

Bench Mark:  
Chiseled square on SE corner of concrete wingwall at SW corner of SB IL-171 Bridge over Sanitary & Ship Canal, EL. 628.20.

Existing Structures: S.N. 016-0486 built in 1954 under F.A. Route 133, Sections 0707-626B & 0707-610HD, consist of a 7 1/2" concrete deck with a 2" microsilica overlay. The structure consists of a twelve span mainline bridge with a two span ramp bridge. The structures are supported by 11 multi-column piers, founded on spread footings or BP piles, and 3 abutments, 2 mainline and 1 Ramp F, founded on BP piles. The mainline structure is 833'-5" back to back of abutments, with an out to out deck width which varies from 36'-6 1/4" to 62'-11 1/2". The Ramp F structure has an out to out deck width of 28'-0". The structures have varying skew angles. Traffic is to be maintained utilizing crossovers.

No salvage.

All elevations in the proposed plans are base on NAVD88 Datum. Elevations in the existing plans are base on NAVD29 Datum, NAVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

**DESIGN SPECIFICATIONS**

2002 AASHTO Standard Specifications For Highway Bridges

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)  
fy = 50,000 psi (M270 Grade 50)

**FIELD UNITS (Exlst. Construction)**

f'c = 3,500 psi  
fy = 40,000 psi (Reinforcement)  
fy = 35,000 psi (Structural Steel)

**LOADING HS20-44**

No future wearing surface allowed.

**SEISMIC DATA**

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

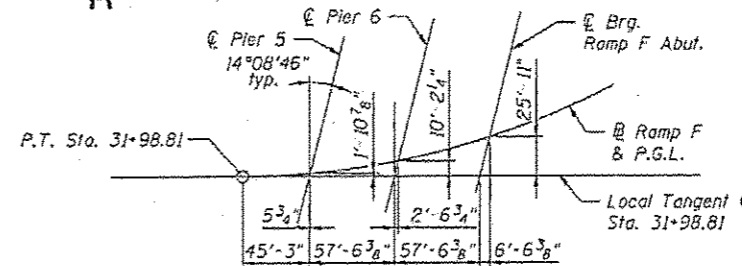
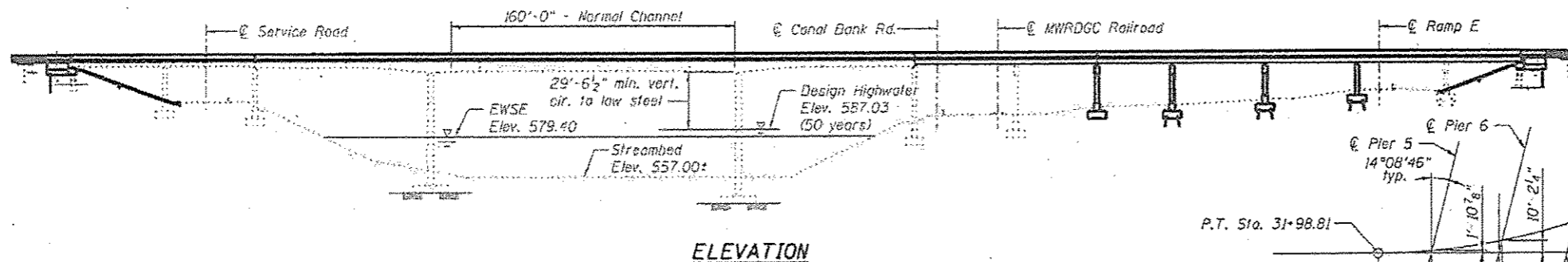
**CURVE DATA**

**RAMP F**

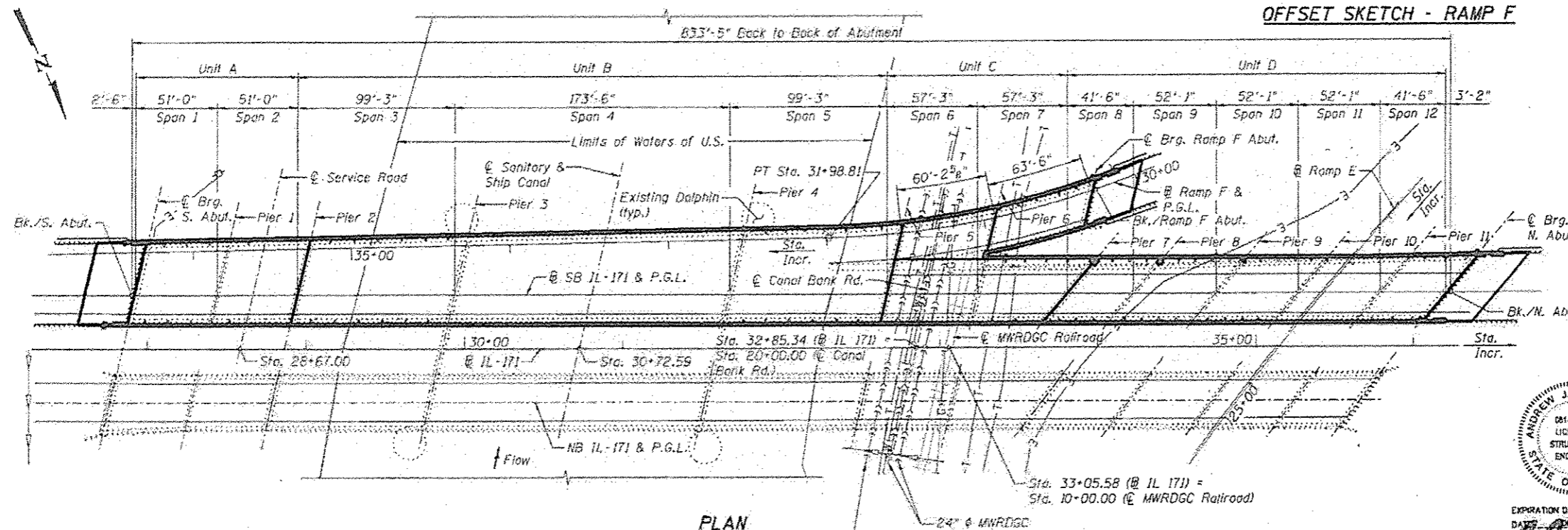
P.I. = Sta. 30+28.04  
Δ = 35°54'40" (RT)  
D = 10°25'03"  
R = 550.00'  
T = 183.55'  
L = 354.32'  
E = 29.82'  
e = 6.0%  
P.C. = Sta. 28+44.49  
P.T. = Sta. 31+98.81

**APPROVED**  
For Structural Adequacy Only

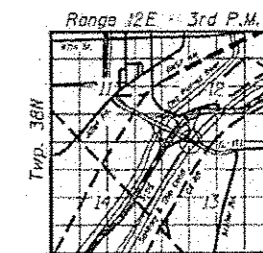
*De Carl Kuyper*  
Engineer of Bridges & Structures



**OFFSET SKETCH - RAMP F**



**PLAN**



**LOCATION SKETCH**

**EXISTING UTILITY LEGEND**

- W — Underground Water Main
- G — Underground Gas Line
- T — Underground Telephone Line
- E — Underground Electrical Line
- Utility Pole

**DESIGN SCOUR ELEVATION TABLE**

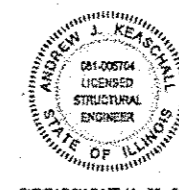
Design Scour Elevation (ft.)	Design Scour Elevation (ft.)			
	Pier 13	Pier 14	Pier 15	Pier 16
0.100	590.0	553.0	553.0	565.7
0.500	589.0	553.0	553.0	585.4

Design scour elevations estimated from existing data.

**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	50	11,300	7,965	7,965	587.03	0.00	0.00	587.03	587.03
Base	100	12,800	8,279	8,279	588.03	0.00	0.00	588.03	588.03
Overtopping	>900								
Max. Calc.	500	16,100	9,439	9,439	591.44	0.00	0.00	591.43	591.43

10 Year Velocity Through Existing and Proposed Bridge = 1.21 fps



EXPIRATION DATE 11-30-2014

*Andrew J. Keaschall*

**GENERAL PLAN AND ELEVATION**  
**SB IL-171 OVER SANITARY & SHIP CANAL**  
**(PUBLIC WATER), SERVICE RD.,**  
**CANAL BANK RD., MWRDGC RR & RAMP E**  
**FAP 373 - SECTION 2013-038B-R**  
**COOK COUNTY**  
**STATION 30+72.59**  
**STRUCTURE NO. 016-0486**

**benesch**  
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FILE NAME =	USER NAME = tjemohe	DESIGNED = TJJ	REVISED =
0160486.0016.001.General.Plan.dgn		CHECKED = DTS	REVISED =
	PLT SCALE =	DRAWN = RMG	REVISED =
	PLT DATE = 8/23/2014	CHECKED = DTS	REVISED =

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

SHEET NO. 561 OF 56300 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	561
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	

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