

Bench Mark: Chisled square at SW corner of SB IL-171 Bridge over Des Plaines River. Elev. 622.14

Existing Structure: S.N. 016-1026 was originally built in 1964 under Section 0707-614B. The structure consists of seven spans with a 7 1/2" concrete deck that was replaced in 1994. Continuous spans 41 thru 44 consist of four girder lines with 36 WF beams from Pier 41 to the pin and link connections, variable height steel plate girders from the pin and link connections to Pier 42, and three spans of 60" web steel plate girders. Simply supported spans 45 thru 47 consist of five, six, and seven flared girder lines, respectively, all 60" web steel plate girders. The substructures consist of two multi-column piers, five solid wall piers, and a pile bent abutment. Pier 41 and the abutment are supported on steel piles, and all other piers are supported on spread footings. The structure is 687'-8 3/4" from centerline of Pier 41 to back of abutment, with an out to out deck width which varies from 29'-2" to 58'-3 1/2", with a 32°-16'-30" skew angle. The bridge shall be closed during construction. A detour shall be utilized to maintain traffic.

No salvage.

All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 618.58 = NAVD88 Elev. 618.30.

APPROVED
For Structural Adequacy Only

De Carl Perry
Engineer of Bridges & Structures

STATION 206+25.24
RE-BUILT 2013 BY
STATE OF ILLINOIS
F.A.P. RT. 372
SECTION 2013-038B-R
LOADING HS-20
STRUCTURE NO. 016-1026

LOADING HS20-44 (New Constr.)
No future wearing surface allowed.
DESIGN SPECIFICATIONS (New Constr.)

2002 AASHTO Standard Specifications
for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 35,000 psi (AASHTO M270 Grade 35 -
Cross Frames & Diaphragms)
fy = 50,000 psi (AASHTO M270 Grade 50 -
Splice Plates)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement - Superstructure)
fy = 40,000 psi (Reinforcement - Substructure).
fy = 35,000 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

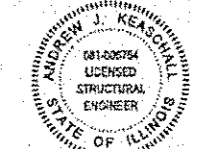
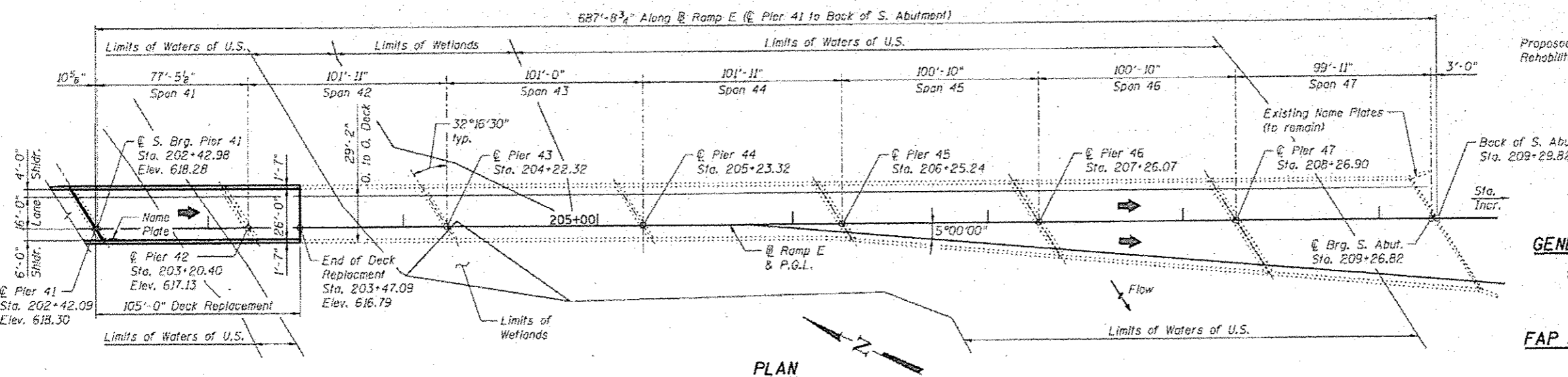
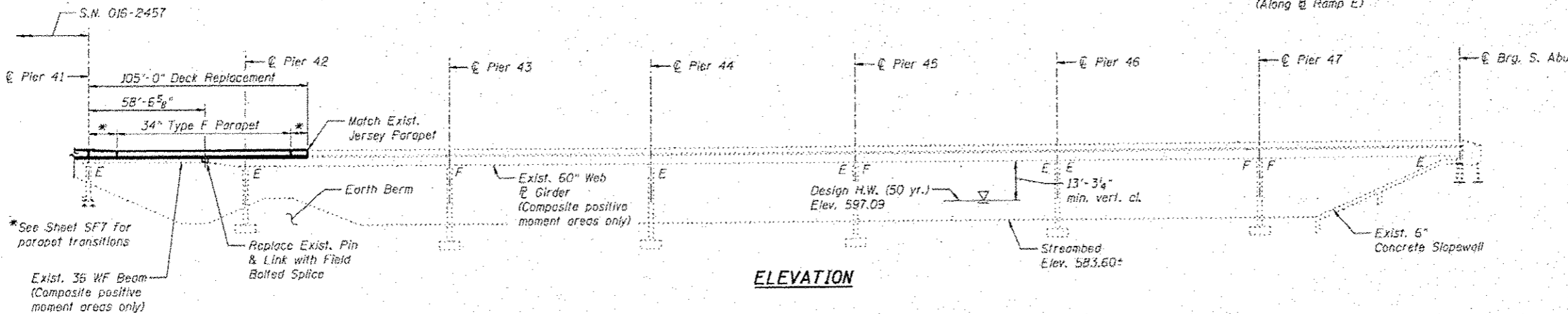
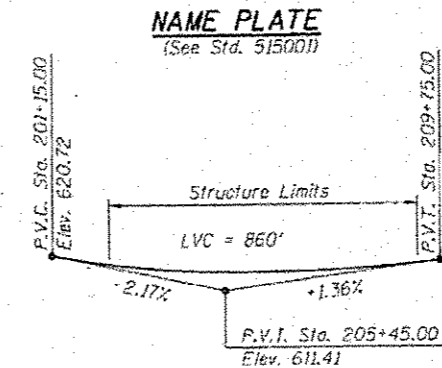
WATERWAY INFORMATION

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Nat. Head Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	5,930	2,719	2,719	595.68	0.01	0.01	595.69	595.69
Base	100	7,370	3,217	3,217	597.09	0.01	0.01	597.10	597.10
Overtopping	>500	7,900	3,338	3,338	597.58	0.00	0.00	597.58	597.58
Max. Calc.	500	9,315	3,833	3,833	598.82	0.00	0.00	598.82	598.82

10 Year Velocity through Existing and Proposed Bridge = 2.21 fps

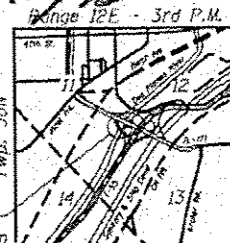
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)				
Pier 43	Pier 44	Pier 45	Pier 46	Pier 47
582.50	583.40	581.10	579.00	579.40



EXPIRATION DATE 11-30-2014

DATE 05-23-2014



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
SB IL-171 RAMP E OVER
DES PLAINES RIVER
"PUBLIC WATER"
FAP 372 - SECTION 2013-038B-R
COOK COUNTY
STATION 206+25.24
STRUCTURE NO. 016-1026

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 511 OF 517 SHEETS

F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-038B-R	COOK	821	544
				CONTRACT NO. 60J16
ILLINOIS FED. AID PROJECT				

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