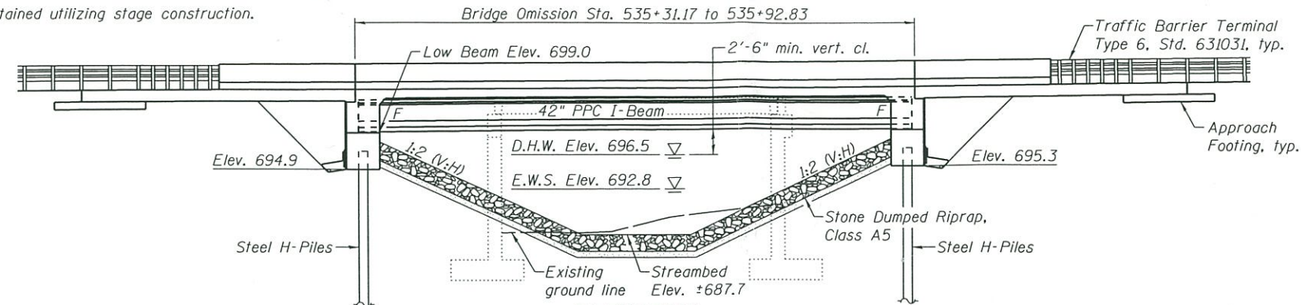
Benchmark: Chiseled square on top of northwest wingwall, Sta. 535+81.60, 17.45' RT, Elev. 700.48.

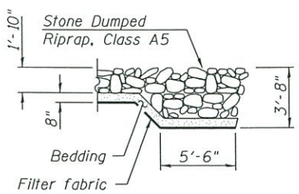
Existing Structure: S.N. 072-0020 was originally built in 1926 as S.B.I. 30, Section 8B and was reconstructed in 1977 as F.A.P. 661, Section 8BR. The structure consists of a single span of precast concrete channel beams with a bituminous wearing surface supported by closed abutments founded on timber piles. The back to back abutment length is 32'-8½" and the out to out width is 33'-9". Structure to be removed and replaced.

Traffic Control: One lane of traffic will be maintained utilizing stage construction.

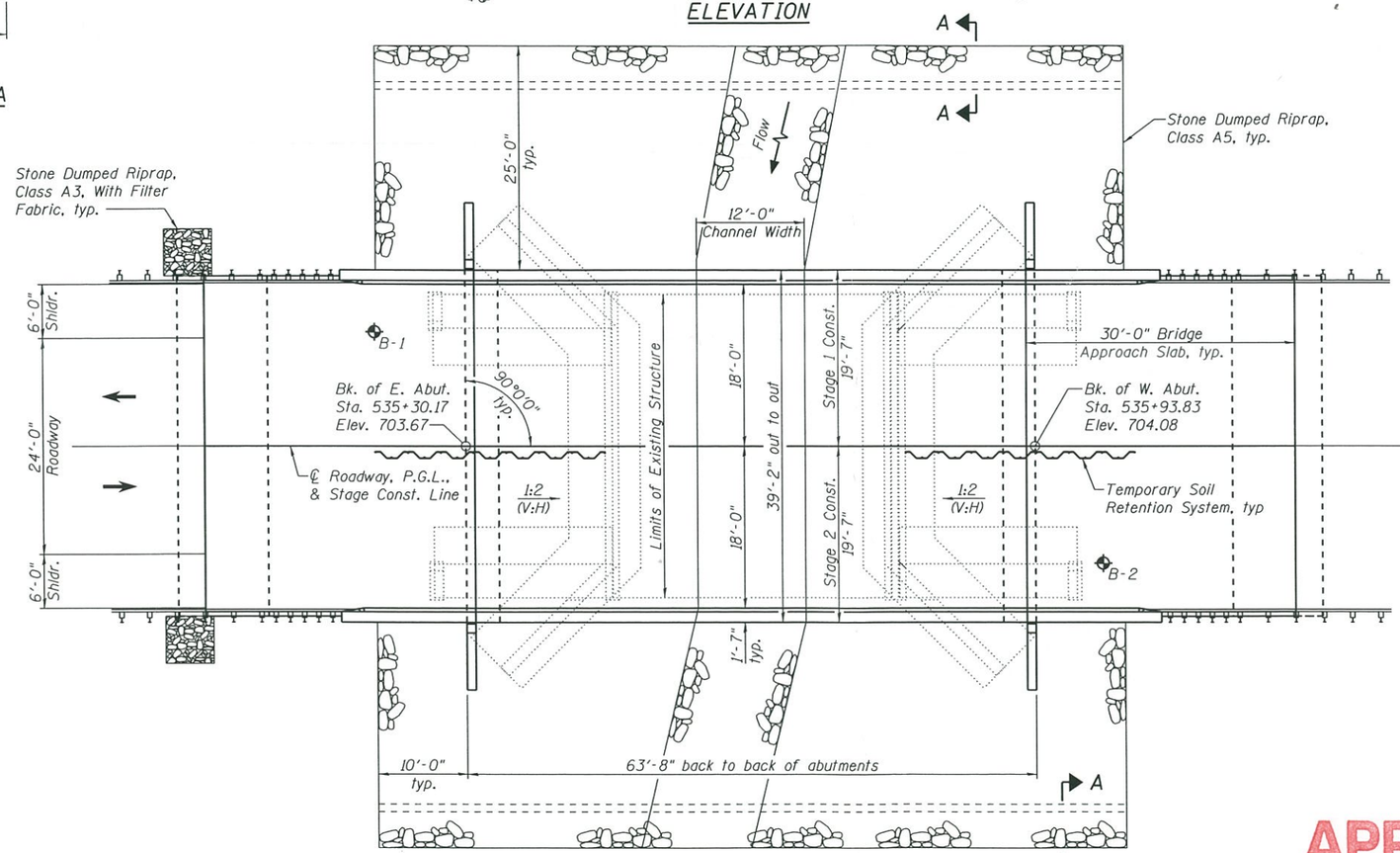
Salvage: None



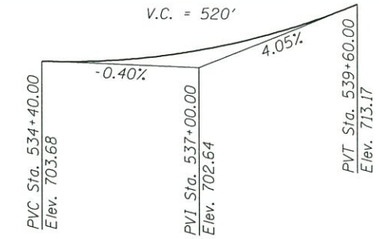
ELEVATION



SECTION A-A



PLAN



PROFILE GRADE
(Along ℄ Roadway)

HIGHWAY CLASSIFICATION

F.A.P. Rte. 661 - IL Rte. 90/91
Functional Class: Minor Arterial (Rural)
ADT: 3,450 (2013); 4,210 (2033)
ADTT: 338 (2013); 413 (2033)
DHV: 421
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
f'c = 4,000 psi (Superstructure concrete)
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

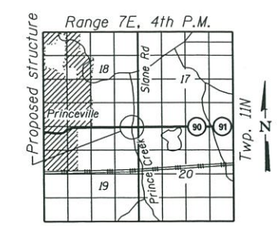
f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½" ϕ low-relax strands)
fpbt = 201,960 psi (½" ϕ low-relax strands)

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) = 0.075
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.122
Soil Site Class = C



LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 3.21 sq. mi.
Existing Low Grade Elev. 703.1 at Sta. 535+80
Proposed Low Grade Elev. 703.5 at Sta. 534+80

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	973	143	192	695.0	0.34	0.04	695.4	695.1
Design	50	1,580	186	257	696.5	0.71	0.05	697.2	696.5
Base	100	1,870	202	282	697.0	0.98	0.11	698.0	697.1
Max. Calc.	500	2,560	228	327	697.9	1.79	0.42	699.7	698.3

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.) E. Abut.	W. Abut.	Item 113
0100	694.9	695.3	8
0200	694.9	695.3	
Design	694.9	695.3	
Check	694.9	695.3	

APPROVED
FEB 01 2016
AS A BASIS FOR PREPARATION OF DETAILED PLANS

GENERAL PLAN & ELEVATION
IL ROUTE 90/91 OVER PRINCE CREEK
F.A.P. RTE. 661 - SEC. (8B)BR-1
PEORIA COUNTY
STATION 535+62.00
STRUCTURE NO. 072-0247

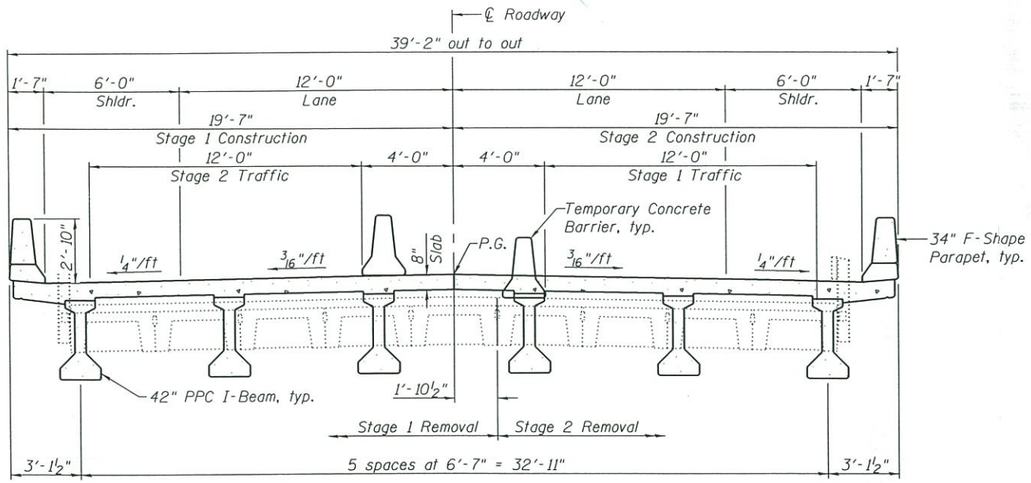
FILE NAME = H:\P\29848\WO 3 SN072-0020 .DA.SCI.IL 90 and 91 over Prince Creek Phase 1\Structural\TSL\Microstation\9728247-68668-001-General Plan & Elevation.dgn

DATES ASSOCIATES Engineering + Architecture ILLINOIS DESIGN FIRM LICENSE NO: 184.001115	USER NAME =	DESIGNED - JAD	REVISED -
		CHECKED - KBC	REVISED -
	PLOT SCALE =	DRAWN - JAD	REVISED -
	PLOT DATE = 11/16/2015	CHECKED - KBC	REVISED -

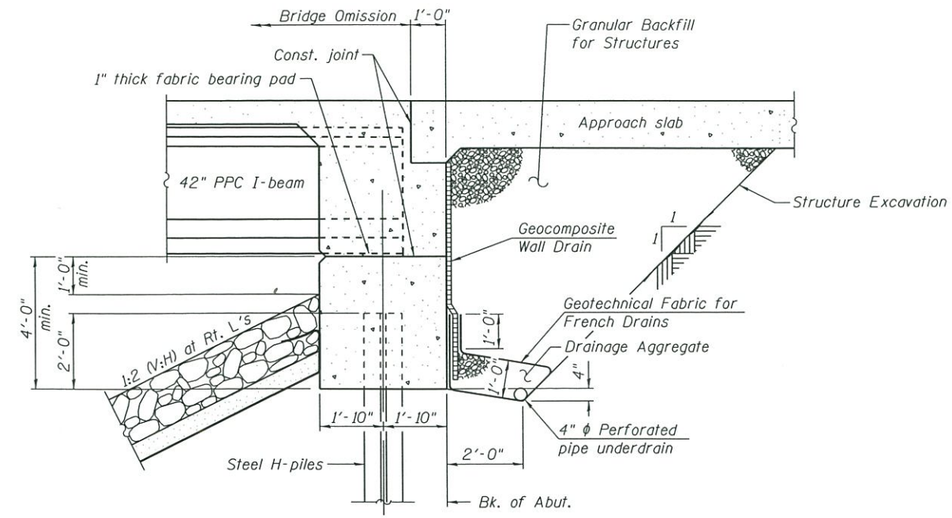
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
661	(8B)BR-1	PEORIA		
		CONTRACT NO. 68668		
		ILLINOIS FED. AID PROJECT		



CROSS SECTION
(Looking West)



SECTION THRU INTEGRAL ABUTMENT

APPROVED

FEB 01 2016

AS A BASIS FOR PREPARATION OF DETAILED PLANS

DETAILS
IL ROUTE 90/91 OVER PRINCE CREEK
F.A.P. RTE. 661 - SEC. (8B)BR-1
PEORIA COUNTY
STATION 535+62.00
STRUCTURE NO. 072-0247

FILE NAME = H:\P\29848\WO 3 SN072-0220 .DA.SCI.IL 90 and 91 over Prince Creek Phase 1\Structural\TSL\Microstation\0720247-68668-002-Details.dgn

OATES ASSOCIATES Engineering + Architecture	USER NAME =	DESIGNED - JAD	REVISED -
		CHECKED - KBC	REVISED -
	PLOT SCALE =	DRAWN - JAD	REVISED -
ILLINOIS DESIGN FIRM LICENSE NO: 184.001115	PLOT DATE = 11/16/2015	CHECKED - KBC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
661	(8B)BR-1	PEORIA		
		CONTRACT NO. 68668		
		ILLINOIS FED. AID PROJECT		