

**Bench Mark:**

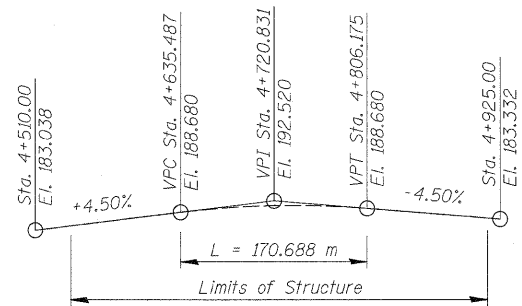
E. Flange Bolt of F.H. at S.W. corner Ridgeland & SW Highway - El. 181.825

**Existing Structure:**

S.N. 016-0463 was originally constructed in 1934. The overall length of the existing bridge is 386.75 m. The superstructure was reconstructed in 1959 and the bridge was partially reconstructed in 1999. The portion of the existing bridge remaining from the 1959 reconstruction consists of 18 simple spans comprised of pretensioned concrete deck beams, with an out-to-out width of 15.7 m. The portion of the existing bridge reconstructed in 1999 consists of five new rolled continuous wide flange beam spans to form a unit of 96.971 m. The out-to-out width of the concrete deck is 18.50 m. Two 7.70 m reinforced concrete slab spans were also constructed in 1999 to transition the new structure to the original.

**Notes:**

- All dimensions are in millimeters (mm), except as noted.
- Offsets are measured from  $\phi$  SW Highway to edge of deck.



**WATERWAY INFORMATION (STONY CREEK)**

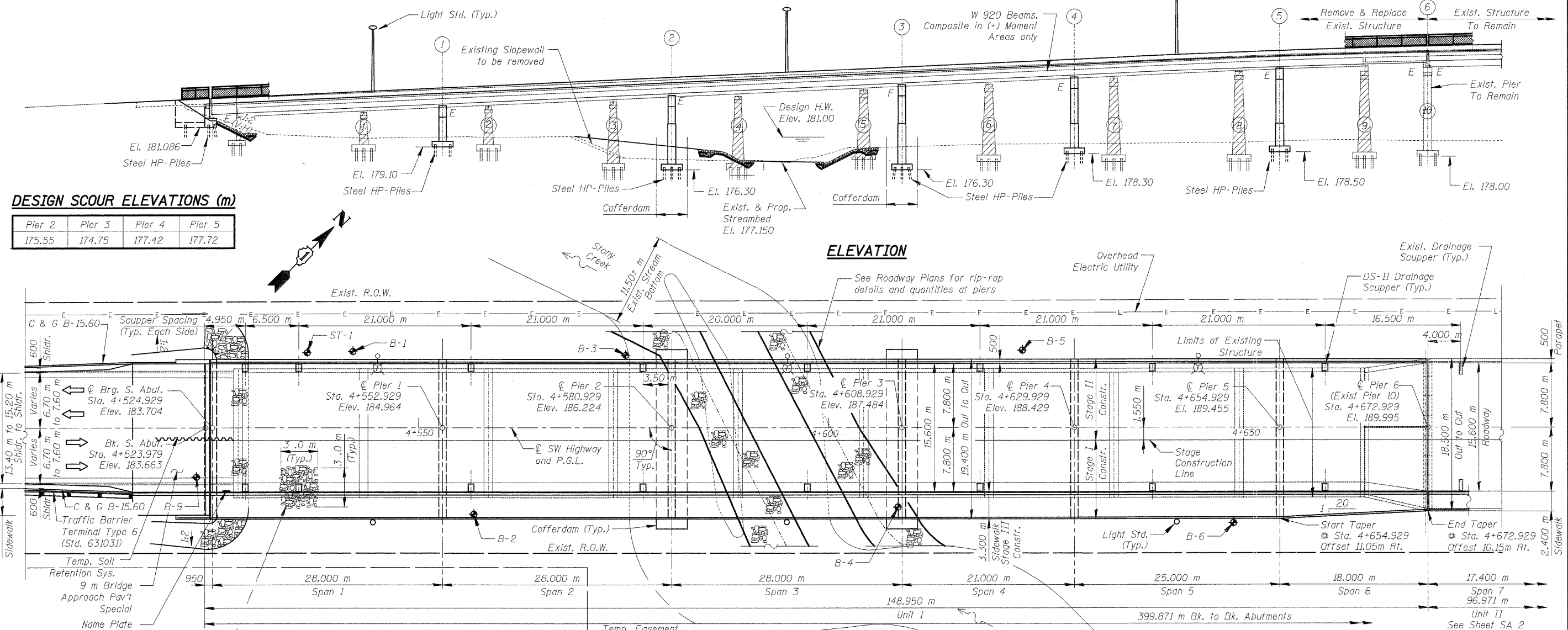
Max Recorded H.W.E. = 180.90 m (7/ 18- 20 /96)

Flood	Freq. (Yr.)	Q (cms)	Opening (Sq. m)		Natural H.W.E. (m)	Head (m)		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	47.57	208.0	217.2	180.61	0.00	0.00	180.61	180.61
Base	100	53.24	234.2	244.4	181.16	0.00	0.00	181.16	181.16
Overtopping	>500								
Max. Calc.	500	58.33	277.3	289.2	181.42	0.00	0.00	181.42	181.42

All elevations are in Highway Datum  
IDOT Datum = FIS Datum + 0.789 m

**DESIGN SCOUR ELEVATIONS (m)**

Pier 2	Pier 3	Pier 4	Pier 5
175.55	174.75	177.42	177.72



**DESIGN STRESSES**

**EXISTING CONSTRUCTION**  
 $f'_c = 24$  MPa  
 $f_y = 400$  MPa (Reinf.)  
 $f_y = 345$  MPa (M270M Grade 345)

**NEW CONSTRUCTION**  
 $f'_c = 24$  MPa  
 $f_y = 400$  MPa (Reinf.)  
 $f_y = 345$  MPa (M270M Grade 345)

**SEISMIC DATA**  
 Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 0.038g  
 Site Coefficient (S) = 1.0

**APPROVED FOR STRUCTURAL ADEQUACY ONLY**

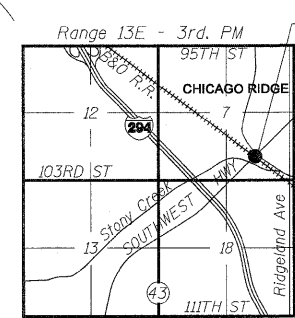
Paul M. Lopez, P.E., S.E.  
 ENGINEER OF BRIDGES AND STRUCTURES



PATRICK ENGINEERING INC.  
 PAUL M. LOPEZ, P.E., S.E.  
 IL. REG. NO. 081-005231

EXP DATE: 11-30-2010  
 DATE: 5-22-2009

**PLAN**



REVISIONS	
NAME	DATE

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
**GENERAL PLAN AND ELEVATION**  
**UNIT I**  
**SOUTHWEST HIGHWAY OVER**  
**B&O RAILROAD AND STONY CREEK**  
 FAU 3578 SECTION 15 VB-1-F  
 STRUCTURE NUMBER 016-2771  
 COOK COUNTY STATION 4+716.497  
 SCALE: NONE DRAWN BY: E. Mroozek  
 DATE: MAY 22, 2009 CHECKED BY: G. Hatlestad

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