APPROVED

JUN 21 2006

Bench Mark: Square cut in NW wingwall @ Sta. 627+93, Elev. 384.92
Existing Structure: S.N. 044-0013 Built in 1930 as SBI Rte. 146 Sec. 107A at Sta. 628+28 as a simple span reinforced concrete T-beam 52'-0" Bk.-Bk. abutment supported on timber piles. Bridge widening in 1983 at Sta. 628+24.63 with PPC deck beams & bituminous overlay. Traffic maintained utilizing stage construction.

No salvage

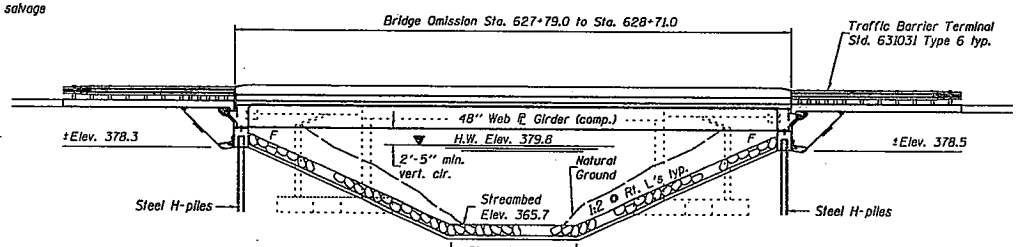
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

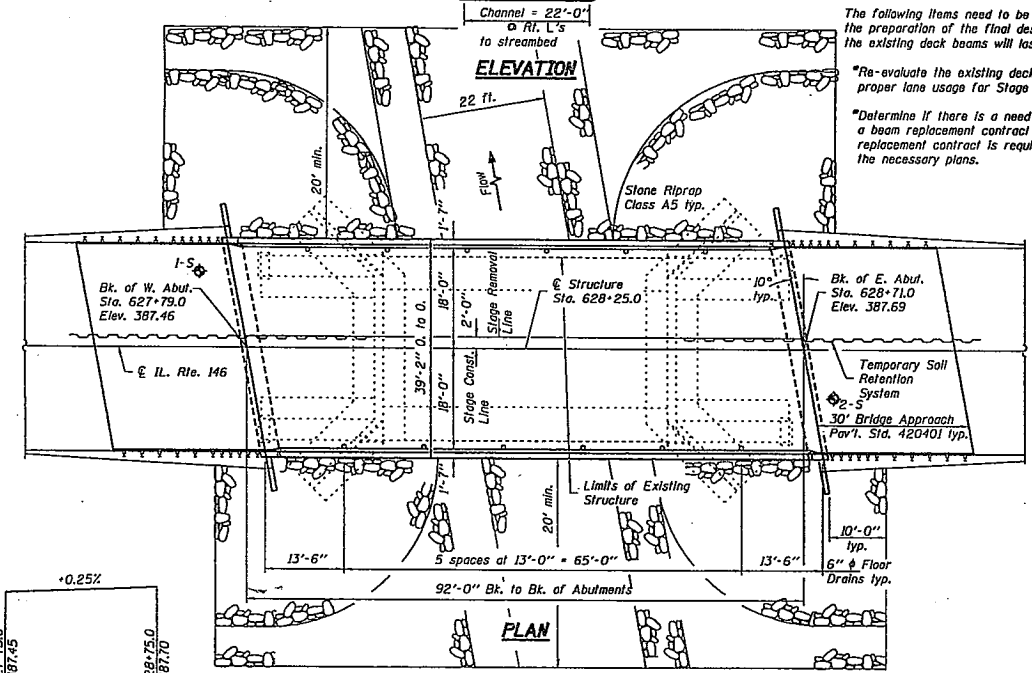
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	-	-		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
1 SHEETS

Contract #



ELEVATION

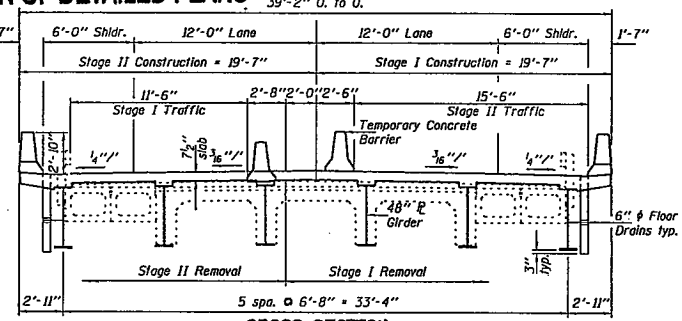


PLAN

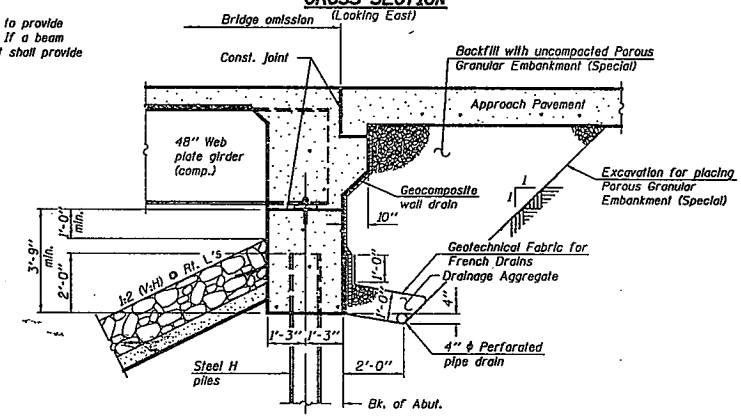
The following items need to be addressed during the preparation of the final design plans to ensure that the existing deck beams will last the duration of Stage I traffic:

*Re-evaluate the existing deck beams in order to verify the proper lane usage for Stage I traffic.

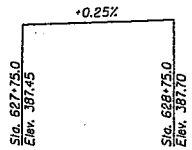
*Determine if there is a need to post the structure or to provide a beam replacement contract prior to Stage I traffic. If a beam replacement contract is required, the design consultant shall provide the necessary plans.



CROSS SECTION



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



PROFILE GRADE
(along ℄ Roadway)

HIGHWAY CLASSIFICATION

F.A.P. Rte. 885 - IL. Rte. 146
Functional Class: Other Principal Arterial
ADT: 2420(2006); 2960(2026)
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.

LOADING HL-93

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

DESIGN SPECIFICATIONS

2004 LRFD AASHTO w/2005 & 2006 Interims

DESIGN STRESSES

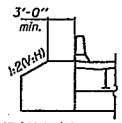
FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Bedrock Acceleration Coefficient (A) = 0.20g
Site Coefficient (S) = 1.0

Design Scour Elevation (feet)	W. Abutment	E. Abutment
	378.3	378.5



WINGWALL DETAIL

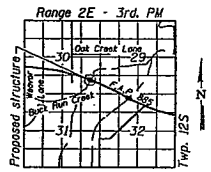
WATERWAY INFORMATION

Exist. Low Grade Elev. 386.77 @ Sta. 628+00 (Exist. Align.)
Prop. Low Grade Elev. 387.45 @ Sta. 627+75 (Prop. Align.)

Drainage Area = 6.51 mi.²

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	1940	414.9	631.4	378.8	0.3	0.3	379.1	379.1
Design	50	2930	464.9	707.8	379.8	0.7	0.4	380.5	380.2
Base	100	3350	484.9	739.5	380.2	0.6	0.2	380.8	380.4
Max. Calc.	500	4340	519.9	796.5	380.9	1.0	0.3	381.9	381.2

10 year velocity through existing bridge = 4.7 fps 10 year velocity through prop. bridge = 3.1 fps



LOCATION SKETCH

GENERAL PLAN
IL. ROUTE 146 OVER
BUCK RUN CREEK
F.A.P. ROUTE 885 - SEC. (107A)B-1
JOHNSON COUNTY
STA. 628+25.00
STRUCTURE NO. 044-0059

DESIGNED	R.J. Chaput
CHECKED	M.K. Christensen
DRAWN	W.D. Collins
CHECKED	M.K. Christensen

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

6-21-06

D-99-036-03

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