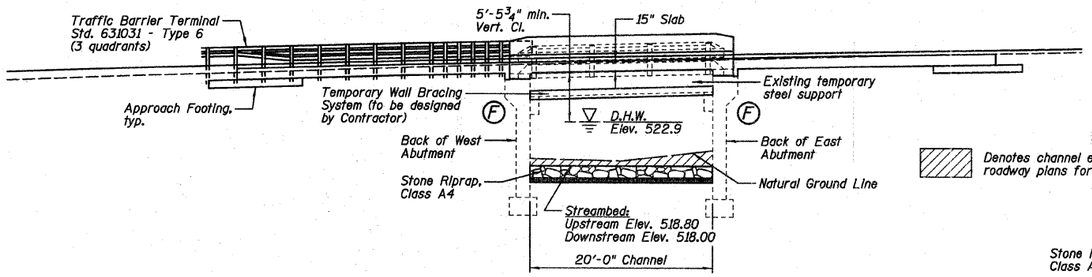
Benchmarks: 1.) BM #100 Railroad spike in power/light pole, Station 115+24.34/96.06' LT., Elevation = 527.48.
2.) BM #101 Chiseled "□" top of Northwest wingwall of bridge S.N. 050-0184, Station 116+40.24/19.29' LT., Elevation = 530.83.

Existing Structure: S.N. 050-0184 was constructed in 1980 as Section G-1-BR. The superstructure consists of a single span with eight precast, prestressed concrete deck beams with a cast-in-place curb, steel rail on each facia beam and bituminous wearing surface. The substructure consists of concrete closed abutments and vertical cantilever wingwalls supported on spread footings. The back to back of abutments dimension measures 23'-5½" and the out to out deck dimension measures 34'-8" with a 12° left forward skew. In 2008, temporary steel supports were added to support the three Southern-most precast prestressed deck beams. Bridge to be closed and traffic detoured during construction.



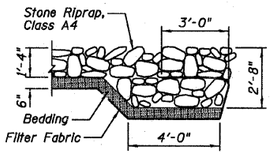
ELEVATION

Denotes channel excavation, see roadway plans for quantity.

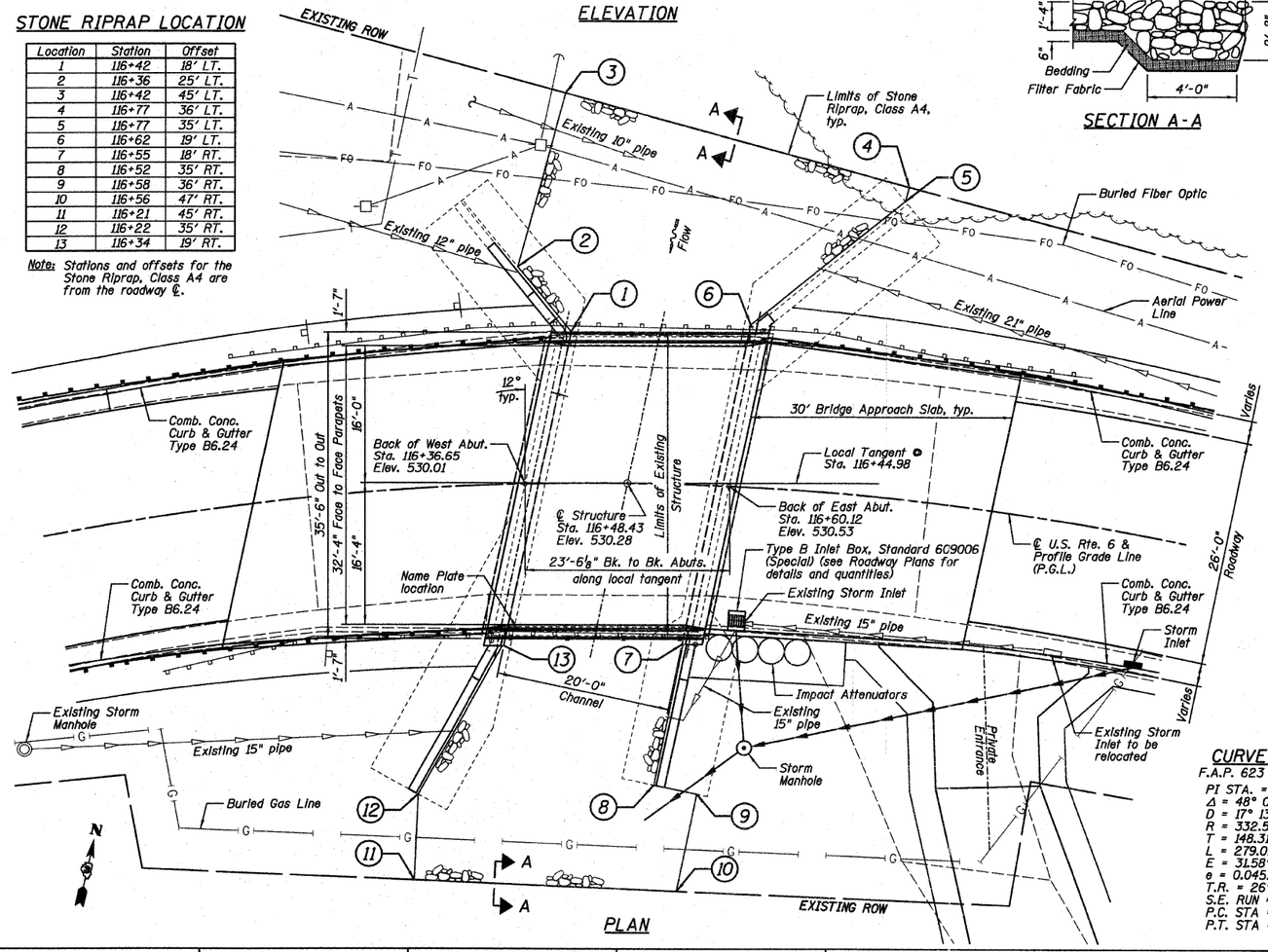
STONE RIPRAP LOCATION

Location	Station	Offset
1	116+42	18' LT.
2	116+36	25' LT.
3	116+42	45' LT.
4	116+77	36' LT.
5	116+77	35' LT.
6	116+62	19' LT.
7	116+55	18' RT.
8	116+52	35' RT.
9	116+58	36' RT.
10	116+56	47' RT.
11	116+21	45' RT.
12	116+22	35' RT.
13	116+34	19' RT.

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



SECTION A-A



PLAN

SCOUR INFORMATION

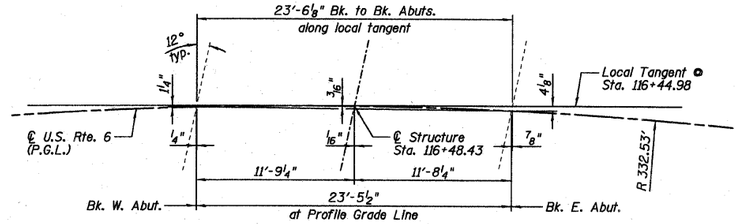
	West Abutment	East Abutment
Design Scour Elevation	514.54	515.67

WATERWAY INFORMATION

Drainage Area = 0.89 Sq. Mi. Existing Low Grade Elev. 528.81 ℄ Sta. 116+20.00 Proposed Low Grade Elev. 529.44 ℄ Sta. 116+20.00

Flood	Freq.	Q	Opening Sq. Ft.		Nat.	Head - Ft.		Headwater El.	
	Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
	10	248	54	62	521.9	0.0	0.0	521.9	521.9
Design	50	390	74	82	522.9	0.0	0.0	522.9	522.9
Base	100	450	81	90	523.3	0.0	0.0	523.3	523.3
Overtopping									
Max. Calc.	500	596	98	106	524.1	0.1	0.0	524.2	524.1

10 Yr. Velocity = 4.00 ft/sec. (Proposed)
10 Yr. Velocity = 4.59 ft/sec. (Existing)



OFFSET DETAIL

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)

EXISTING DESIGN STRESSES

fs = 24,000 psi (Reinforcement)
fc = 1,000 psi (Cast-in-Place)
vc = 56 psi
n = 9

LOADING HL93

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

SEISMIC DATA

NEW CONSTRUCTION

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.071 g
Design Spectral Acceleration at 0.2 sec. (SDs) = 0.127 g
Soil Site Class = C

EXISTING SUBSTRUCTURE

Seismic Performance Category (SPC) = A
Horizontal Bedrock Acceleration Coefficient = 0.039 g
Site Coefficient = 1.0

INDEX TO SHEETS

JOSEPH M. LOWRANCE 081-006446 LICENSED STRUCTURAL ENGINEER OF BLOOMINGTON ILLINOIS

Date 11-07-11

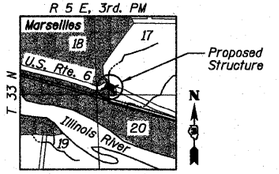
JOSEPH M. LOWRANCE
ILLINOIS STRUCTURAL ENGINEER
NO. 081-006446
Exp. Date 11/30/12

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

CURVE DATA:

F.A.P. 623 (U.S. Rte. 6)

PI STA. = 116+16.30
Δ = 48° 04' 30" (RT)
D = 17° 13' 49"
R = 332.53'
T = 148.31'
L = 279.01'
E = 31.58'
e = 0.045%
T.R. = 26'
S.E. RUN = 78'
P.C. STA = 114+67.99
P.T. STA = 117+47.00



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
U.S. ROUTE 6 OVER UNNAMED TRIBUTARY TO ILLINOIS RIVER
F.A.P. 623 - SECTION (G-1) BR-2
LASALLE COUNTY
STATION 116+48.43
STRUCTURE NO. 050-0184

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - JML	REVISED	
	CHECKED - MSW	REVISED	
	DRAWN - DJM	REVISED	
DATE - 11/07/11	CHECKED - MSW	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. B1 OF 20 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
623	(G-1) BR-2	LASALLE	48	17
		CONTRACT NO. 66972		
	ILLINOIS FED. AID PROJECT			

24-8559