HP 10 x 42	Each	-	1	1
Structure Excavation	Cu. Yd.	-	129.3	129.3
Concrete Encasement	Cu. Yd.	-	28.9	28.9
Stone Dumped Riprap, Class A5 (Special)	Ton	-	316	316
Underwater Structure Excavation Protection Location 1 (Pier 1)	Each	-	1	1
Underwater Structure Excavation Protection Location 2 (Pier 2)	Each	-	1	1

"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 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES."



SIGNATURE: J. J. Johnson
DATE: 2/2/06
LIC. EXP. DATE: 11/30/06

WATERWAY INFORMATION

Drainage Area = 18.80 Sq. Mi. Low Grade Elev. 98.56 @ Sta. 35+70

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.	Nat. Head - Ft.	Headwater El. Exist.	Headwater El. Prop.
Design	30	2867	680	96.10	0.13	0.17
Base	100	3832	760	97.36	0.18	0.19

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.S. 405
SECTION 04-00035-01-BR
WARREN COUNTY
COUNTY HIGHWAY 1 OVER MIDDLE HENDERSON CREEK

GENERAL PLAN AND ELEVATION

SCALE: VERT. -
HORIZ. -
DATE 02/06/06
DRAWN BY RLA
CHECKED BY JUT

HANSON Professional Services Inc. Copyright Hanson Professional Services Inc. 2006

LAYOUT: MFB 02/05/06 JDS
DRAWN: RLA 02/02/06 JDS
REVIEWED: JUT 02/02/06 JDS

SHEET NO. 1
6 SHEETS