

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Benchmarks: BM #1 Brass disk in top of Northwest wingwall, Station 729+58/16' LT., Elevation = 764.89.  
BM #2 Railroad spike in power pole, Station 730+63/29' LT., Elevation = 763.30.

Existing Structure: S.N. 006-0146, built in 1987 as SBI Route 18, Section 23 BR. 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 a concrete solid shaft pile bent pier supported by precast concrete piles. The back to back of abutment dimension measures 89'-9" and the out to out dimension measures 30'-0". The span lengths are 44'-10 1/2" each with no skew. Bridge to be closed and traffic detoured during construction.

No Salvage.

WATERWAY INFORMATION

Drainage Area = 24.1 Sq. Mi.		Low Grade Elev. 764.77 @ Sta. 731+00.00								
Flood Yr.	Freq.	Q C.F.S.	Opening Sq. Ft.		H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
10	10	2090	422	422	759.7	0.4	0.4	760.1	760.1	760.1
Design	50	3343	505	505	760.6	0.8	0.8	761.4	761.4	761.4
Base	100	3898	537	537	760.9	1.0	1.0	761.9	761.9	761.9
Overtopping										
Max. Calc.	500	5249	602	602	761.5	1.6	1.6	763.2	763.2	763.2

10 Yr. Velocity = 5.5 ft/sec. (Proposed)  
10 Yr. Velocity = 5.5 ft/sec. (Existing)

SCOUR INFORMATION

Design Scour Elevation (ft.)	South Abutment	Pier 1	Pier 2	North Abutment
	760.17	746.40	746.40	759.52

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

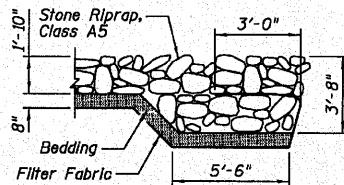
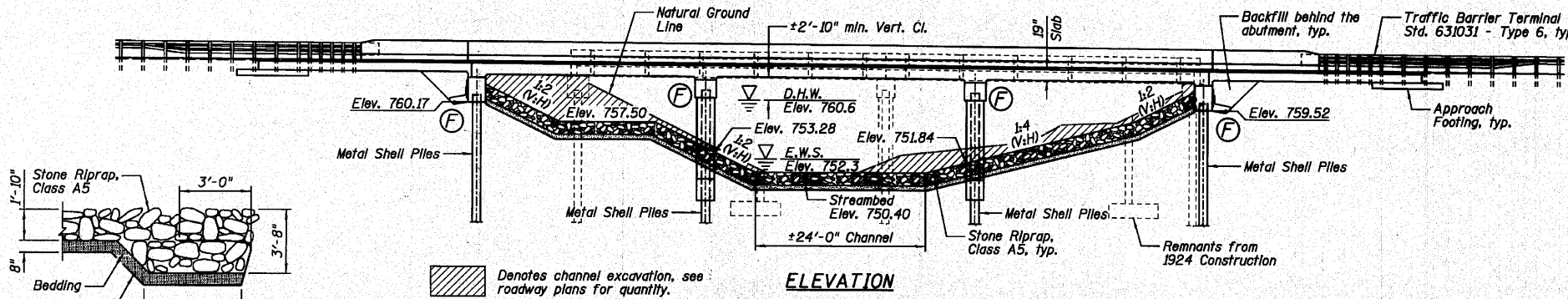
Allow 50#\*sq. ft. for future wearing surface.

SEISMIC DATA

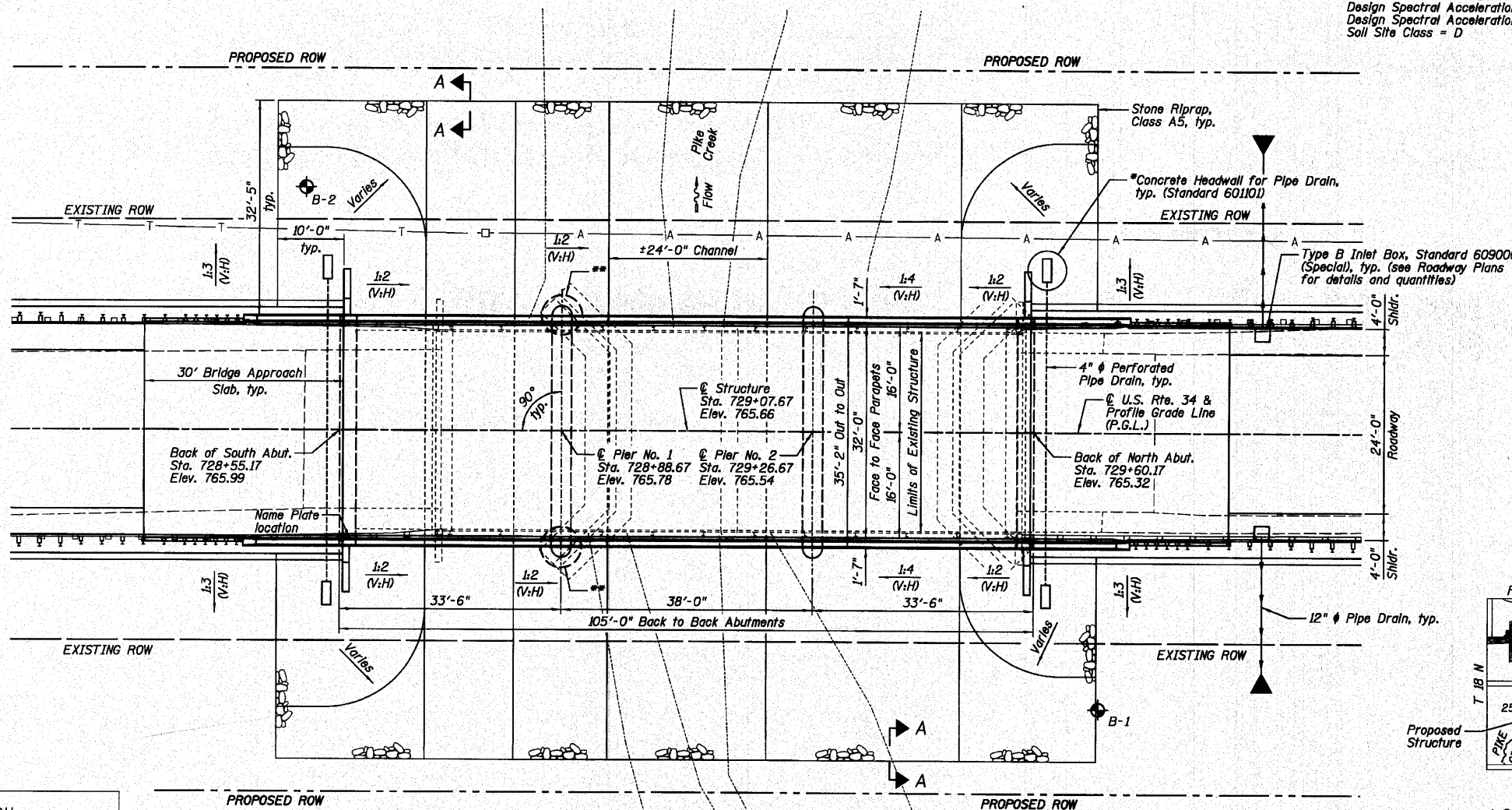
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.094 g  
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.156 g  
Soil Site Class = D

INDEX OF SHEETS

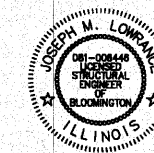
SHEET NO.	TITLE
B1	GENERAL PLAN AND ELEVATION
B2	GENERAL DATA
B3	TOP OF SLAB ELEVATION LOCATIONS AND ELEVATIONS
B4	APPROACH SLAB ELEVATIONS
B5	SUPERSTRUCTURE DECK
B6	SUPERSTRUCTURE CROSS SECTION
B7	SUPERSTRUCTURE DETAILS
B8-B9	BRIDGE APPROACH SLAB DETAILS
B10	SOUTH ABUTMENT
B11	NORTH ABUTMENT
B12	PIER NO. 1
B13	PIER NO. 2
B14	PIER DETAILS
B15	METAL SHELL PILE DETAILS
B16-B17	SOIL BORING LOGS



SECTION A-A



PLAN



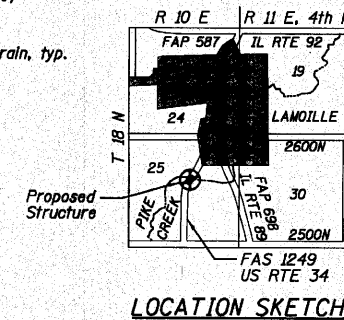
JOSEPH M. LOWRANCE  
ILLINOIS STRUCTURAL ENGINEER  
NO. 081-006446  
Exp. Date 11/30/10

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

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

NOTES:

- Included in the cost of Pipe Underdrains for Structures 4".
- Pile location coincides with the limits of the existing 1924 footing. See Pier No. 1 for additional information.



LOCATION SKETCH

GENERAL PLAN AND ELEVATION  
U.S. ROUTE 34 OVER PIKE CREEK  
F.A.S. 1249 - SECTION (23 BR)BR  
BUREAU COUNTY  
STATION 729+07.67  
STRUCTURE NO. 006-0182

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

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

SHEET NO. B1  
17 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1249	(23 BR)BR	BUREAU	39	14
CONTRACT NO. 66909				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		