Bench Mark: RR spike set in power pole along south side of IL 34, Sta. 405+03 ℄ 30' Rt., Elev. 376.50'

Existing Structure: Structure No. 083-0022(E) (Orig. Constr. 1924; Rehab. 1981) consists of a single span 17" P.P.C. deck beam bridge on closed abutments. Back to back abutments measures 43'-2½" on a 0° skew. Clear width is ±32'-11" between rails and the overall out to out width of the bridge deck is ±33'-5"

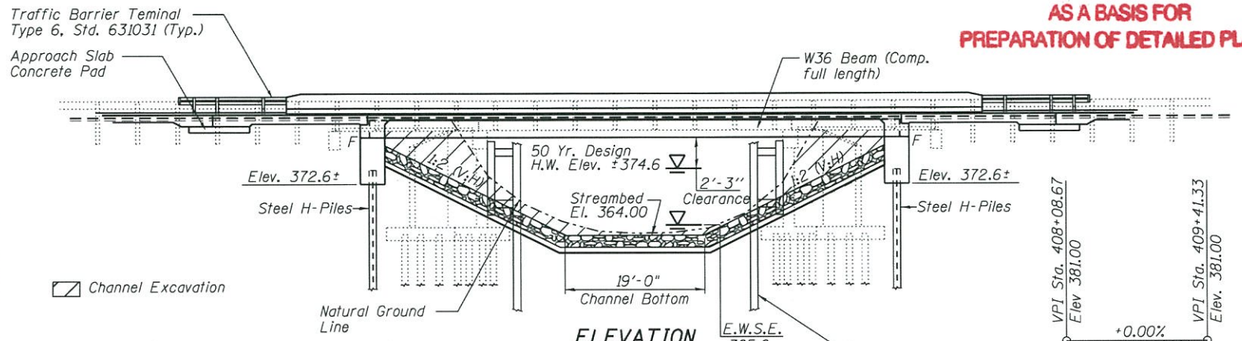
Salvage: None

Maintain traffic using stage construction.

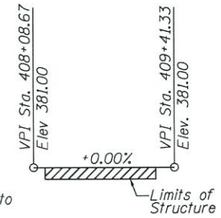
APPROVED

AUG 2 4 2015

AS A BASIS FOR PREPARATION OF DETAILED PLANS

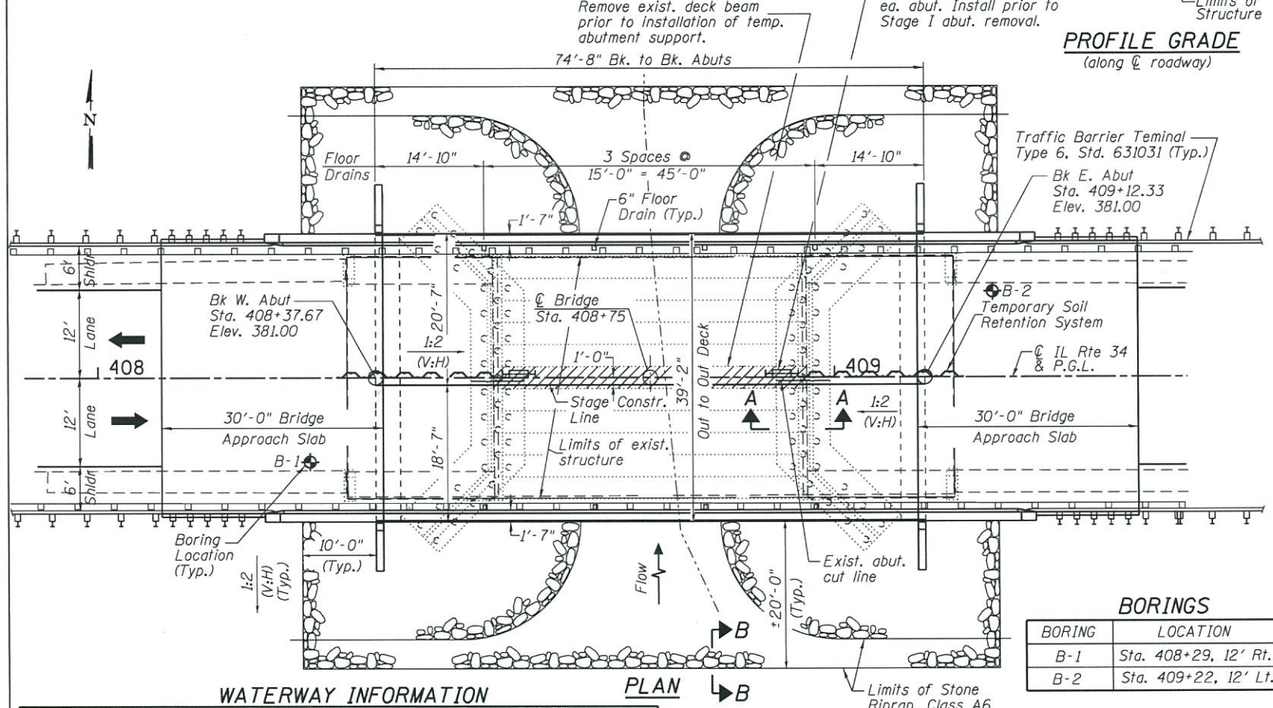


ELEVATION



PROFILE GRADE

(along ℄ roadway)



PLAN

BORINGS

BORING	LOCATION
B-1	Sta. 408+29, 12' Rt.
B-2	Sta. 409+22, 12' Lt.

WATERWAY INFORMATION

Drainage Area = 4.87 Sq. Mi.

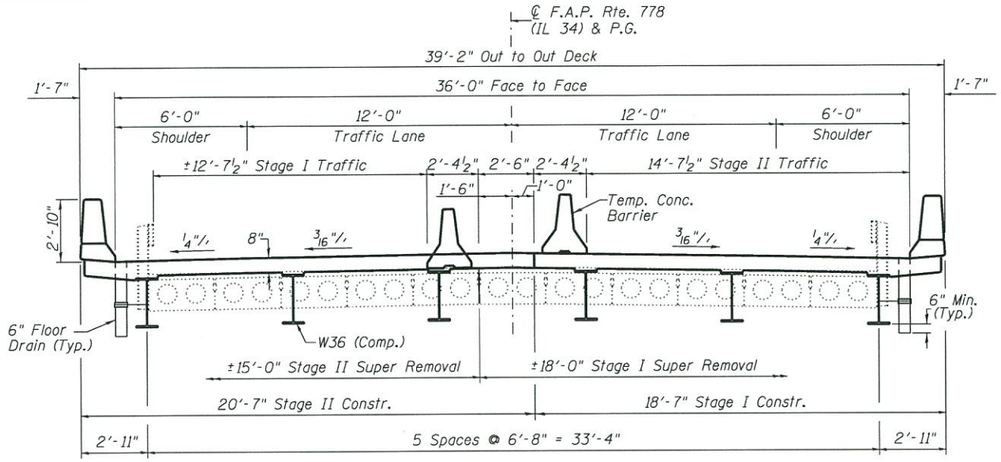
Existing Overtopping Elev. = 380.30 ℄ Sta. 399+47 to 407+90
Proposed overtopping Elev. = 380.30 ℄ Sta. 399+47 to 406+73

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	2350	271.6	341.7	373.1	0.7	0.7	373.8	373.8
Design	50	3980	331.2	430.5	374.6	1.6	1.5	376.2	376.1
Base	100	4730	347.1	455.6	375.0	2.4	1.8	377.4	376.8
S.D. Check	200	5555	363.0	481.5	375.4	3.2	2.2	378.6	377.6
Ovt. Exist.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ovt. Prop.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	6740	386.9	521.5	376.0	4.2	2.8	380.2	378.8

10-YR Vel. Existing Bridge = 8.65 ft/s 10-YR Vel. Proposed Bridge = 6.98 ft/s

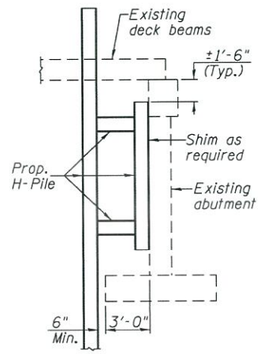
DESIGN SCOUR ELEVATION TABLE

Event/ Limit State	Design Scour Elevations (ft.) W. Abut.	E. Abut.	Item
Q100	372.6	372.6	113
Q200	372.6	372.6	
Design	372.6	372.6	8
Check	372.6	372.6	

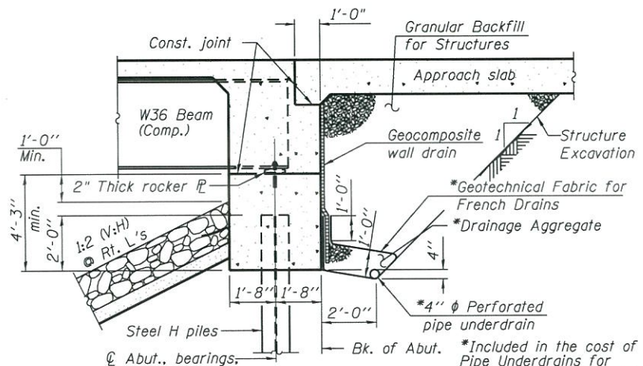


CROSS SECTION

(Looking East)



SECTION A-A
TEMP. ABUT. SUPPORT



SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. L's)

HIGHWAY CLASSIFICATION

Rte. F.A.P. 778 (IL 34)
Functional Class: Minor Arterial (Non-Urban)
ADT: 3,500 (2016); 4,720 (2036)
ADTT: 675 (2016); 905 (2036)
DHV: 470
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 50/50

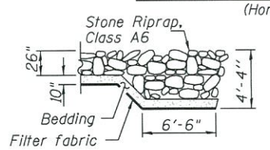
DESIGN STRESSES

FIELD UNITS
(PROPOSED)

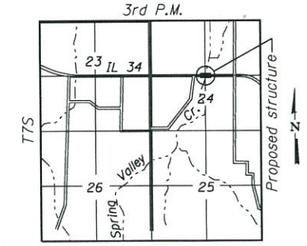
f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Conc.)
fy = 60,000 psi (Reinf.)
fy = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.344g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.815g
Soil Site Class = D



SECTION B-B



LOCATION SKETCH

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications w/2015 Interims

LOADING HL-93

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

NOTES:

1. Number, size and depth of Steel H-Piles to be determined in design.

GENERAL PLAN
F.A.P. ROUTE 778 (IL 34)
OVER SPRING VALLEY CREEK
SECTION 2B-3
SALINE COUNTY
STATION 408+75.00
STRUCTURE NO. 083-0070

CMT

USER NAME = Jim Michael	DESIGNED - M. Lachecki	REVISED -	
	CHECKED - W. Bailey	REVISED -	
PLOT SCALE =	DRAWN - G. Davis	REVISED -	
PLOT DATE = 8/21/2015 - 9:08:06 AM	CHECKED - W. Bailey	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 083-0070
SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	2B-3	SALINE		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			