

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WATERWAY INFORMATION

Drainage Area = 9.48 Sq. Mi.		Low Grade Elev. 657.31 @ Sta. 135+00.00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	10	1003	300	451	653.5	0.0	0.0	653.5	653.5
Base	50	1595	424	611	655.7	0.0	0.0	655.8	655.8
Overtopping	100	1855	480	678	656.6	0.0	0.0	656.6	656.6
Max. Calc.	375	2325	571	794	657.9	0.0	0.0	657.9	657.9
	500	2482	570	819	658.5	0.3	0.2	658.8	658.7

10 Yr. Velocity = 2.2 ft/sec. (Proposed)
10 Yr. Velocity = 3.2 ft/sec. (Existing)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	West Abutment	Pier 1	Pier 2	East Abutment
	655.32	638.90	638.90	655.38

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. (SDs) = 0.132 g
Soil Site Class = C

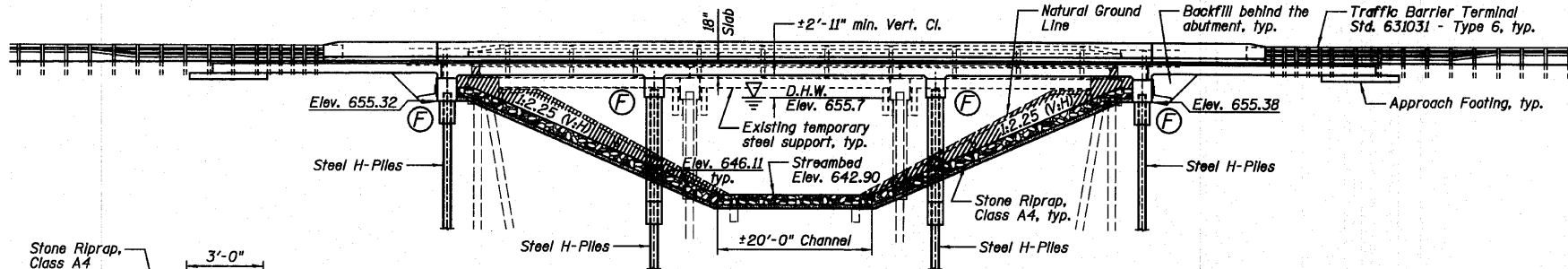
INDEX OF SHEETS

SHEET NO.	TITLE
D1	GENERAL PLAN AND ELEVATION
D2	GENERAL DATA
D3	TOP OF SLAB ELEVATION LOCATIONS AND ELEVATIONS
D4	APPROACH SLAB ELEVATIONS
D5-D6	SUPERSTRUCTURE DECK
D7	SUPERSTRUCTURE CROSS SECTION
D8	SUPERSTRUCTURE DETAILS
D9-D10	BRIDGE APPROACH SLAB DETAILS
D11	WEST ABUTMENT
D12	EAST ABUTMENT
D13	PIER NO. 1
D14	PIER NO. 2
D15	PIER DETAILS
D16	HP PILE DETAILS
D17-D18	SOIL BORING LOGS

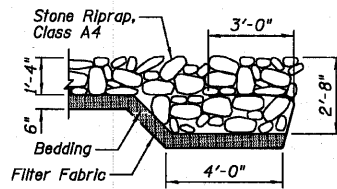
- Benchmarks: 1.) Benchmark Chiseled "□" on Northeast corner of bridge on wingwall, Station 141+90/17' LT., Elevation = 659.76.
2.) Benchmark Railroad spike in power pole South side of IL Route 116, Station 142+10/39' RT., Elevation = 657.59.

Existing Structure: S.N. 027-0045, 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 86'-0" and the out to out dimension measures 33'-0". The span lengths are 27'-0", 27'-7 1/2" and 27'-0" @ bearing to @ bearing with a 9°45'00" 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.

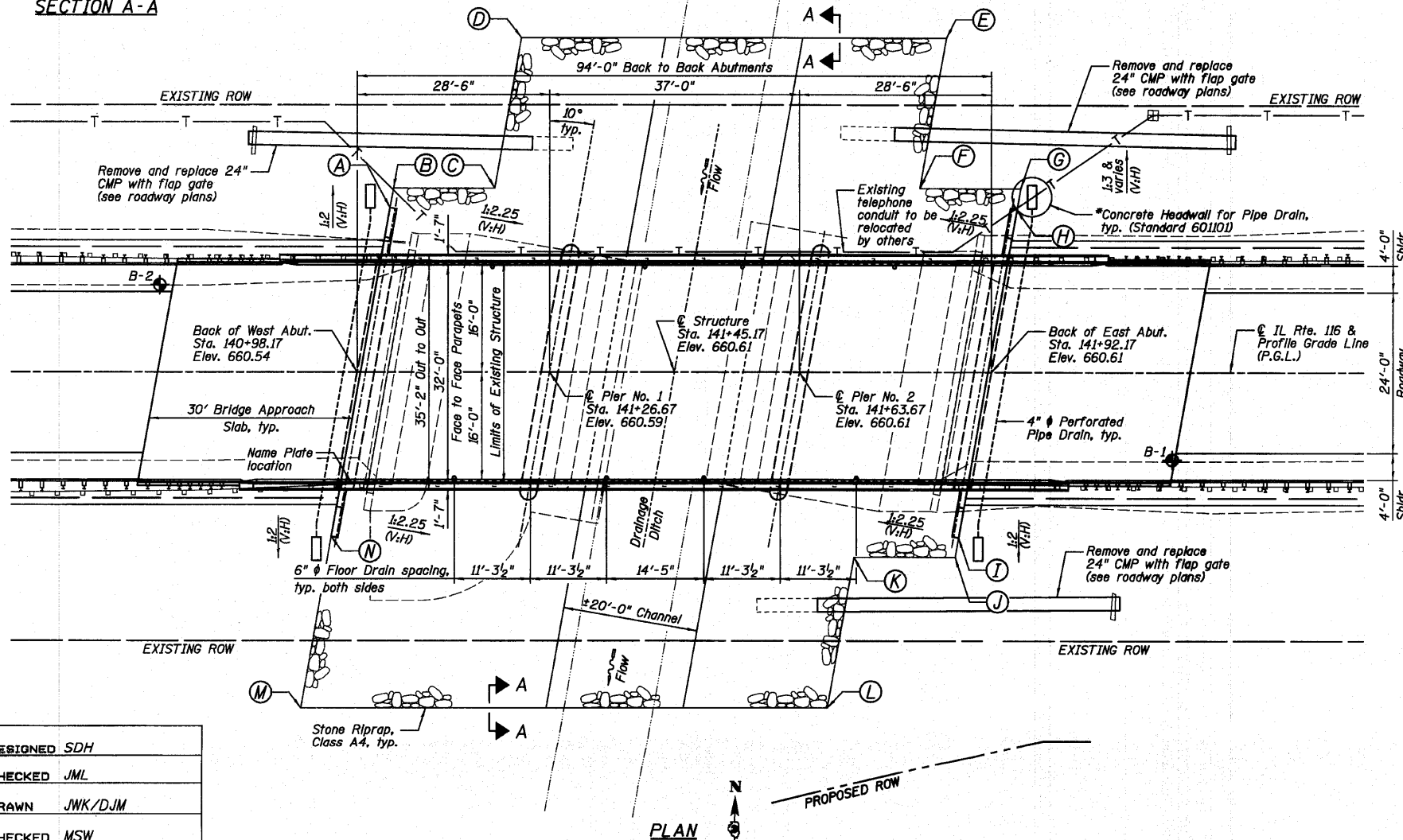
Salvage: Temporary Steel Supports.



ELEVATION
(Horizontal dimensions @ Rt. L's to Roadway)
Denotes channel excavation, see roadway plans for quantity.



SECTION A-A



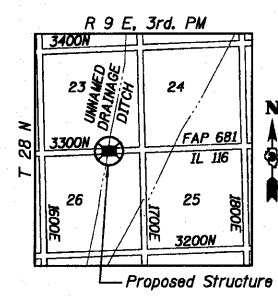
PLAN

*Included in the cost of Pipe Underdrains for Structures 4".

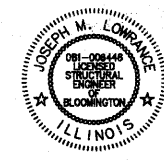
STONE RIPRAP LOCATION

Location	Station	Offset
A	141+03	24' LT.
B	141+04	28' LT.
C	141+19	28' LT.
D	141+22	50' LT.
E	141+85	50' LT.
F	141+82	28' LT.
G	141+97	28' LT.
H	141+96	24' LT.
I	141+87	24' RT.
J	141+87	28' RT.
K	141+72	28' RT.
L	141+68	50' RT.
M	140+90	50' RT.
N	140+95	23' RT.

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



LOCATION SKETCH



JOSEPH M. LOWRANCE
ILLINOIS STRUCTURAL ENGINEER
NO. 081-006446
Exp. Date 11/30/10

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

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

GENERAL PLAN AND ELEVATION
IL. ROUTE 116 OVER
UNNAMED DRAINAGE DITCH
F.A.P. 681 - SECTION (116 BR-2)BR
FORD COUNTY
STATION 141+45.17
STRUCTURE NO. 027-0100

DESIGNED SDH
CHECKED JML
DRAWN JWK/DJM
CHECKED MSW
DATE 08/04/10

Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	SHEET NO. D1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	18 SHEETS	681	*	FORD/IROQUOIS	146	68
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
		* 116 BR/L116 BR, (BR-2)BR, I & BR-31				24-8271