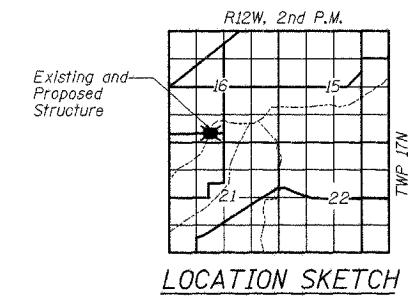


BM #1 - Chiseled "I" in SE Wingwall of existing bridge. Elev. 99.32
 BM #2 - R.R. spike driven in 8" φ Power Pole
 Sta. 9+68, 14.5' LT. of existing Baseline, Elev. 100.17

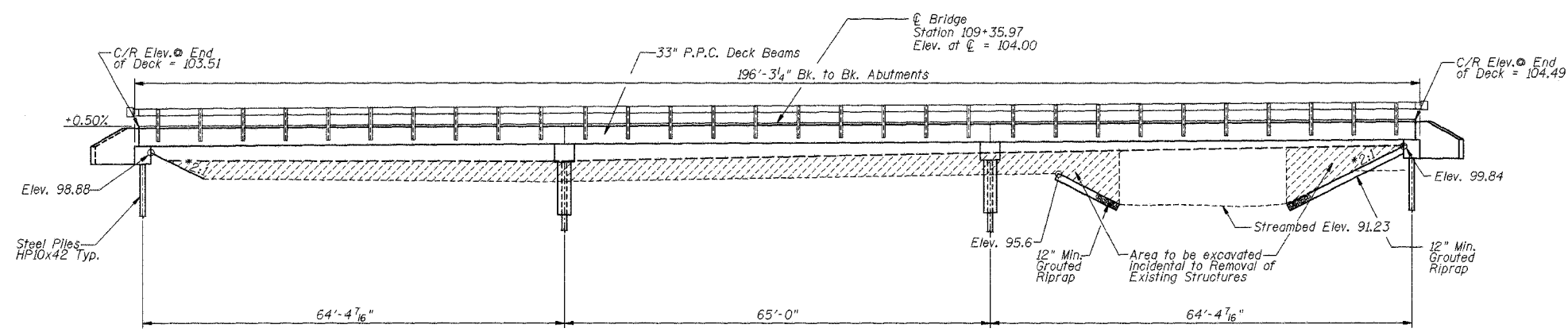
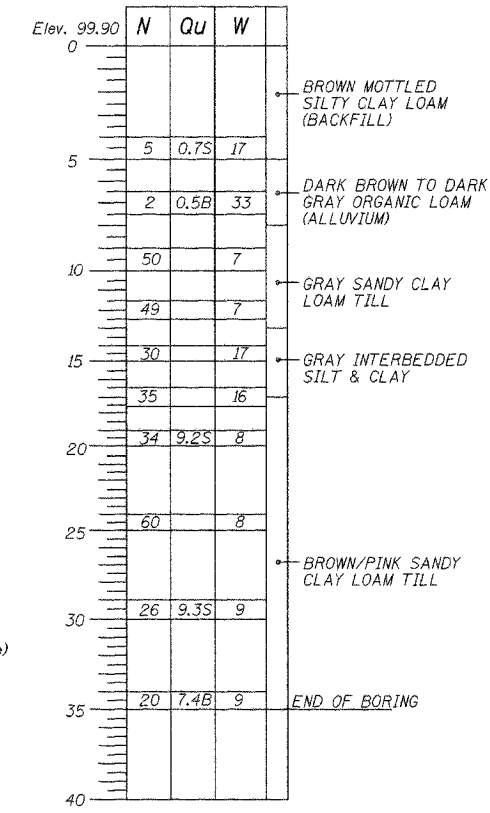
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET
TR 447	*	Vermilion	16	5

*00-03128-00-BR



BORING DATA

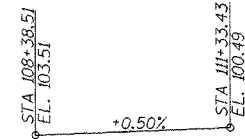
N - Standard Penetration Test - Blows per foot to drive 2" O.D. split spoon sampler 12" with 140 lb. hammer falling 30".
 Qu - Unconfined Compressive Strength - Tons/Sq. Ft.
 W - Water Content - Percentage of oven dry weight - %
 B - Bulge Failure, S - Shear Failure, E - Estimated Value



STRUCTURE NO. 092-3476
 SEC. 00-03128-00-BR BUILT 200
 CARROLL ROAD DISTRICT
 VERMILION COUNTY
 LOADING HS-20

NAME PLATE

See Standard 515001-02



PROFILE GRADE

DESIGN SPECIFICATIONS

AASHTO (1996) and applicable Interims (1997-2004)

DESIGN LOADING

HS 20-44
 25 P.S.F Future Wearing Surface

DESIGN STRESSES

- $f'_c = 3,500$ psi (Cast in Place Concrete)
- $f'_c = 5,000$ psi (P.P.C. Units)
- $f'_{cl} = 4,000$ psi (P.P.C. Units)
- $f_y = 60,000$ psi (Reinforcement)
- $f'_s = 270,000$ psi ($1/2"$ φ Strands)
- $f'_{sl} = 189,000$ psi ($1/2"$ φ Strands)

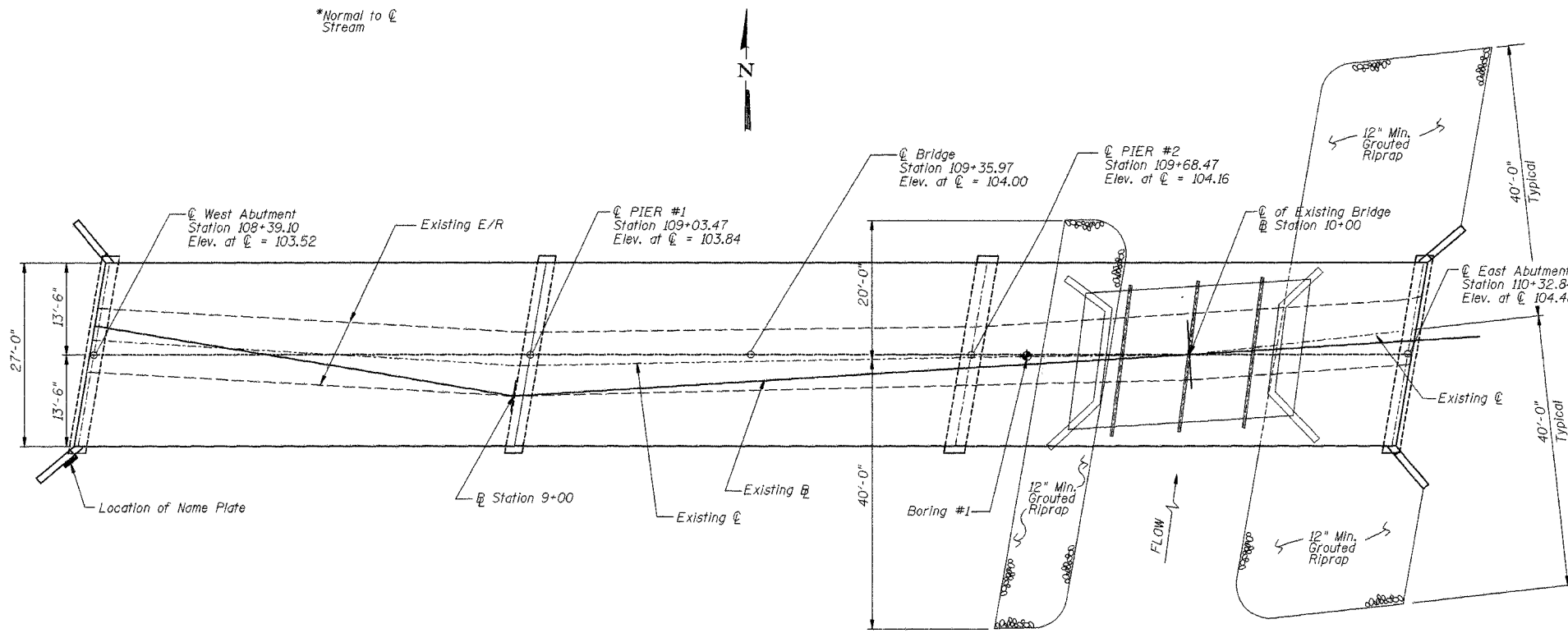
WATERWAY DATA

Drainage Area	18.67 Sq. Mi.
Existing Opening (15 Yr.)	177 Sq. Ft.
Required Opening (15 Yr.)	626.6 Sq. Ft.
Proposed Opening (15 Yr.)	632.4 Sq. Ft.
Design Discharge (15 Yr.)	907 C.F.S.
Computed Discharge (100 Yr.)	1340 C.F.S.
15 Yr. Head	0.49 Ft.
100 Yr. Head	0.55 Ft.

TOTAL BILL OF MATERIAL

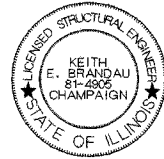
ITEM	UNIT	SUPER	SUB	TOTAL
*Removal of Existing Structures	Each	1		1
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	5258		5258
*Steel Railing, Type S-1 (Special)	Foot	390		390
Concrete Structures	Cu. Yds.		72.9	72.9
Furnish Steel Piles, HP10x42	Foot		1036	1036
Driving Steel Piles	Foot		1036	1036
Test Piles, Steel HP10x42	Each		4	4
Metal Shoes	Each		28	28
*Conc. Cut-off Wall	Cu. Yds.		5.6	5.6
*Grouted Riprap	Sq. Yds.		282	282
Name Plate	Each		1	1
Reinforcement Bars	Pound		5830	5830
Structure Excavation	Cu. Yds.		117	117
Waterproofing Membrane System	Sq. Yds.	585		585

* See Special Provisions



GENERAL NOTES

1. The Contractor shall drive 1 steel test pile in a permanent location at each abutment & pier as directed by the Engineer before ordering the remainder of piles.
2. Boring Data is shown only as as guide to bidders in estimating soil conditions which may be encountered during construction.
3. Class SI or MS Concrete shall be used in the abutments.



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."

Keith E. Brandau 9/24/04
 KEITH E. BRANDAU DATE
 Illinois Licensed Structural Engineer Number 4905
 License Expires 11/30/04

FRAUENHOFFER

Frauenhoffer and Associates, P.C. Consulting Engineers
 3002 Crossing Court Champaign, IL 61822 217-351-6268

GENERAL PLAN AND ELEVATION

CARROLL ROAD DISTRICT
 SECTION 00-03128-00-BR
 VERMILION COUNTY

SHEET	5
DWG NO.	3080-gpe.dgn
DATE	APR 2004
PROJ NO.	3080

DSGN	R.T. Mumm				
DR	R.T. Mumm				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY