

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

WATERWAY INFORMATION

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exst.	Prop.	Exst.	Prop.	Exst.	Prop.	
Design	10	472	204	376	652.6	0.0	0.0	652.6	652.6
Base	100	821	321	541	655.1	0.0	0.0	655.1	655.1
Max. Calc.	500	1066	401	647	656.6	0.0	0.0	656.6	656.6

10 Yr. Velocity = 1.3 ft/sec. (Proposed)  
10 Yr. Velocity = 2.5 ft/sec. (Existing)

SCOUR INFORMATION

Design Scour Elevation (ft.)	West Abutment	Pier 1	Pier 2	East Abutment
	655.44	639.18	639.18	655.37

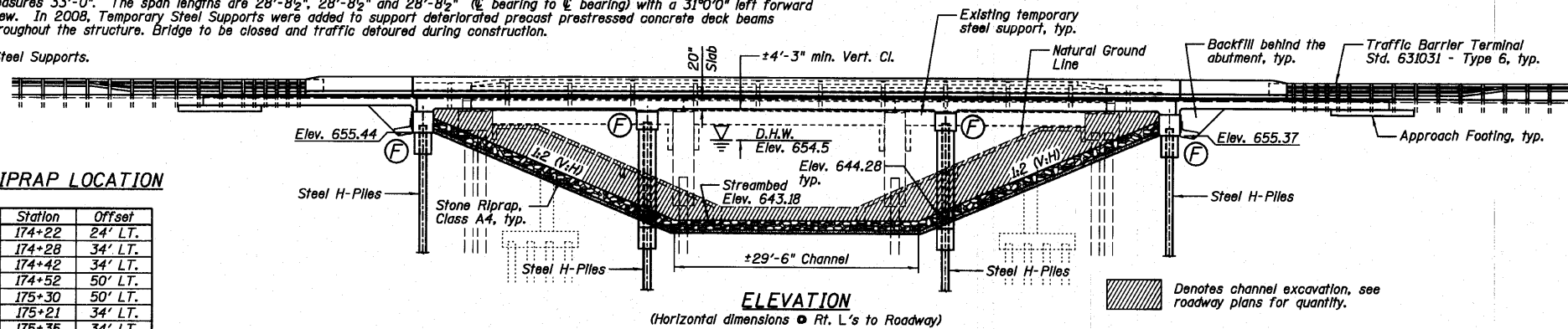
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Benchmarks: 1.) Chiseled "□" top Southeast wingwall, Station 174+94/17' RT., Elevation = 659.90.  
2.) 80d Spike in wood fence post, Station 172+39/±4' LT., Elevation = 654.96.

Existing Structure: S.N. 027-0046, built in 1972 as SBI 116 Section 116BR-2. The superstructure consists of simple span precast prestressed concrete deck beams with a steel railing attached to the exterior beams and a bituminous wearing surface. The substructure consists of concrete pile bent abutments supported by precast concrete piles and two concrete solid shaft pile bent piers supported by precast concrete piles. The back to back of abutment dimension measures 93'-0" and the out to out dimension measures 33'-0". The span lengths are 28'-8 1/2", 28'-8 1/2" and 28'-8 1/2" (bearing to bearing) with a 31°0'0" left forward skew. In 2008, Temporary Steel Supports were added to support deteriorated precast prestressed concrete deck beams throughout the structure. Bridge to be closed and traffic detoured during construction.

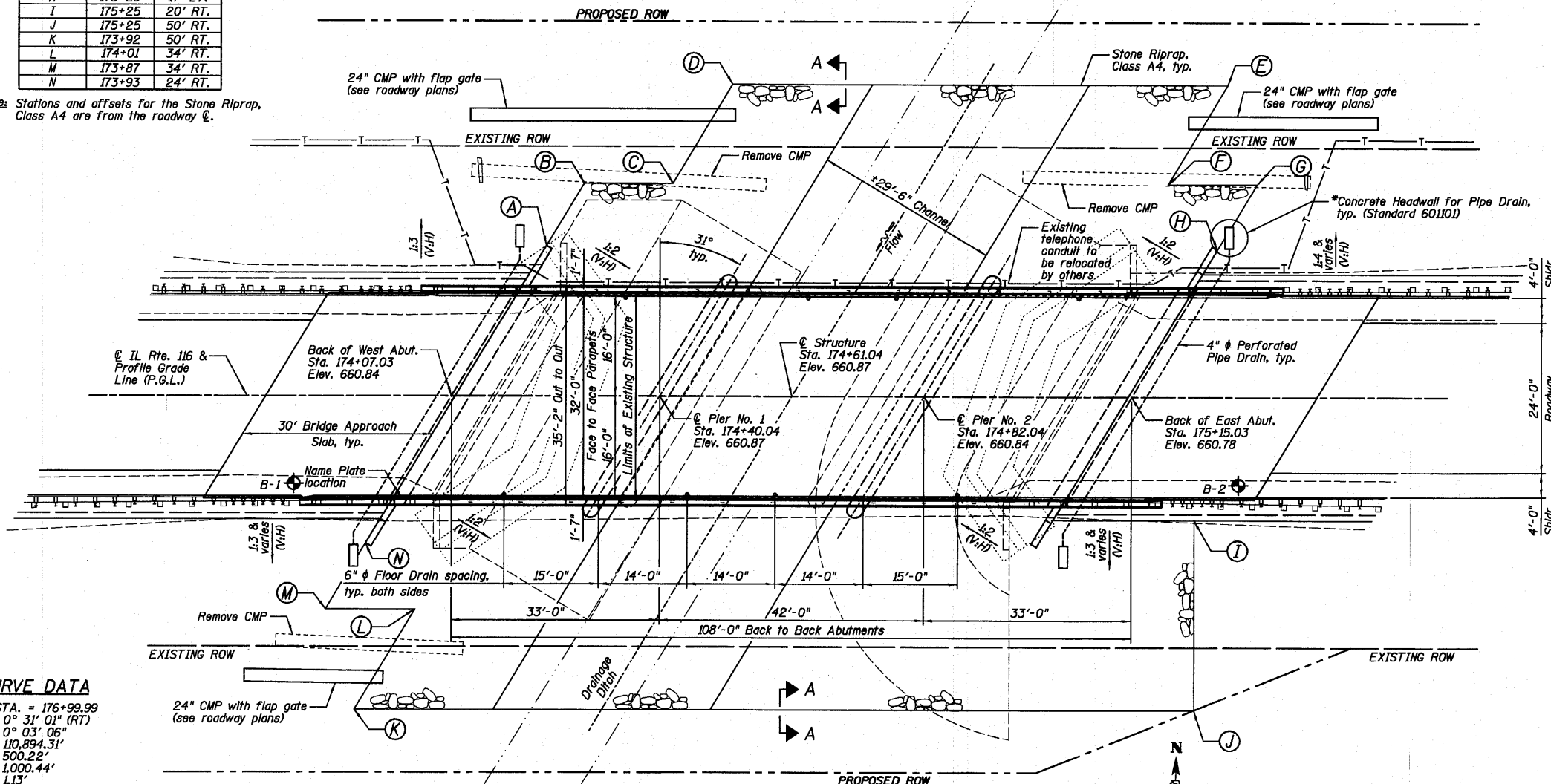
Salvage: Temporary Steel Supports.



STONE RIPRAP LOCATION

Location	Station	Offset
A	174+22	24' LT.
B	174+28	34' LT.
C	174+42	34' LT.
D	174+52	50' LT.
E	175+30	50' LT.
F	175+21	34' LT.
G	175+35	34' LT.
H	175+29	17' LT.
I	175+25	20' RT.
J	175+25	50' RT.
K	173+92	50' RT.
L	174+01	34' RT.
M	173+87	34' RT.
N	173+93	24' RT.

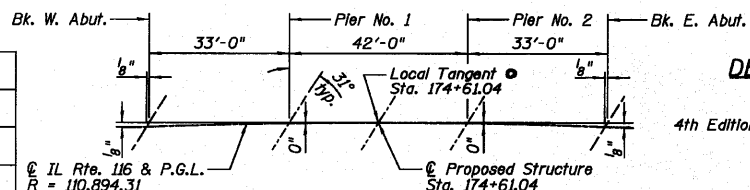
Note: Stations and offsets for the Stone Riprap, Class A4 are from the roadway centerline.



CURVE DATA

PI STA. = 176+99.99  
Δ = 0° 31' 01" (RT)  
D = 0° 03' 06"  
R = 110,894.31'  
T = 500.22'  
L = 1,000.44'  
E = 1.13'  
P.C. STA. = 171+99.76  
P.T. STA. = 182+00.20

PLAN



OFFSET SKETCH

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications, 4th Edition (with 2008 and 2009 Interim Revisions)

DESIGN STRESSES

FIELD UNITS  
f'c = 3,500 psi (Cast-in-Place)  
fy = 60,000 psi (Reinforcement)

LOADING HL-93

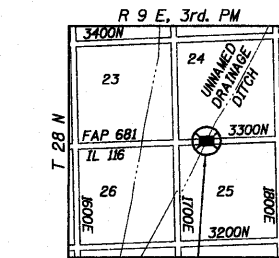
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.077 g  
Design Spectral Acceleration at 0.2 sec. (SD2) = 0.132 g  
Soil Site Class = C

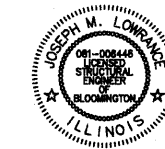
\*Included in the cost of Pipe Underdrains for Structures.

**Farnsworth GROUP, INC.**  
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Bloomington, Illinois 61704  
309/863-8435, 309/863-1571 fax



LOCATION SKETCH

GENERAL PLAN AND ELEVATION  
IL. ROUTE 116 OVER  
UNNAMED DRAINAGE DITCH  
F.A.P. 681 - SECTION (116)BR-3  
FORD COUNTY  
STATION 174+61.04  
STRUCTURE NO. 027-0098



Joseph M. Lowrance Date 08-04-10  
JOSEPH M. LOWRANCE  
ILLINOIS STRUCTURAL ENGINEER  
NO. 081-008446  
Exp. Date 11/30/10

APPROVED FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson (Seal)  
ENGINEER OF BRIDGES AND STRUCTURES

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW

DATE 08/04/10

SHEET NO. E1	F.A.P. RTE. 681	SECTION *	COUNTY FORD/IROQUOIS	TOTAL SHEETS 146	SHEET NO. 86
18 SHEETS	CONTRACT NO. 66880		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		