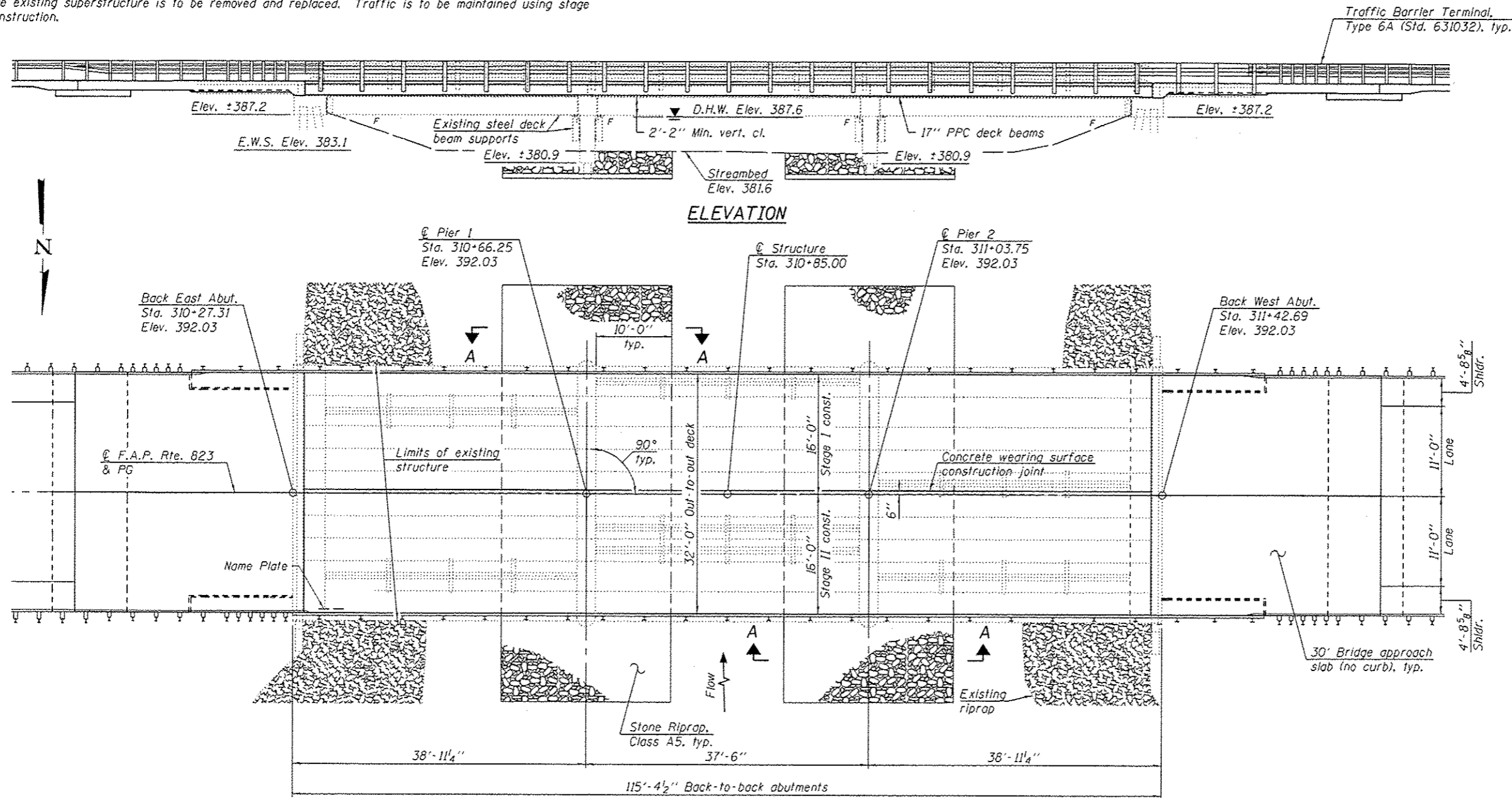


Benchmark: Chiseled "a" in the NE headwall of S.N. 096-0063, Station 310+27.1; offset 18.26' right; Elev. 391.677.

Existing Structure: S.N. 096-0063 built in 1983 as F.A. Route 823, Section 22BR-2 at Sta. 310+85.00. The existing structure consists of three spans simply supported precast prestressed concrete deck beam superstructure supported on concrete abutments with metal shell piles and pile bent piers with precast concrete piles. Back-to-back of abutment length is 115'-4 1/2" and out-to-out width of deck is 34'-0". The existing superstructure is to be removed and replaced. Traffic is to be maintained using stage construction.

Salvage: The existing steel beams located underneath the existing deck beams shall be carefully removed and salvaged. They shall be transported to a site designated by the Engineer and placed on wood blocking.



**DESIGN SPECIFICATIONS**  
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

**DESIGN STRESSES**  
FIELD & EXISTING UNITS

$f'_c = 3,500 \text{ psi}^*$   
 $f_y = 60,000 \text{ psi (reinforcement)}$

\* Superstructure concrete shall have a 28-day mix design with a compressive strength of 5,000 psi.

PRECAST PRESTRESSED UNITS

$f'_c = 6,000 \text{ psi}$   
 $f'_ci = 5,000 \text{ psi}$   
 $f_{pu} = 270,000 \text{ psi (1/2" } \phi \text{ low lax strands)}$   
 $f_{pbt} = 201,960 \text{ psi (1/2" } \phi \text{ low lax strands)}$

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Category (SPC) = B  
Bedrock Acceleration Coefficient (A) = 0.129g  
Site Coefficient (S) = 1.5

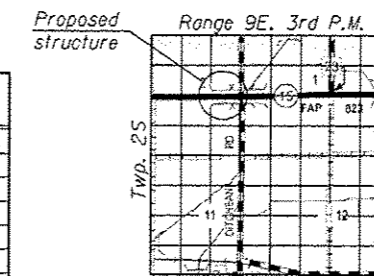
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)			
E. Abut.	Pier 1	Pier 2	W. Abut.
387.2	380.9	380.9	387.2

WATERWAY INFORMATION

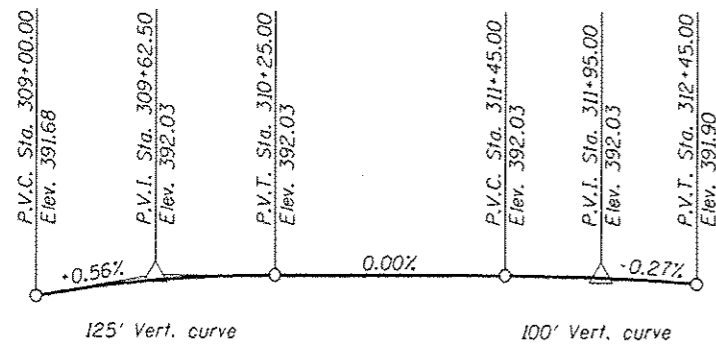
Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	528	276	276	385.9	0.5	0.5	386.4	386.4
Base	100	1789	508	508	388.2	0.6	0.6	388.8	388.8
Overlapping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	2862	654	654	389.5	0.6	0.6	390.1	390.1

10 Year velocity through existing bridge = 1.87 ft/s.



LOCATION SKETCH

**GENERAL PLAN & ELEVATION**  
**ILLINOIS ROUTE 15 OVER**  
**WHITE OAK OVERFLOW**  
**F.A.P. RTE. 823 - SEC. (22BR2)BR**  
**WAYNE COUNTY**  
**STATION 310+85.00**  
**STRUCTURE NO. 096-0063**



PROFILE GRADE  
(Along IL Rte. 15)



EXPIRES 11-30-2014

DESIGNED - *Gene Pankov*  
CHECKED - *Gene Pankov*  
DRAWN - MICHAEL B. MOSSMAN  
CHECKED - *JP/JOV/IGRA*

EXAMINED - *Jay F. Ludy*  
PASSED - *Jay F. Ludy*  
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - 9/16/14  
REVISED  
REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BR2)BR	WAYNE	34	17

CONTRACT NO. 74365  
ILLINOIS FED. AID PROJECT