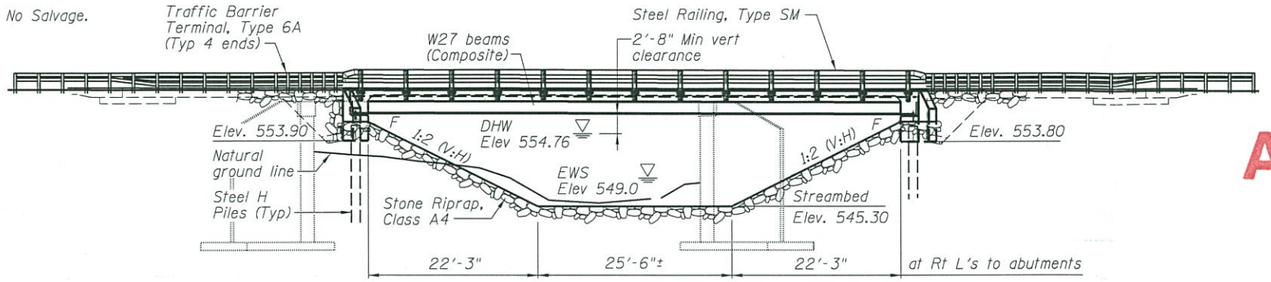
BM 17: Chiseled square on northeast wing wall on existing bridge carrying IL 8 over Hickory Creek. Elev 558.64

BM 18: Chiseled square on southwest wing wall on existing bridge carrying IL 8 over Hickory Creek. Elev 558.62

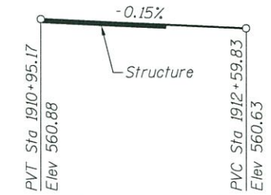
Existing Structure (SN 048-0017):
Single span PPC deck beam superstructure on closed abutments on spread footings supported by untreated timber piling. The structure length is 52.8' back to back abutments and the width is 33.0' out to out.

Traffic will be maintained using staged construction. The existing staging details are based on inspection data from November 2015. The ability of the existing PPC deck beams to carry stage traffic loads shall be re-verified during the design phase based on the most recent inspection data available at that time.

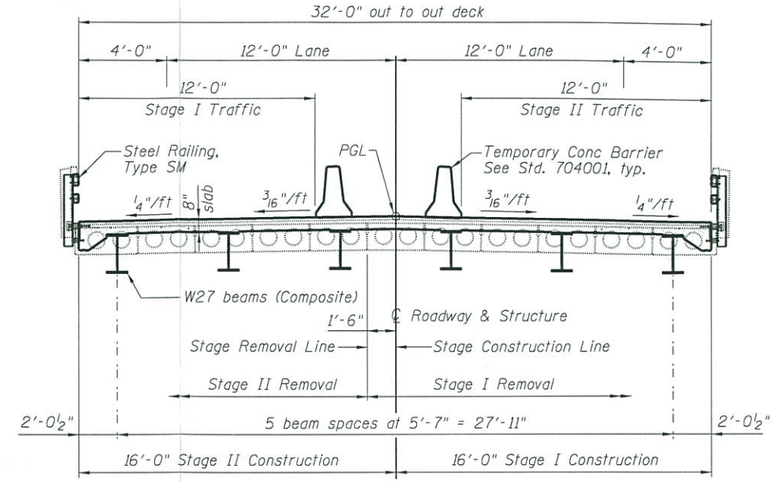
No Salvage.



ELEVATION

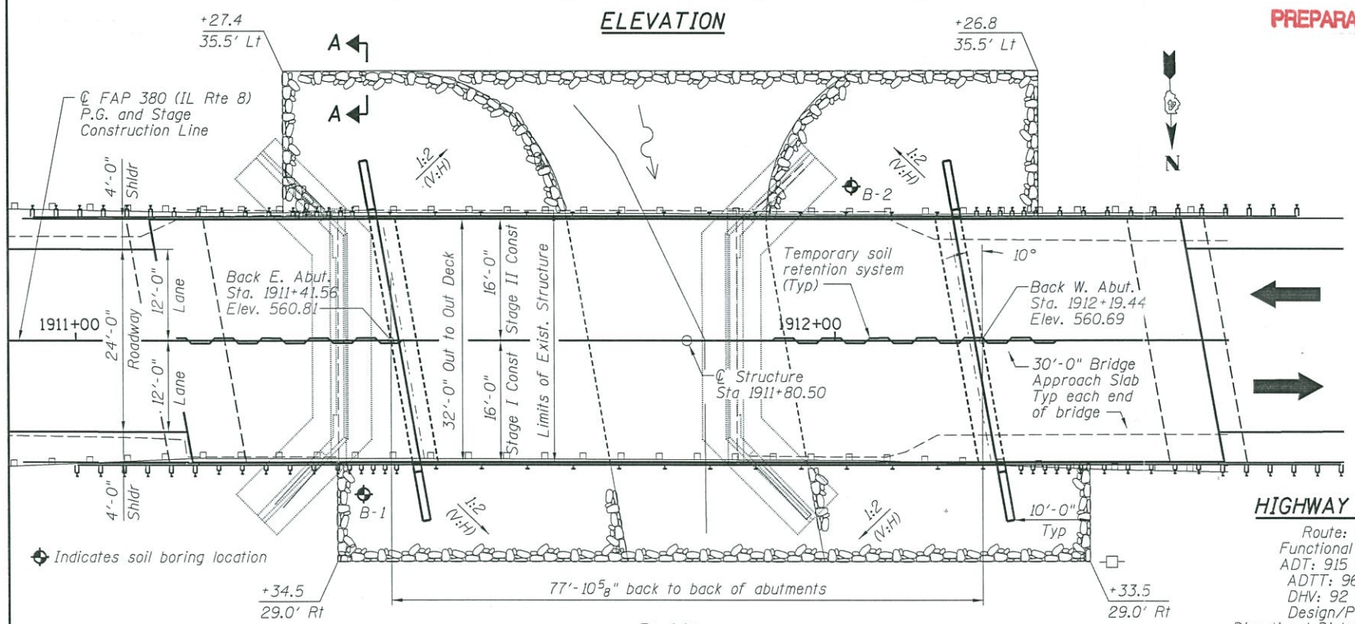


PROFILE GRADE
(Along ℄ Rdwy)

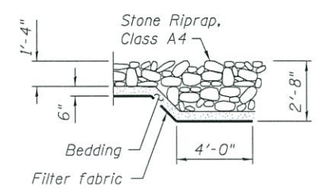


SECTION THRU DECK
(Looking West)

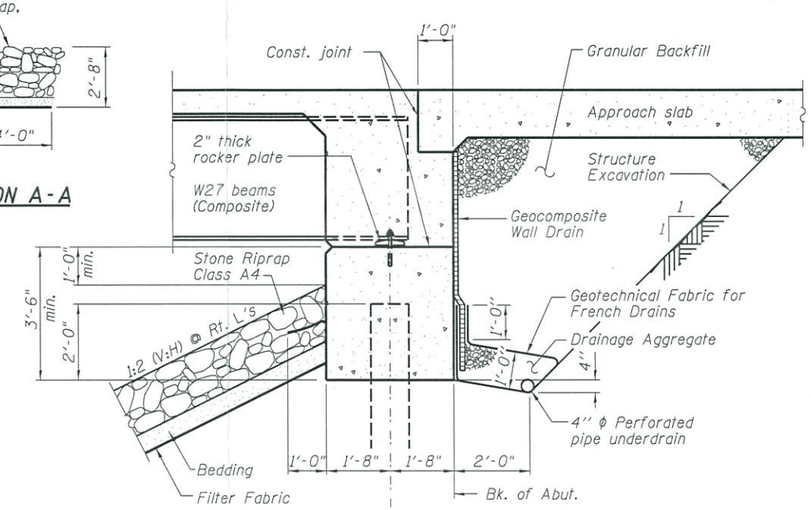
APPROVED
JUN 14 2016
AS A BASIS FOR PREPARATION OF DETAILED PLANS



PLAN



SECTION A-A



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

HIGHWAY CLASSIFICATION

Route: FAP 380 (ILRte 8)
Functional Class: Major Collector
ADT: 915 (2014) 1,117 (2034)
ADTT: 96 (2014) 117 (2034)
DHV: 92 (2014) 112 (2034)
Design/Posted Speed: 55 mph
Directional Distribution: 50-50 2 way traffic

LOADING HL-93

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

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications
7th Edition with 2016 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
f'c = 5,000 psi (Superstructure concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Structural Steel M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 Sec. (S_{D1}) = 0.076g
Design Spectral Acceleration at 0.2 Sec. (S_{DS}) = 0.122g
Soil Site Class = C

DESIGN SCOUR ELEVATION TABLE

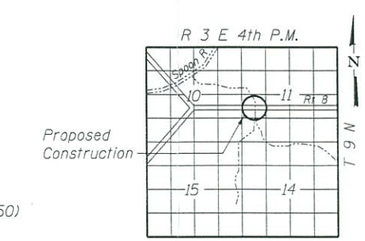
Event / Limit State	Design Scour Elevations (ft.) E. Abut.	W. Abut.	Item 113
Q100	553.90	553.80	8
Q200	553.90	553.80	
Design	553.90	553.80	
Check	553.90	553.80	

WATERWAY INFORMATION

Drainage Area = 9.05 sq mi
Exist Low Grade Elev. 559.38 @ Sta. 1901+75
Prop Low Grade Elev. 559.38 @ Sta. 1901+75

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
	10	1,700	265	383	554.25	1.14	1.09	555.39	555.34
Design	50	2,690	290	415	554.76	1.71	1.49	556.47	556.25
Base	100	3,150	299	426	554.93	2.19	1.73	557.12	556.66
Overtop Exist	180	3,540	305	-	555.06	2.63	-	557.69	-
Overtop Prop	238	3,720	-	438	555.12	-	2.02	-	557.14
Max. Calc.	500	4,240	315	447	555.26	3.48	2.32	558.74	557.58

10 year velocity through existing bridge = 5.76 fps
10 year velocity through proposed bridge = 3.67 fps



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
IL ROUTE 8 OVER HICKORY CREEK
F.A.P. ROUTE 380
SECTION 44BR-1
KNOX COUNTY
STATION 1911+77.50
STRUCTURE NUMBER 048-0094

FILE NAME = I:\IDOT\5497.02_IL_8\CADD_Structural\TS&Lskewed.dgn

CHASTAIN & ASSOCIATES LLC CONSULTING ENGINEERS 184-001397	USER NAME = rking	DESIGNED - JMB	REVISED -
	PLOT TIME = 3:59:20 PM	CHECKED - ACB	REVISED -
	PLOT SCALE = 20.0000 ' / in.	DRAWN - RLK	REVISED -
	PLOT DATE = 5/25/2016	CHECKED - JMB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 048-0094
SHEET NO. OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
380	44BR-1	KNOX		
		CONTRACT NO.		
STA.	ILLINOIS FED. AID PROJECT			