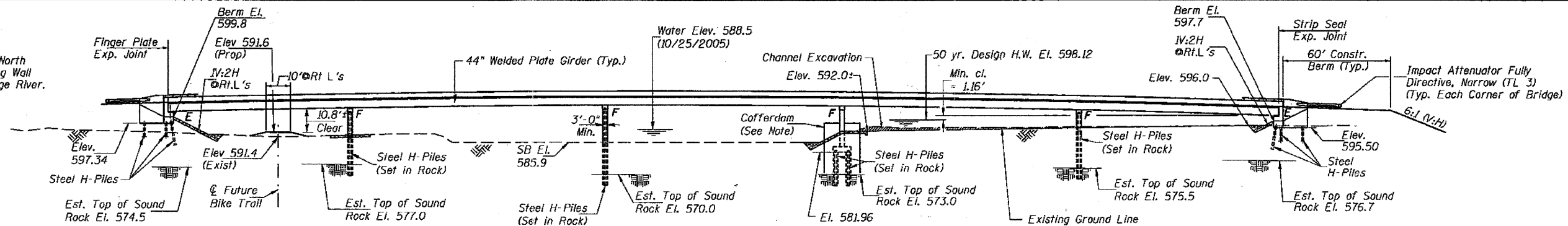


**BENCH MARK**

RM 47  
Chiseled Square (Found) in Top of North  
Corner of Northeast Stone Slab Wing Wall  
of Renwick Road Bridge over DuPage River,  
E.L. 602.83 (N.G.V.D. 1929)

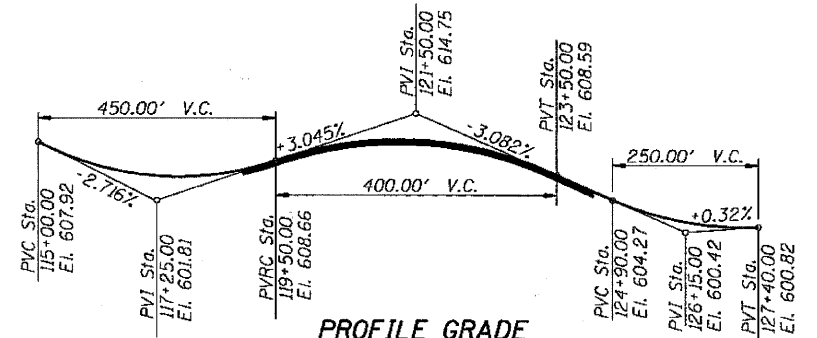
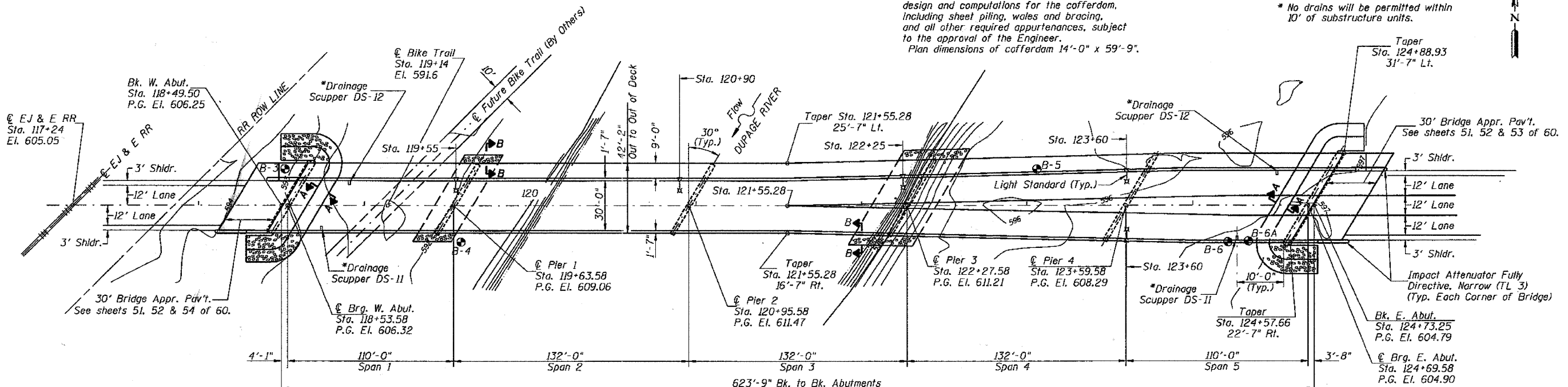
**EXISTING STRUCTURE**

No Existing Structure



Note:  
A water surface elevation of 594.00 will be the basis for the cofferdam design. It is the Contractor's responsibility to provide a design and computations for the cofferdam, including sheet piling, wales and bracing, and all other required appurtenances, subject to the approval of the Engineer.  
Plan dimensions of cofferdam 14'-0" x 59'-9".

\* No drains will be permitted within 10' of substructure units.



**WATERWAY INFORMATION**

Drainage Area = 260 sq. mi. Low Grade Elev. = 600.78 @ Sta. 127+17

Flood	Freq. Yr.	Opening Sq. Ft.		Head-Ft.		Headwater El.			
		0	Nat.	Exist.	Prop.	Exist.	Prop.		
Design	50	10100	1717	4237	598.12	0.06	0.03	597.50	598.12
Base	100	11527	1888	4659	598.76	0.07	0.02	598.09	598.76
Overtopping									
Max. Calc.	500	14900	2049	5465	599.97	0.09	0.03	599.21	599.97

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (Ft.)	W. Abut.	Pier #1	Pier #2	Pier #3	Pier #4	E. Abut.
	597.9	591.0	581.9	581.9	595.0	595.7

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

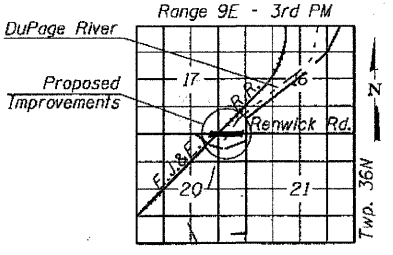
2007 AASHTO LRFD  
Bridge Design Specifications 4th Edition w/Interims

**DESIGN STRESSES**

**FIELD UNITS**  
 $f_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)  
 $f_y = 50,000$  psi (structural steel)  
 (AASHTO M270 Grade 50)

**SEISMIC DATA**

Seismic Performance Category (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. ( $D_{0.1}$ ) = 0.07g  
 Design Spectral Acceleration at 0.2 sec. ( $D_{0.2}$ ) = 0.12g  
 Soil Site Class = C



I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway Bridges. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

James D. Hamilton  
 Illinois Structural No. 081-3668  
 Expires 11/30/2012

5/23/2011

**GENERAL PLAN AND ELEVATION**  
**RENWICK ROAD (TR 55)**  
**OVER DUPAGE RIVER**  
**SECTION 90-16103-01-BR**  
**WILL COUNTY**  
**STA. 121+61.58**  
**STRUCTURE NO. 099-4105**

DESIGNED	JOH
CHECKED	BAN
DRAWN	TC
CHECKED	JOH

SHEET NO.	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
60 SHEETS	TR 55	90-16103-01-BR	WILL	255	145
		SN 099-4105			CONTRACT NO. 83126
		FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-