

B.M. Nail in Power Pole, Sta. 1449+35, 38' Lt. Elev = 459.17

Existing Structure: S.N. 029-0018, originally constructed in 1935. In 1971, the bridge was constructed as SBI 78, Section 137-BR-1 with the existing closed abutments widened and the deck replaced with single span PPC deck beams. In 1987 the bridge deck was resurfaced with a Waterproofing Membrane System (WMS) and a 1 3/4" class 1 wearing surface. Bridge railings were replaced, deck beams were repaired and riprap was placed at the north-west wingwall that same year. In February 2008, five deck beams were replaced (two at the north and three at the south edges of the bridge) and the bridge deck was resurfaced. The bridge measures 79'-4 3/4" back to back of abutments and 33' out to out of deck.

The existing bridge is to be removed and replaced. Traffic shall be maintained using stage construction

No salvage

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

DESIGN STRESSES

Field Units
 f'c = 3,500 p.s.i.
 fy = 60,000 p.s.i. (Reinforcement)
 fy = 50,000 p.s.i. (Structural Steel)
 AASHTO M270 Grade 50W

LOADING HL-93

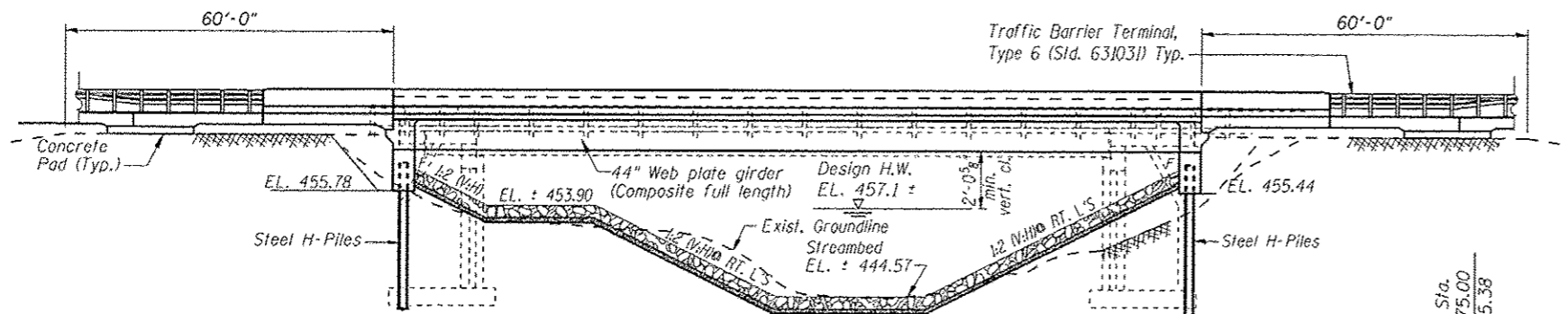
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 Sec. (SD1) = 0.09g
 Design Spectral Acceleration at 0.2 Sec. (S02) = 0.14g
 Soil Site Class = C

INDEX OF SHEETS

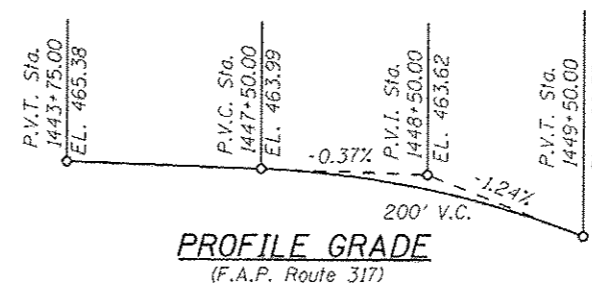
1. General Plan and Elevation
2. General Data
3. Footing Layout, Stage Construction Details
4. Top of Deck Elevations
5. Top of Deck Elevations
6. Top of East Approach Slab Elevations
7. Top of West Approach Slab Elevations
8. Superstructure
9. Superstructure Details
10. Diaphragm Details
11. Bridge Approach Slab Details
12. Bridge Approach Slab Details
13. Steel Beam Framing Plan and Details
14. Interior Steel Diaphragms and Bearing Details
15. East Abutment Details
16. West Abutment Details
17. HP Pile Details
18. Bar Splicer Assembly and Mechanical Splicer Details
19. Temporary Concrete Barrier for Stage Construction
20. Soil Boring Logs
21. Soil Boring Logs



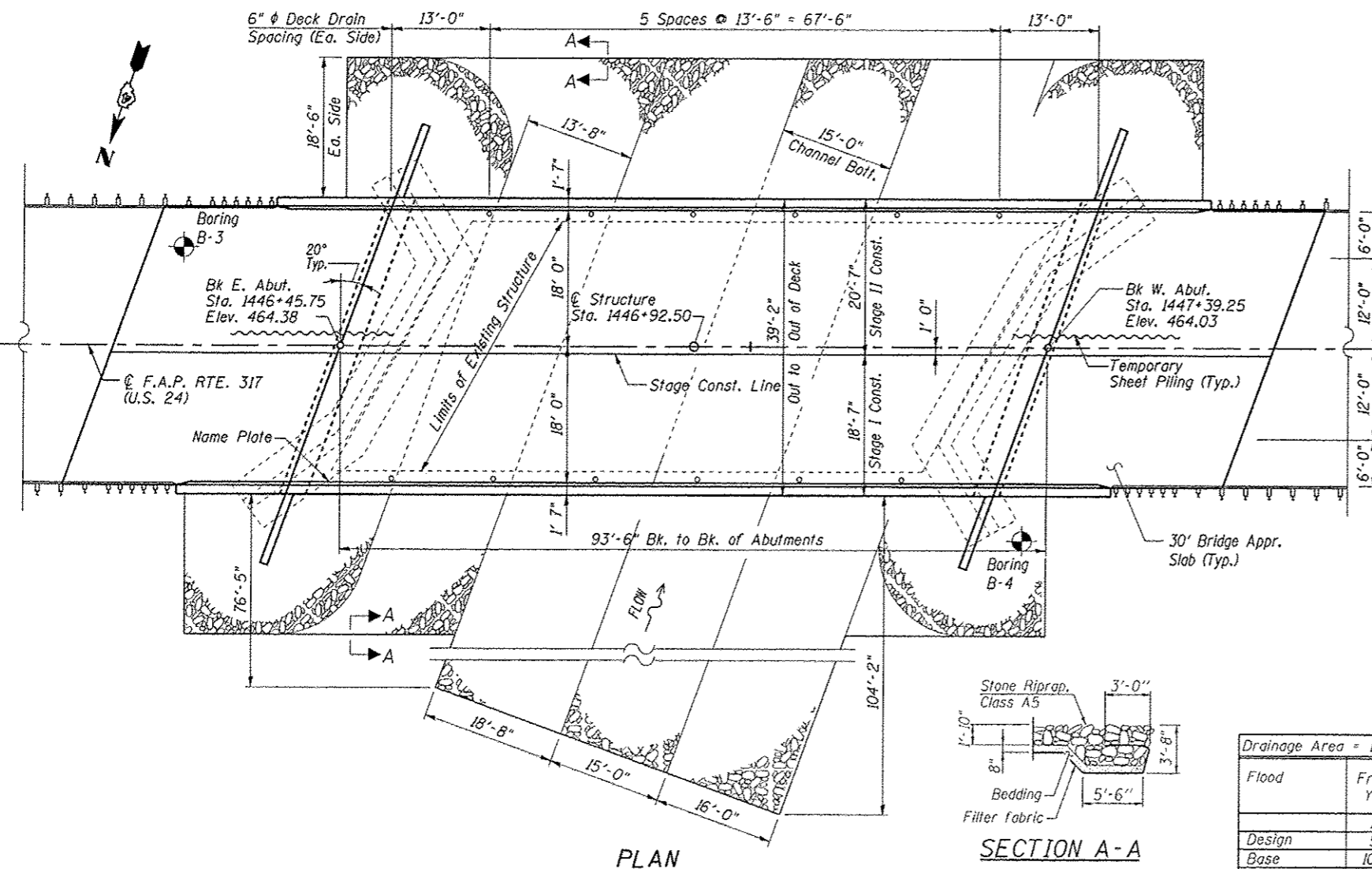
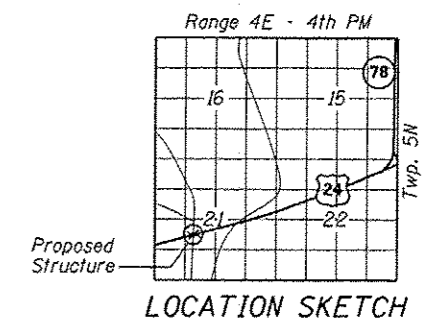
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)	E. Abut.	W. Abut.
	455.78	455.44

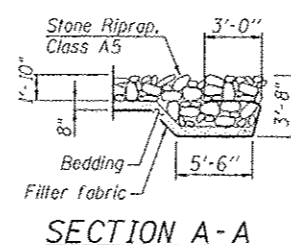
ELEVATION



PROFILE GRADE
(F.A.P. Route 317)



PLAN



SECTION A-A

WATERWAY INFORMATION

Drainage Area = 15.7 sq. miles Low Grade EL. 463.78 ft. @ Sta. 1448+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater EL.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	4,430	321	558	454.8	0.8	0.9	455.6	455.7
Base	100	5,210	485	583	457.4	1.0	1.3	458.1	458.0
Max. Calc.	500	7,100	522	635	458.0	3.1	2.4	461.1	460.4

APPROVED
For Structural Adequacy Only

D. Carl Loney JFS
Engineer of Bridges & Structures



Signed: *Olufemi A. Oladeinde*
OLUFEMI A. OLADEINDE, P.E., S.E. Date 12/11/2012
LICENSE EXPIRES 11-30-2014

GENERAL PLAN & ELEVATION
U.S. 24 OVER BIG SISTER CREEK
F.A.P. RTE. 317 - SEC. 137-BR-1
FULTON COUNTY
STATION 1446+92.50
STRUCTURE NO. 029-0074



USER NAME	DESIGNED - LRT	REVISED -
PROJECT SCALE	CHECKED - OAO	REVISED -
PLOT DATE	DRAWN - TCS	REVISED -
	CHECKED - LRT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 029-0074

SHEET NO. 1 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(137 BR, BR-1) BR	FULTON	118	64
			CONTRACT NO. 68699	
ILLINOIS FED. AID PROJECT				