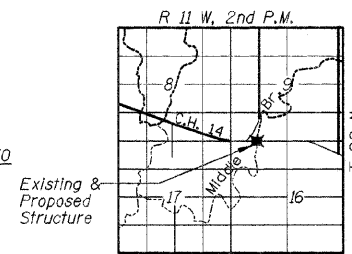
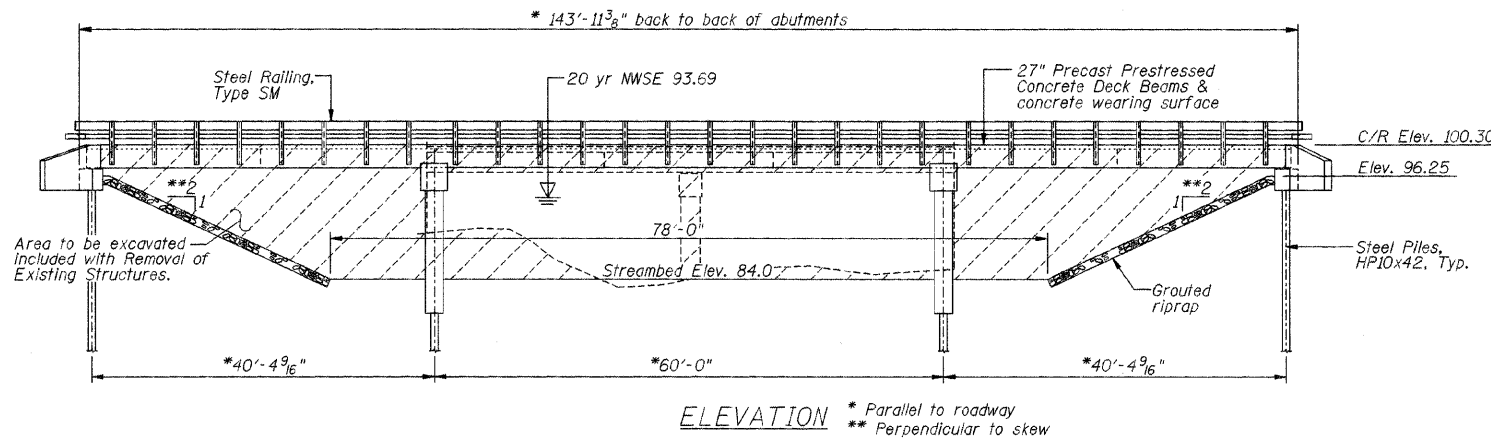


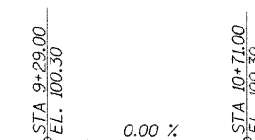
ROUTE NO.	SECTION	COUNTY	DIST.	SHEET NO.
FAS 496	*	Vermilion	18	7
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT-

*97-00141-00-BR



STRUCTURE NO. 092-3457
SEC. 97-00141-00-BR BUILT 200
COUNTY HIGHWAY 14
VERMILION COUNTY
LOADING HL 93

NAME PLATE
See Standard 515001



DESIGN SPECIFICATIONS

AASHTO LRFD (2007) and applicable Interims

DESIGN LOADING

HL-93
25 P.S.F Future Wearing Surface

DESIGN STRESSES

$f'_c = 3,500$ psi (Cast In Place Concrete)
 $f'_c = 6,000$ psi (P.P.C. Units)
 $f'_{ci} = 5,000$ psi (P.P.C. Units)
 $f_y = 60,000$ psi (Reinforcement)
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ Strands)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ Strands)

WATERWAY DATA

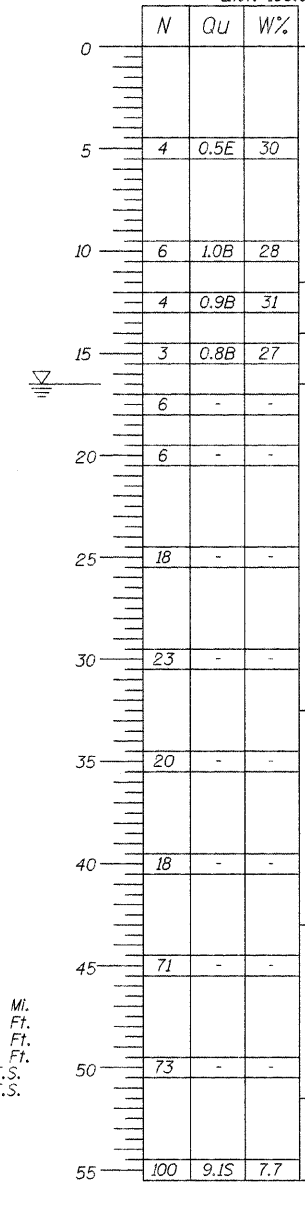
Drainage Area 35.03 Sq. Mi.
Existing Opening (20 Yr.) 587 Sq. Ft.
Required Opening (20 Yr.) 1136 Sq. Ft.
Proposed Opening (20 Yr.) 904 Sq. Ft.
Design Discharge (20 Yr.) 2429 C.F.S.
Computed Discharge (100 Yr.) 3425 C.F.S.
20 Yr. Head 0.13 Ft.
100 Yr. Head 0.28 Ft.

BORING DATA

N - Standard Penetration Test - Blows per foot to drive 2" O.D. split spoon sampler 12" with 140 lb. hammer falling 30".
Qu - Unconfined Compressive Strength - Tons/Sq. Ft.
W - Water Content - Percentage of oven dry weight - %

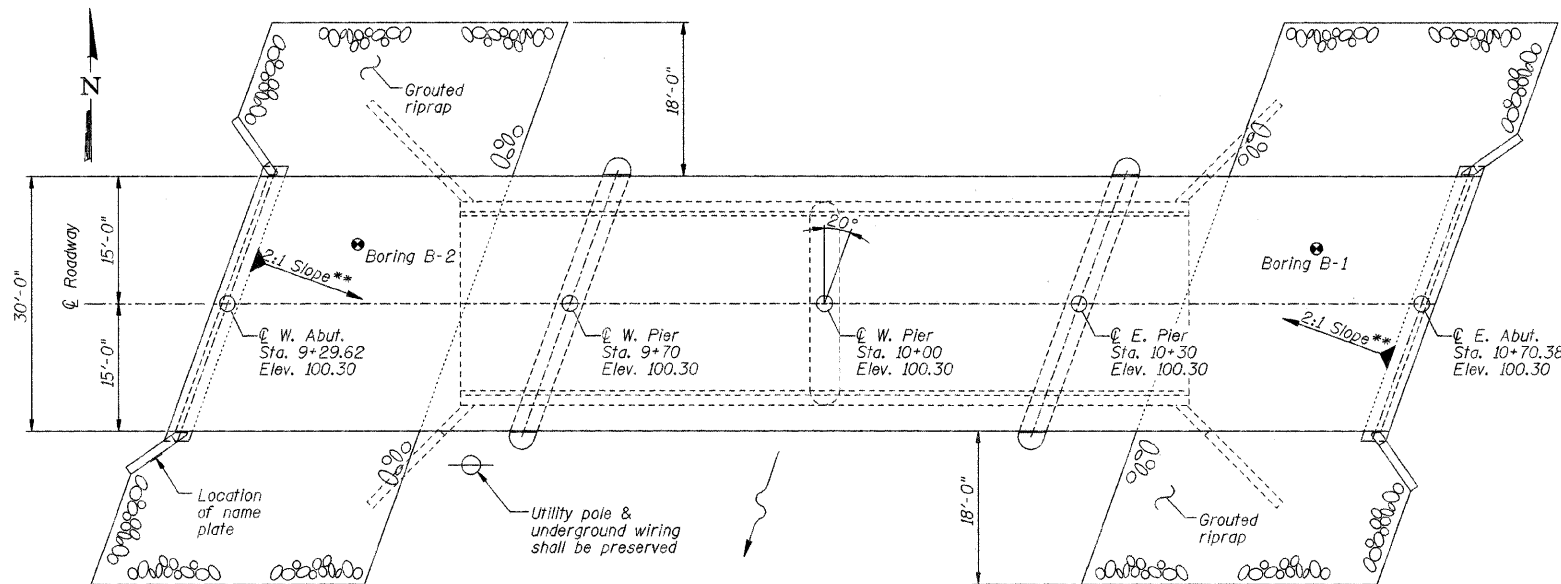
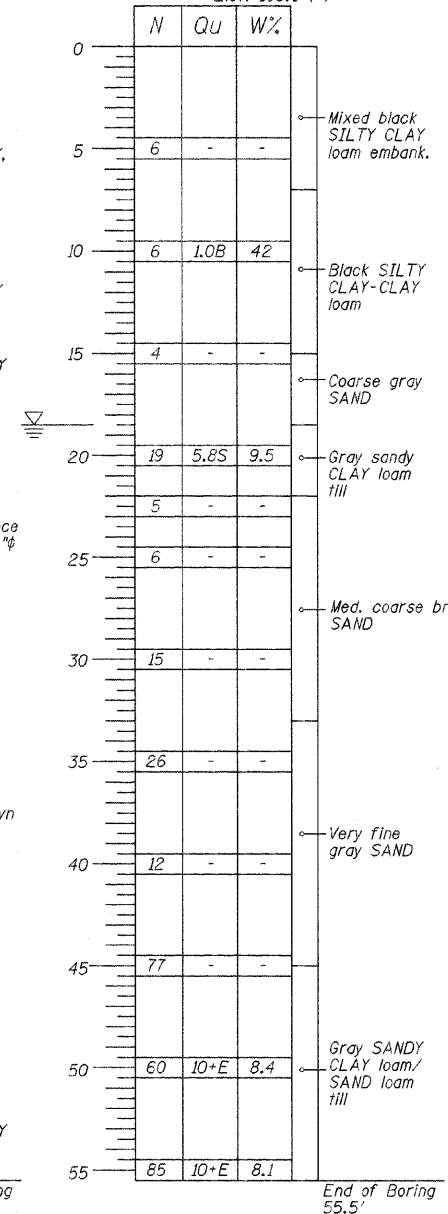
BORING B-1

Location: STA 10+58 (+), 6.5' LT
Elev. 100.0 (+)



BORING B-2

Location: STA 9+47(+), 7' LT
Elev. 100.0 (+)

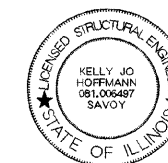


TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1	-	1
Structure Excavation	Cu. Yd.	-	122	122
Cofferdam Excavation	Cu. Yd.	-	140	140
Cofferdams	Each	-	2	2
Concrete Structures	Cu. Yd.	-	122	122
Concrete Superstructure	Cu. Yd.	80.7	-	80.7
Bridge Deck Grooving	Sq. Yd.	483	-	483
Seal Coat Concrete	Cu. Yd.	-	80	80
Protective Coat	Sq. Yd.	483	-	483
Precast Prestressed Concrete Deck Beam (27" Depth)	Sq. Ft.	4256	-	4256
Reinforcement Bars	Pound	7200	-	7200
Reinforcement Bars, Epoxy Coated	Pound	11450	100	11550
Steel Railing, Type SM	Foot	289	-	289
Furnishing Steel Piles HP10x42	Foot	-	1800	1800
Driving Piles	Foot	-	1800	1800
Test Pile Steel HP10x42	Each	-	4	4
Pile Shoes	Each	-	36	36
Name Plates	Each	-	1	1
Controlled Low-Strength Material	Cu. Yd.	-	52	52
Grouted Riprap	Sq. Yd.	-	490	490
Concrete Cut-Off Wall	Cu. Yd.	-	6.4	6.4

GENERAL NOTES

- The Contractor shall drive test piles to 110% of the Nominal Required Bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles.
- Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.
- Class SI or MS Concrete shall be used in the abutments.
- Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60 (IL Modified). See Special Provisions.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.



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 the requirements of the current "AASHTO Standard Specifications for Highway Bridges."

Kelly Jo Hoffmann
KELLY JO HOFFMANN
Illinois Licensed Structural Engineer Number 6497
License Expires 11/30/10

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

FRAUENHOFFER

Frauenhoffer and Associates, P.C. Consulting Engineers
3002 Crossing Court Champaign, IL 61822 217-351-6266

GENERAL PLAN AND ELEVATION

FAS 496 (C.H. 14) OVER MIDDLE BRANCH OF N. FORK
SEC. 97-00141-00-BR
VERMILION COUNTY

SHEET	7
DWG NO.	gpe.dgn
DATE	APR 2009
PROJ NO.	97051