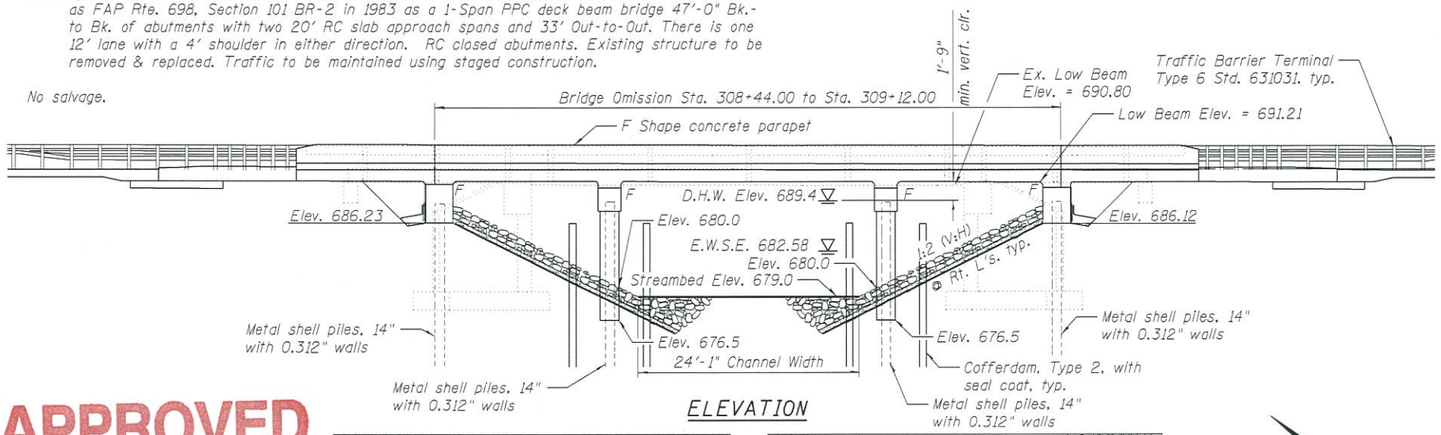
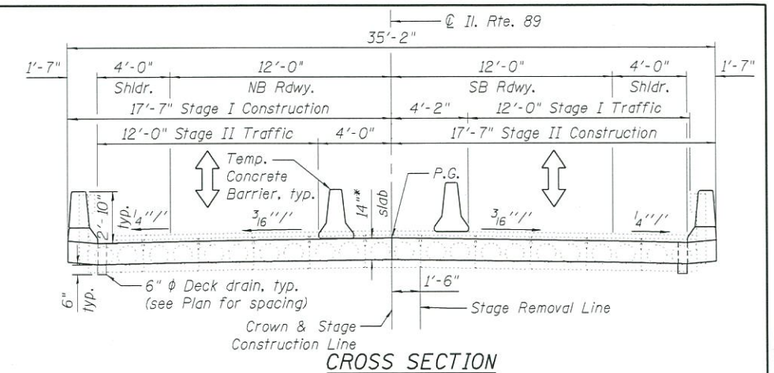
Bench Mark: BM2 Elev. 690.31 chiseled "□" in the N.E. wingwall of existing S.N. 006-0106

Existing Structure: S.N. 006-0106 Built in 1927 as FAP Rte. 698, Section 101-B and reconstructed as FAP Rte. 698, Section 101 BR-2 in 1983 as a 1-Span PPC deck beam bridge 47'-0" Bk.-to Bk. of abutments with two 20' RC slab approach spans and 33' Out-to-Out. There is one 12' lane with a 4' shoulder in either direction. RC closed abutments. Existing structure to be removed & replaced. Traffic to be maintained using staged construction.

No salvage.



ELEVATION



CROSS SECTION

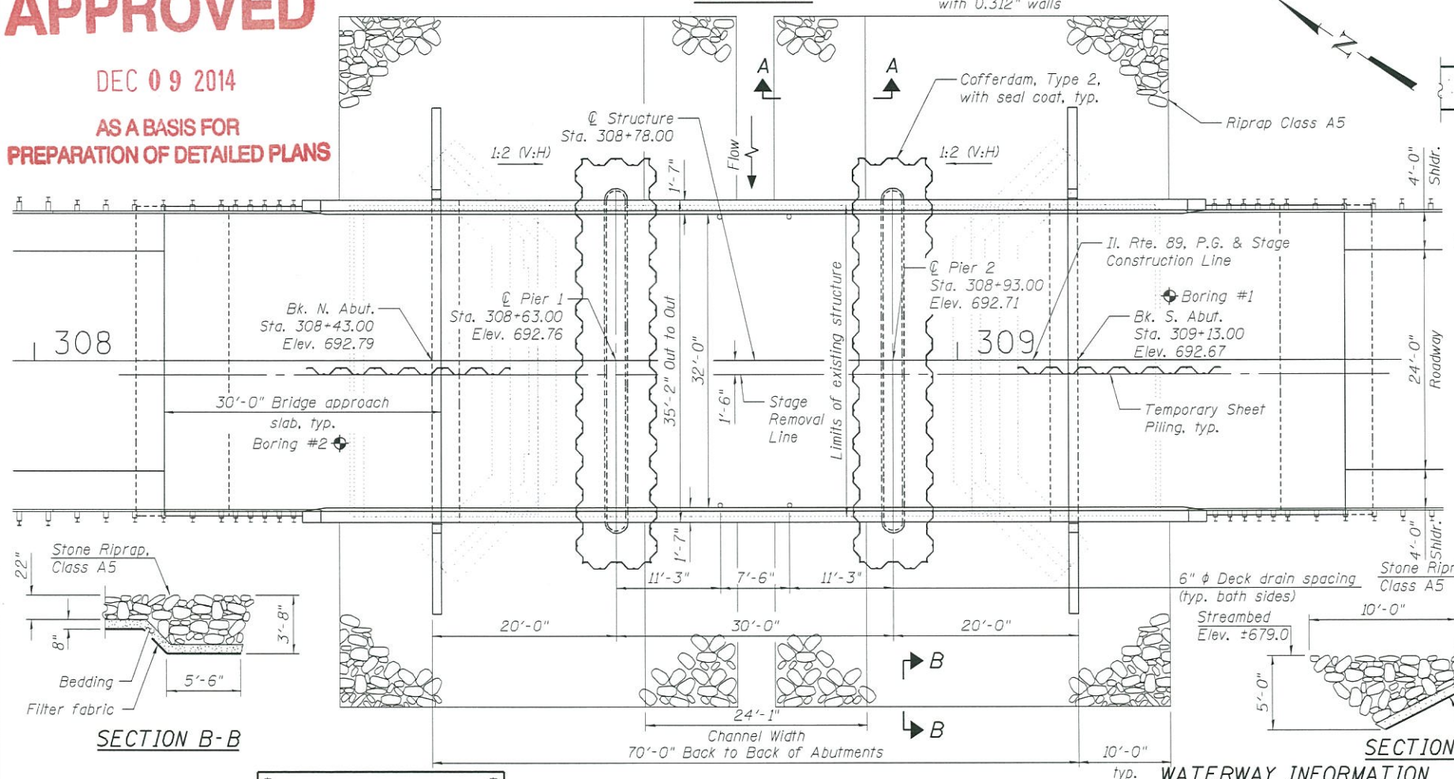
(Looking South)

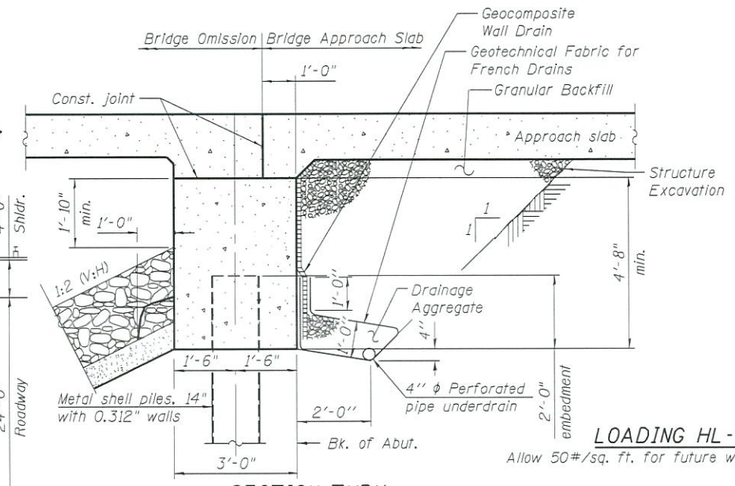
*Subject to refinement during design

APPROVED

DEC 09 2014

AS A BASIS FOR PREPARATION OF DETAILED PLANS





SECTION THRU INTEGRAL ABUTMENT

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interim Revisions

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi

fy = 60,000 psi (Reinforcement)

SEISMIC DATA

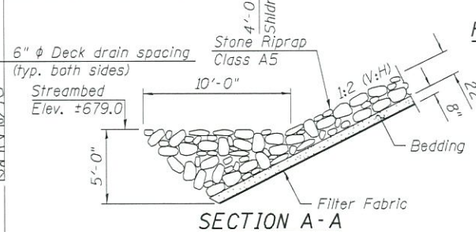
Seismic Performance Zone (SPZ) = 1

Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.095g

Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.159g

Soil Site Class = D

SECTION B-B



SECTION A-A

HIGHWAY CLASSIFICATION

F.A.P. Rte. 698 - Il. Rte. 89

Functional Class: Minor Arterial

ADT: 1,750 (2013); 1,913 (2032)

ADTT: 158 (2013)

DHV: 210

Design Speed: 55 m.p.h.

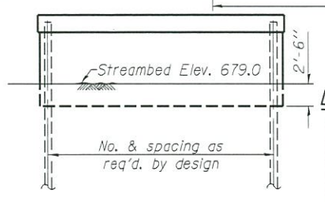
Posted Speed: 55 m.p.h.

Two-Way Traffic

Directional Distribution: 50:50

PROFILE GRADE

(along ℄ roadway)



PIER SKETCH

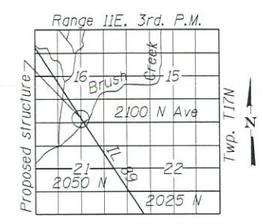
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)				Item 113
	N. Abut.	Piers 1 & 2	S. Abut.	
Q100	686.23	653.96	686.12	5
Q200	686.23	653.75	686.12	
Design	686.23	653.96	686.12	
Check	686.23	653.75	686.12	

WATERWAY INFORMATION

Drainage Area = 21.0 mi.^{2} Low Grade Elev. 690.8 @ Sta. 317+24

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	2258	347	371	688.6	2.2	1.6	690.8	690.2
Ex. Overtopping	14	2516	354	380	688.8	1.6	1.5	690.4	690.2
Pr. Overtopping	16	2673	359	386	688.9	2.2	2.1	691.1	691.0
Hyd. Design	50	3666	382	417	689.4	2.2	2.1	691.6	691.5
Base	100	4297	395	435	689.7	2.2	2.1	691.9	691.8
Scour Design	200	4970	407	452	690.0	2.1	2.0	692.1	692.0
Max. Calc.	500	5846	422	472	690.3	2.1	2.0	692.5	692.3



LOCATION SKETCH

GENERAL PLAN

ILLINOIS ROUTE 89 OVER

BRUSH CREEK

F.A.P. RTE. 698 - SEC. (101 BR-2)BR

BUREAU COUNTY

STA. 308+78.00

STRUCTURE NO. 006-0188

BLOOM COMPANIES, LLC
Infrastructure Innovation and Security
600 W. Fulton Street, Suite 701 • Chicago, IL 60661
Phone: (312) 876-1500 Fax: (312) 876-9600

USER NAME = bmattas	DESIGNED - BCM	REVISED	
	CHECKED - BT/MO	REVISED	
PLOT SCALE = N/A	DRAWN - BCM	REVISED	
PLOT DATE = 12/8/2014	CHECKED - 12/8/14	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(101 BR-2)BR	BUREAU		
		CONTRACT NO. 66A21		
		ILLINOIS FED. AID PROJECT		

FILENAME = F:\3-1308 IDOT\Dist 3\3-1308C IL89bridge\Drawings\CADD\Sheets\0060188-66021-TS1-001.dgn