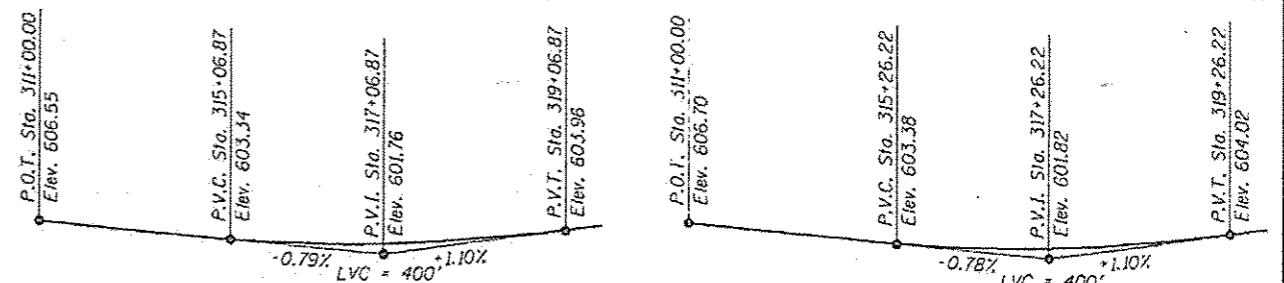


Bench Mark: Chiseled square on wingwall at NE corner of NB IL-171 bridge wall over sanitary and ship canal. El. 625.62

Existing Structure: S.H. 016-0046 was originally built in 1963 under Section 0707-611HB. The structure consists of an 8 1/2" concrete deck (including microsilica overlay) supported by five single spans (W24 & W36 rolled beams). The substructures consist four hammerhead concrete piers and stub abutments with wingwalls on variable skew. The structure is 308'-0 1/2" back to back of abutments, with an out-to-out deck width of 28'-0". The structure is to be removed and replaced. Traffic will be detoured to complete construction of the proposed structure, but will remain in service on the existing bridge for the majority of the contract duration.

No salvage.



**PROFILE GRADE NB & SB I-55**  
(Along Median Edge of Pavement)

**PROFILE GRADE CD ROAD**  
(Along Median Edge of Pavement)

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

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

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (AASHTO M270 Grade 50)

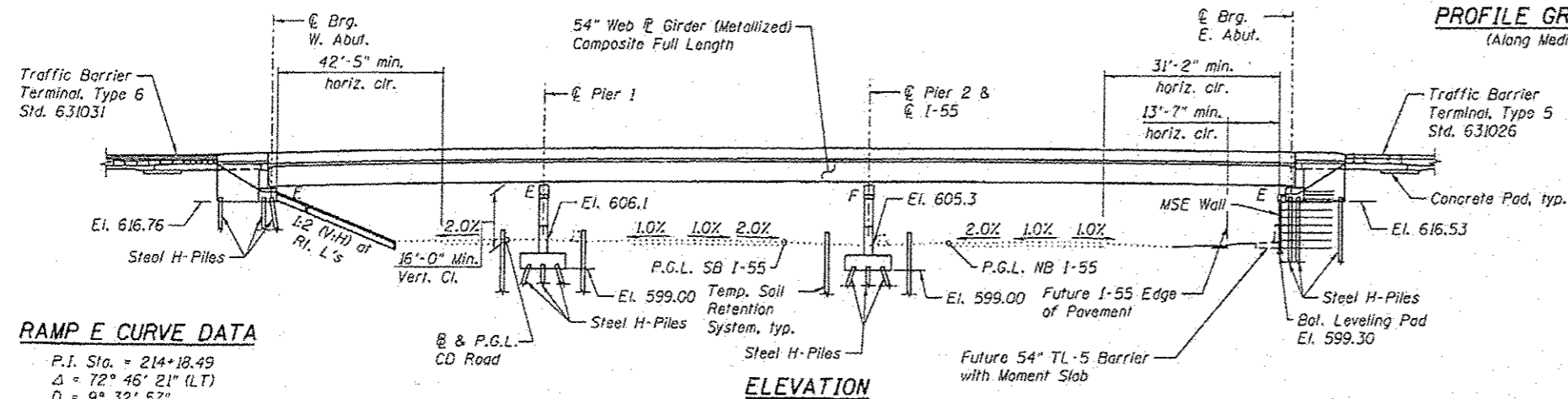
**PRECAST UNITS**

$f'_c = 4,500$  psi (Precast Panels)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.063 g  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.114 g  
 Soil Site Class = C

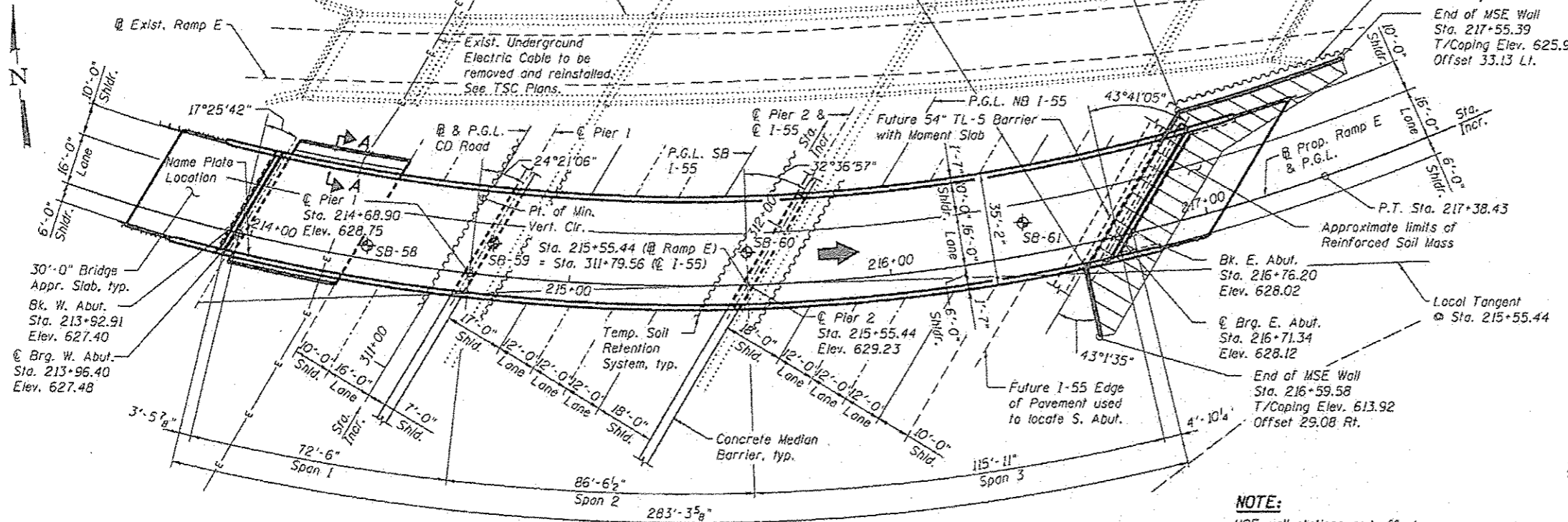
**APPROVED**  
 For Structural Adequacy Only  
*Dr. Carl Ruyter*  
 Engineer of Bridges & Structures



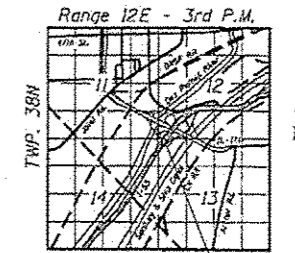
**ELEVATION**

**RAMP E CURVE DATA**

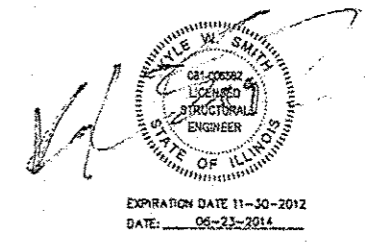
P.I. Sta. = 214+18.49  
 $\Delta = 72^\circ 46' 21''$  (LT)  
 $D = 9^\circ 32' 57''$   
 $R = 600.00'$   
 $T = 442.14'$   
 $L = 762.07'$   
 $E = 145.31'$   
 $e = 6.0\%$   
 P.C. Sta. = 209+76.36  
 P.T. Sta. = 217+38.43



**PLAN**



**LOCATION SKETCH**



**GENERAL PLAN AND ELEVATION**  
**SB IL-171 TO NB I-55 RAMP E OVER I-55**  
**FAP-373**  
**SECTION (0707-608&611)HB-B**  
**COOK COUNTY**  
**STATION 215+55.44**  
**STRUCTURE NO. 016-1512**

**NOTE:**  
 MSE wall stations and offsets are measured from the Proposed Ramp E to the front face of precast panels.

**benesch**  
 Alfred Benesch & Company  
 205 North Michigan Avenue, Suite 2400  
 Chicago, Illinois 60601  
 312-685-0450 Job No. 10093

FILE NAME * 0161512_53477_031_GPE.dgn	USER NAME * kender	DESIGNED - KWS	REVISIONS -
		CHECKED - JHG	REVISIONS -
		DRAWN - KWS	REVISIONS -
		CHECKED - KJN	REVISIONS -

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

SHEET NO. S81 OF S843 SHEETS

F.A.P. RTE. 373	SECTION 0707-608&611HB-B	COUNTY COOK	TOTAL SHEETS 177	SHEET NO. 117
CONTRACT NO. 60W77			ILLINOISIFIED AIR PROJECT	

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