

Benchmark: R.R. spike in east side of power pole northwest of Structure 102-0006.  
Elevation = 703.44

Existing Structure: S.N. 102-0006 was built in 1963 as S.B.I. Route 2, Section 64B-1 at Sta. 955+03.75.  
The structure replaced an 80 ft. long single span truss on closed abutments constructed in 1923. The existing structure is a three span steel I-beam bridge with R.C. pile bent abutments, supported by a single row of concrete piles, and R.C. hammer head piers. ±131'-0" Bk.-Bk. abutments, 40'-0" (Spans 1 & 3) and 46'-6" (Span 2). ±35'-8" Out.-Out. Deck 0° Skew. The structure shall be built under road closure.

No Salvage

**LOADING HL-93**

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

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

**PRECAST PRESTRESSED UNITS**

$f'_c = 7,000$  psi  
 $f'_{ci} = 6,000$  psi  
 $f_{pu} = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strands)  
 $f_{pbt} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strands)

**DESIGN SPECIFICATIONS**

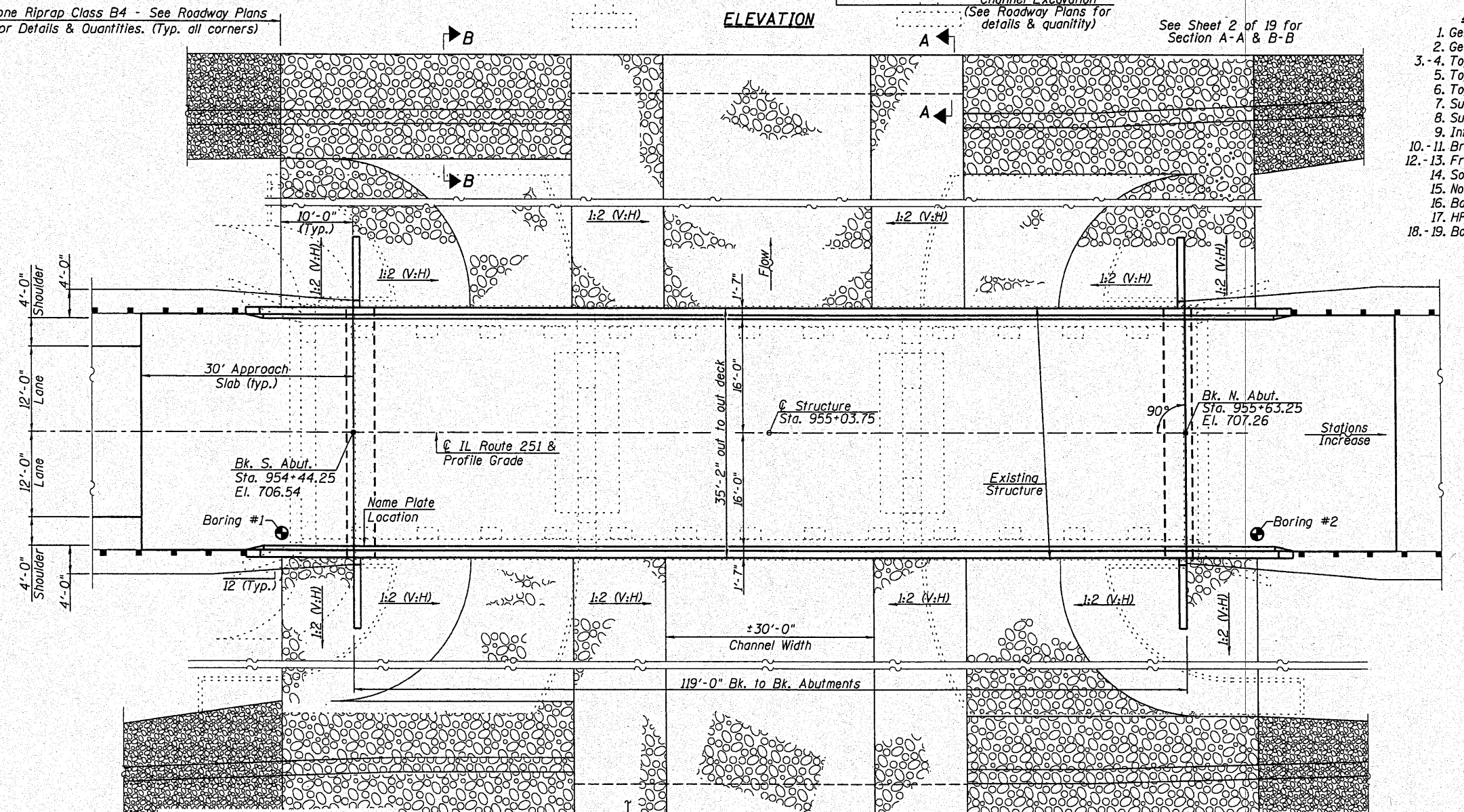
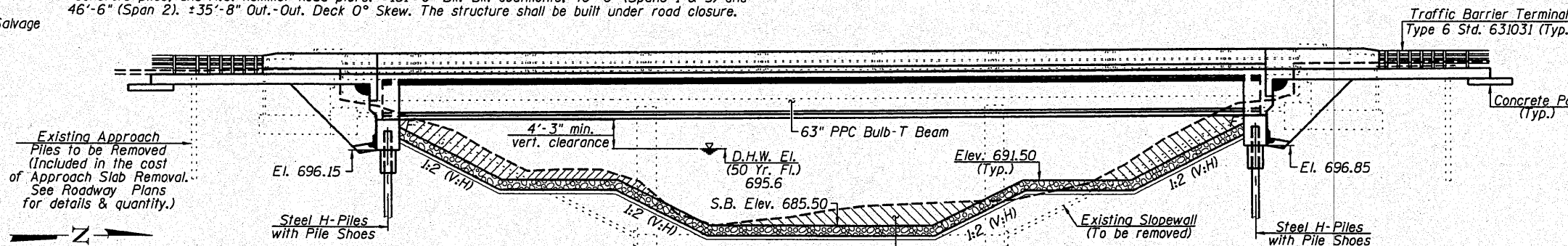
2007 AASHTO LRFD Bridge Design Specifications, 4th Edition with 2008 & 2009 Interim

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.113g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.180g  
Soil Site Class = D

**INDEX OF SHEETS**

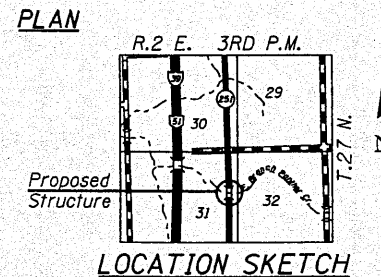
1. General Plan & Elevation
2. General Data
- 3.-4. Top of Slab Elevations
5. Top of South Approach Slab Elevations
6. Top of North Approach Slab Elevations
7. Superstructure
8. Superstructure Details
9. Integral Abutment Diaphragm Details
- 10.-11. Bridge Approach Slab Details
- 12.-13. Framing Plan & Beam Details
14. South Abutment
15. North Abutment
16. Bar Splicer Assembly
17. HP Pile Details
- 18.-19. Boring Logs



**WATERWAY INFORMATION**

Drainage Area = 32.1 Sq. Mi. Pr. Low Grade Elev. 705.6 @ Sta. 952+50

Flood Yr.	Freq.	C.F.S.	Opening Sq. Ft.		Natural H.W.E.		Head - ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
0			364	466	694.0	694.0	0.4	0.2	694.4	694.2
10	1644		494	619	695.6	695.6	0.8	0.4	696.4	696.0
Design	50	3093	494	619	695.6	695.6	0.8	0.4	696.4	696.0
Base	100	3888	552	686	696.3	696.3	1.0	0.6	697.3	696.9
Max. Calc.	500	6212	694	851	697.9	697.9	1.7	1.0	699.6	698.9



**APPROVED**  
For Structural Adequacy Only  
*R. E. Anderson (TJD)*  
Engineer of Bridges & Structures  
*Paul 10/25/2010*  
Expires 11/30/2010

**GENERAL PLAN & ELEVATION**  
**IL ROUTE 251 OVER**  
**EAST PANTHER CREEK**  
**F.A.S. ROUTE 1360 - SEC. (64-B-1)BR**  
**WOODFORD COUNTY**  
**STA. 955+03.75**  
**STRUCTURE NO. 102-0069**

**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

SHEET NO. 1	F.A.S. RTE. 1360	SECTION (64-B-1)BR	COUNTY WOODFORD	TOTAL SHEETS 45	SHEET NO. 16
19 SHEETS	CONTRACT NO. 68785			FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT	