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

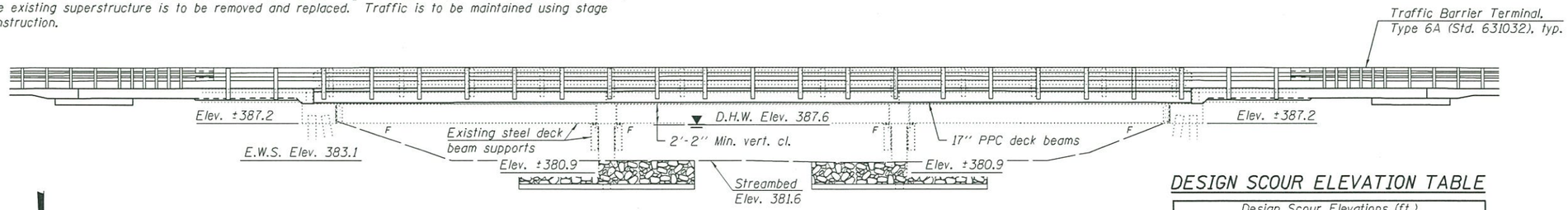
Existing Structure: S.N. 096-0063 built in 1983 as F.A. Route 823, Section 22BR-2 at Sta. 310+85.00. The existing structure consists of three spans simply supported precast prestressed concrete deck beam superstructure supported on concrete abutments with metal shell piles and pile bent piers with precast concrete piles. Back-to-back of abutment length is 115'-4½" 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.

APPROVED

JUL 31 2014

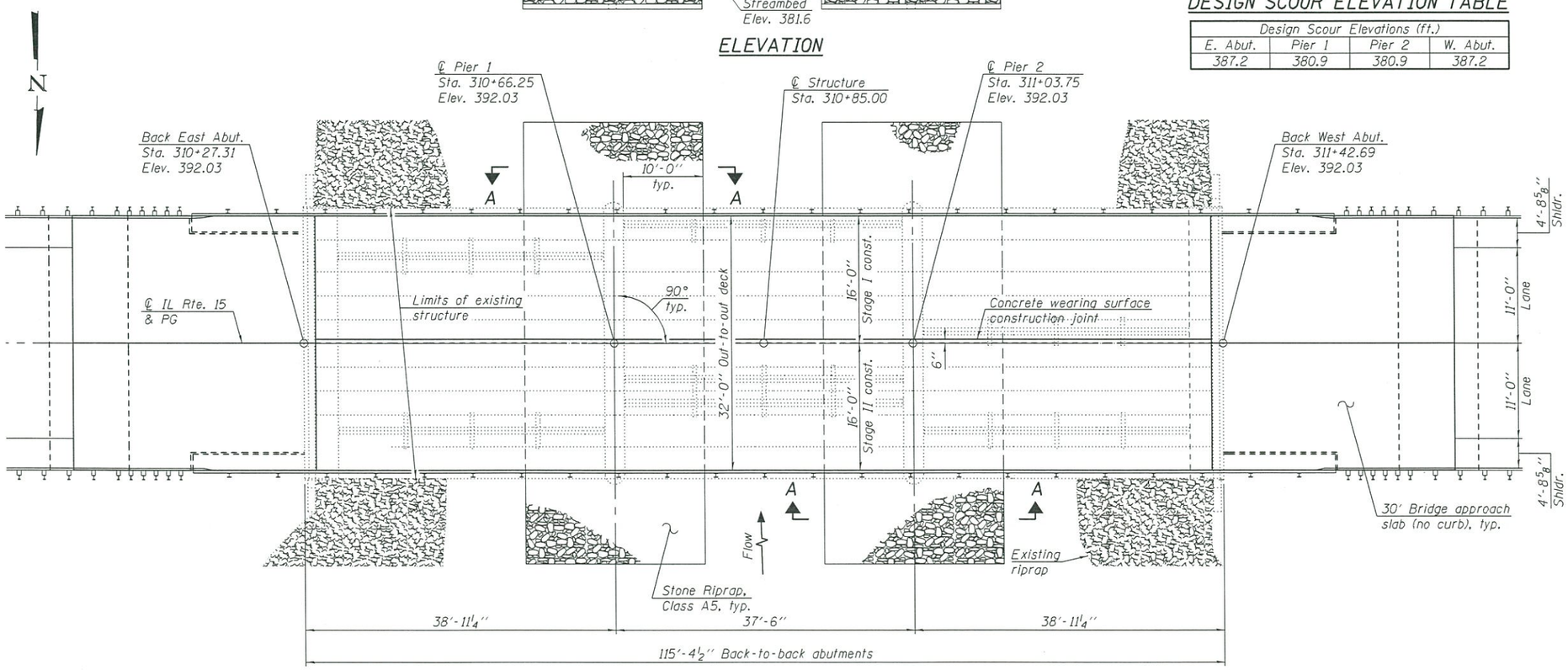
AS A BASIS FOR PREPARATION OF DETAILED PLANS



ELEVATION

DESIGN SCOUR ELEVATION TABLE

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



PLAN

Note:
Repairs to the substructure shall be made based on district sketch.
Location of new dowel rods shall be located to miss existing dowel rod locations.

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims
1995 Seismic Retrofitting Manual for Highway Bridges FHWA-RD-94/052

DESIGN STRESSES

FIELD & EXISTING UNITS

f'c = 3,500 psi * (field)
f'c = 3,500 psi (existing)
fy = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½" ϕ low lax strands)
fpbt = 201,960 psi (½" ϕ low lax strands)

HIGHWAY CLASSIFICATION

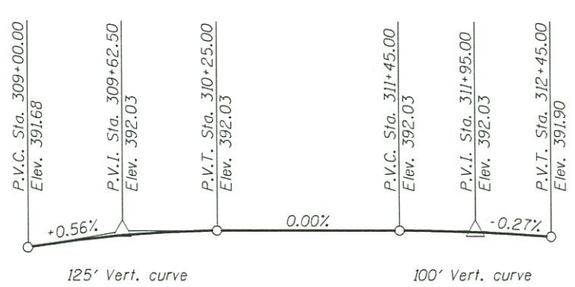
F.A.P. Rte. 823 - IL Rte 15
Functional Class: Rural Minor Arterial
ADT: 2250 (2011); 2540 (2017)
ADTT: 291 (2011)
DHV: 180
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

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



PROFILE GRADE

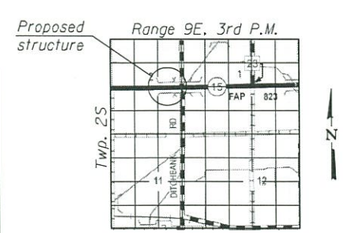
(Along IL Rte. 15)

WATERWAY INFORMATION

Drainage Area = 1.803 mi.²
Existing Low Grade Elev. 390.59 @ Sta. 290+50
Proposed Low Grade Elev. 390.59 @ Sta. 290+50

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	528	276	276	385.9	0.5	0.5	386.4	386.4
Design	50	1349	442	442	387.6	0.6	0.6	388.1	388.1
Base	100	1789	508	508	388.2	0.6	0.6	388.8	388.8
Overtopping	-	-	-	-	-	-	-	-	-
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

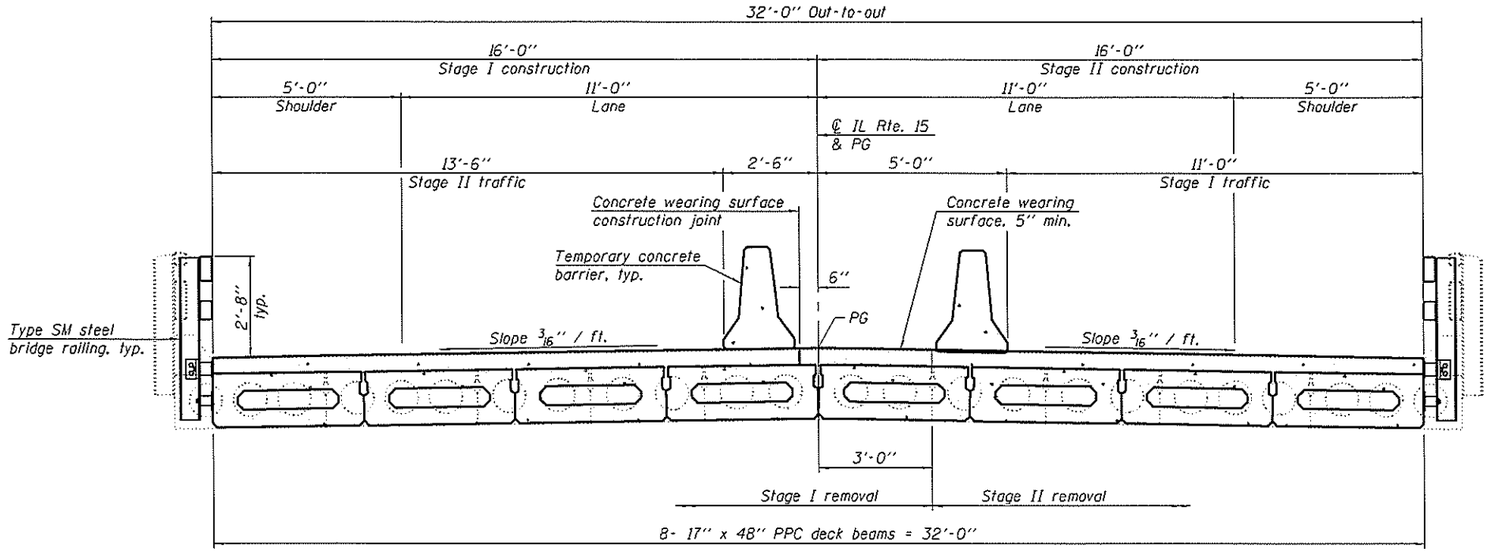
DESIGNED	-	JEFFREY S. BURKE
CHECKED	-	DEREK G. VERHULST
DRAWN	-	MICHAEL B. MOSSMAN
CHECKED	-	J.S.B. / D.G.V.

JULY 24, 2014

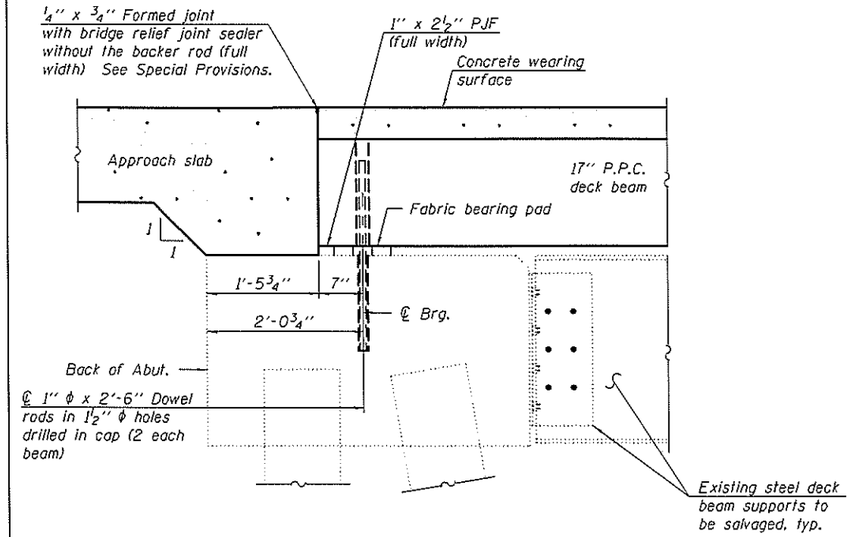
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

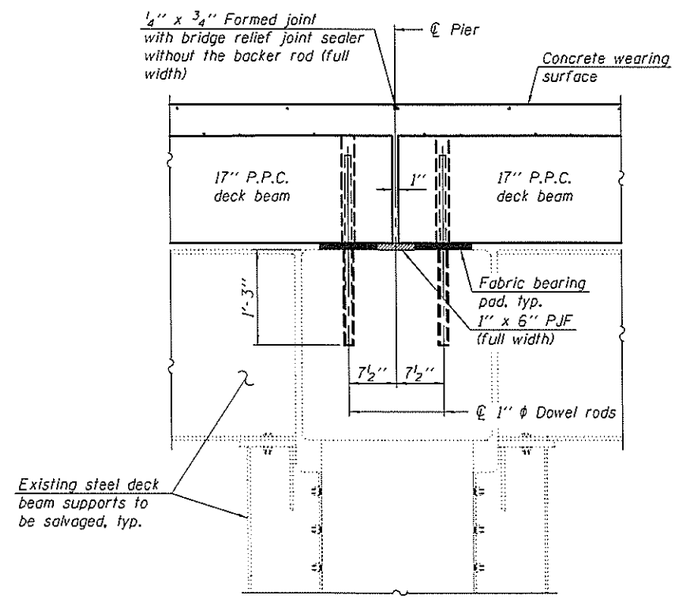
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BR2)BR	WAYNE		
		CONTRACT NO. 74365		
		ILLINOIS FED. AID PROJECT		



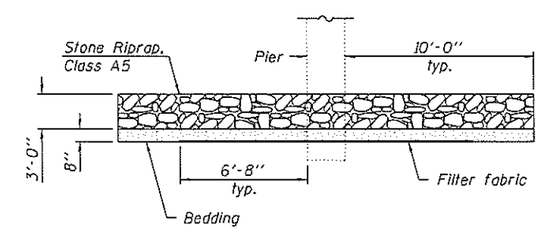
CROSS SECTION
(Looking West)



SECTION THRU ABUTMENT



SECTION THRU PIER



VIEW A-A

DETAILS
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

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JULY 24, 2014

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BR2)BR	WAYNE		
		CONTRACT NO. 74365		
		ILLINOIS FED. AID PROJECT		