

**EXISTING STRUCTURE: S.N. 006-4285**

A Single Span (1 @ 115') Pratt Through Truss on Closed Concrete Abutments, Skewed 0°, Located 70' Right of Sta. 13+70. To Be Removed, No Salvage.

**PARABOLIC ARCH CURVE DATA**

P.V.I. Station 13+70  
P.V.I. Elev. = 630.65  
Approach Grade = +87.36%  
Departure Grade = -85.99%  
Horizontal Length = 119'-6"  
x = 25.89', @ Of Center Pin Elev. = 604.76

**BENCH MARK:** R.R. Spike in 3rd P.P. West of Existing Structure, Elev. 582.22

**BENCH MARK:** Chiseled "□" On The Southeast Wingwall of Existing Pratt Through Truss, Elev. 591.68

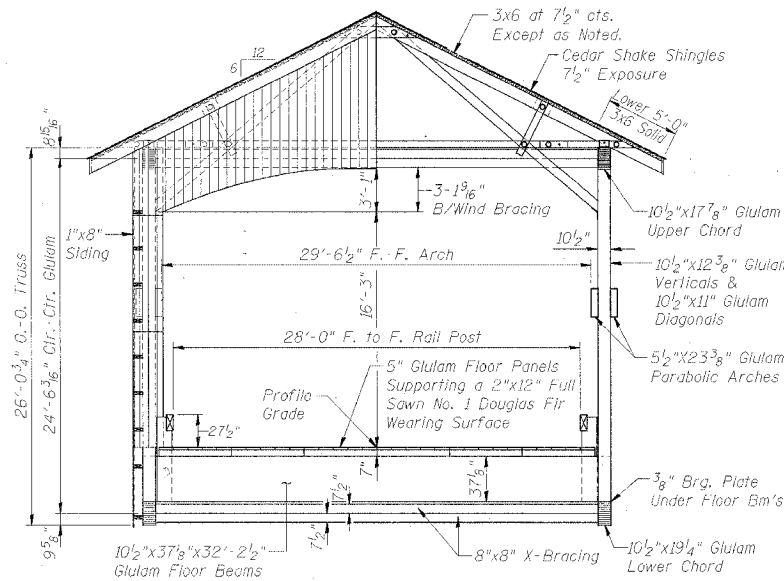
**BENCH MARK:** R.R. Spike in 3rd P.P. East of Existing Structure, Elev. 591.68

PROJECT	SECTION	COUNTY	SHEETS	DATE
245	98-20101-00-BR	BUREAU	65	34
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT - BROS-011(62)	

**STRUCTURAL SHEET 1 OF 25**

BIG BUREAU CREEK  
BUILT 2001 BY  
PRINCETON TOWNSHIP  
SECTION 98-20101-00-BR  
T.R. 245 STA. 13+70  
F.A. PROJ. BROS-011(62)  
STR. NO. 006-4288 LOADING -S20

**NAME PLATE LETTERING**  
REFER TO STA. 515001

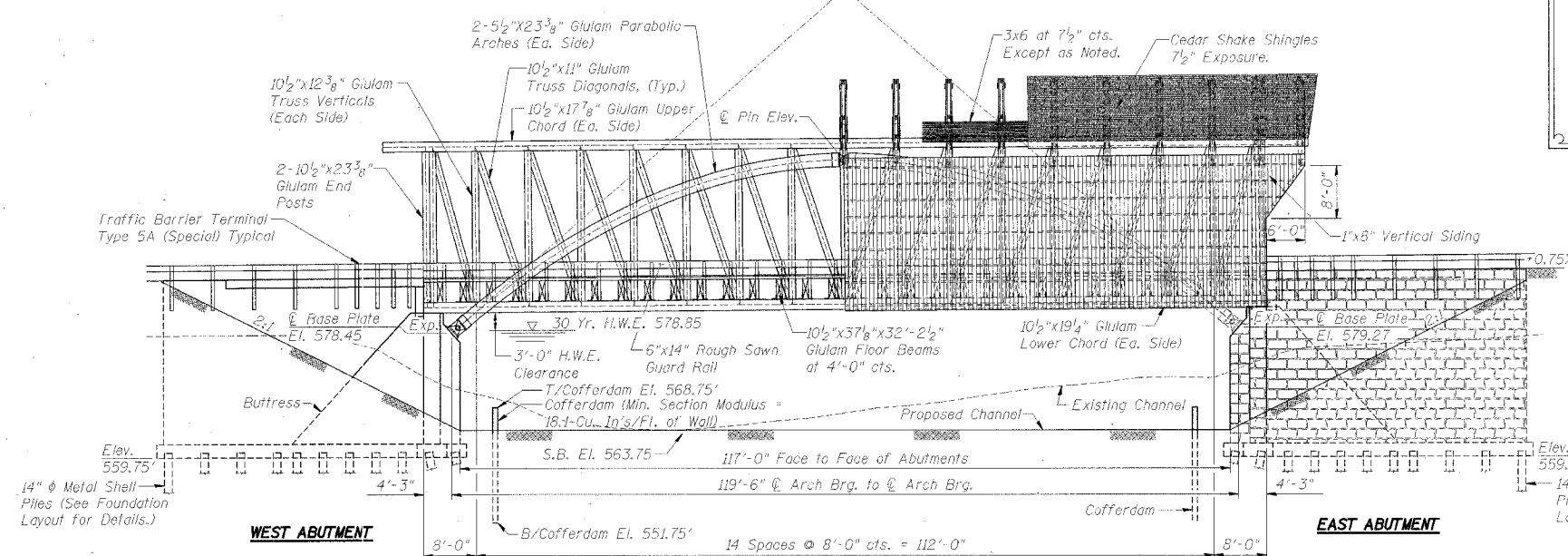


**END ELEVATION CROSS SECTION**

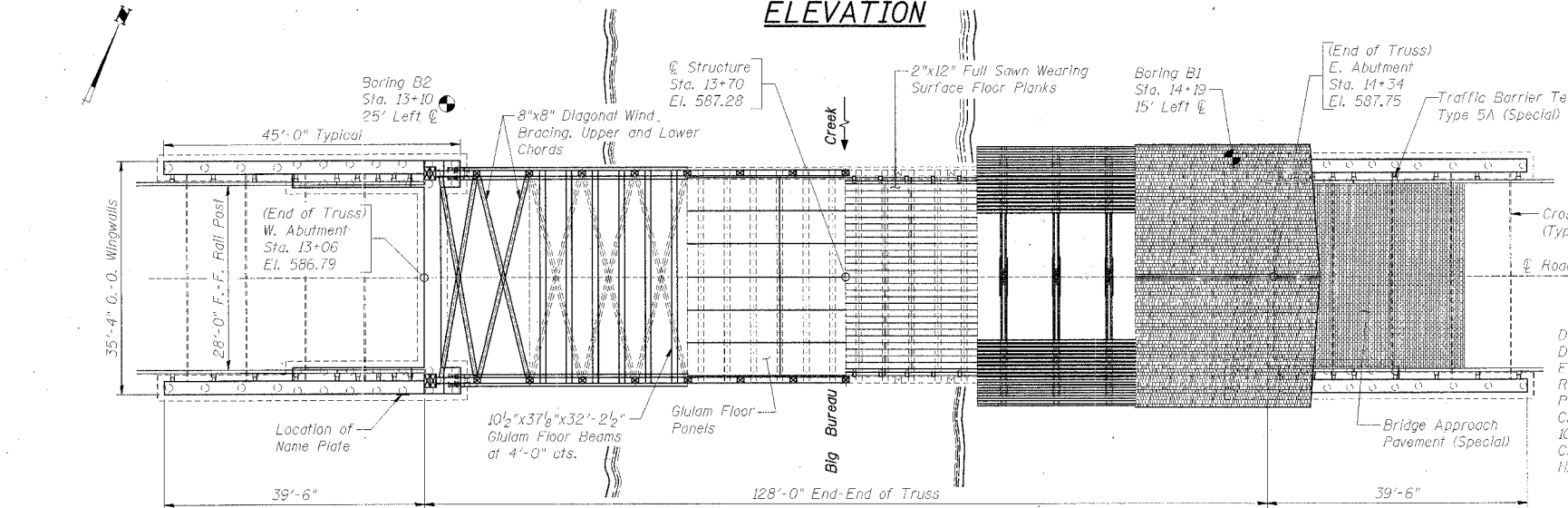
**BILL OF MATERIALS - BRIDGE**

ITEM	UNIT	SUB.	SUPER.	TOTAL
Channel Excavation	Cu. Yd.			920
Porous Granular Backfill	Cu. Yd.	2118		2118
Removal Of Existing Structures	Each			1
Cofferdam Excavation	Cu. Yd.	2473		2473
Cofferdams	Each	2		2
Concrete Structures	Cu. Yd.	614		614
Furnishing & Erecting Structural Steel	L. Sum		1	1
Treated Timber	FBM		53863	53863
Hardware	Pound	10954	28205	39159
Reinforcement Bars	Pound	6500		6500
Reinforcement Bars (Epoxy Coated)	Pound	46830		46830
Furnishing Metal Shell Piles-14"	Foot	2450		2450
Driving & Filling Shells	Foot	2450		2450
Test Pile-14" Metal Shell	Each	2		2
Name Plates	Each		1	1
Bridge Seat Sealer	L. Sum		1	1
Form Liner Textured Surface	Sq. Yd.	674		674
Treated Glue Laminated Timber **	FBM		93677	93677
Bearing Assembly (Special)	Each		4	4
Cedar Shake Shingles	Sq. Ft.		6302	6302
Fixed Hinge Pin Assembly	Each		6	6
Clear Deck & Wood Seal	L. Sum		1	1
Fire Protection	L. Sum		1	1
Lettering	L. Sum		1	1

\* See Special Provisions  
\*\* Specialty Item



**ELEVATION**



**PLAN**

**WATERWAY INFORMATION**

Drainage Area	193 Sq. Mi.
Design Discharge (30 Yr.)	12343 C.F.S.
Existing Opening	1390 Sq. Ft.
Required Opening	1935 Sq. Ft.
Proposed Opening	1935 Sq. Ft.
Created Head (30 Yr.)	<0.5 Ft.
100 Yr. Discharge	15114 C.F.S.
Created Head (100 Yr.)	<1.0 Ft.
High Water Elev. (100 Yr.)	579.62 Ft.

**HIGHWAY CLASSIFICATION**

Township Road 245  
Class: Local Rural Collector  
ADT: (2004) 400  
Design Speed: 50 m.p.h.  
Posted Speed: 55 m.p.h.

**DESIGN SPECIFICATIONS**

Design in Accordance with  
2002 AASHTO Specifications

**DESIGN STRESSES**

f<sub>c</sub> = 3,500 psi (Concrete)  
f<sub>y</sub> = 60,000 psi (Reinforcement)

**LOADING HS20-44**

Floor Beams - Truck Load  
Arch & Truss - Governing Truck or Lane Load  
Snow Load - 30 psf  
Wind Load - 25 psf  
Deflection Criteria - L/500 for Live Loads

**SEISMIC DATA**

Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.037  
Site Coefficient (S) = 1.2

**MATERIAL SPECIFICATIONS**

**\*\*\* DIMENSION LUMBER AND TIMBERS**  
Interior Roof Truss, Roof Truss over Cantilever, & Wind Bracing: Treated with Pentachlorophenol (AITC 109XLP-77) Southern Pine - No. 1 or Better  
Siding: ACZA Water Borne Treatment Douglas Fir Larch - No. 1 or Better  
Roof Planks: Treated with Pentachlorophenol (AITC 109XLP-77) Southern Pine - No. 1 or Better  
**ROUGH SAWN LUMBER**  
Timber Guardrail: Treated with Pentachlorophenol (AITC 109XLP-77) Southern Pine - No. 1 or Better  
**FULL SAWN LUMBER**  
ACZA Water Borne Treatment 2"x12" Deck Planks Douglas Fir Larch - No. 1 or Better 2"x14" Eave Fascia Douglas Fir Larch - No. 1 or Better

**GLULAM TIMBERS**  
Treated with Pentachlorophenol (AITC 109XLP-77) Southern Pine  
Floor Panels: Combination Symbol-47  
Arch, End Portal Column & Truss Members, Truss Chords, and Rail Post: Combination Symbol-50  
Floor Beams shall be Combination Symbol 24F-V3  
**TRUSS HARDWARE**  
Gusset Plates and Connection Hardware AASHTO M270, Grade 36 Bolts, Nuts and Washers - ASTM A307  
**ARCH HARDWARE**  
Side Plates, End Plates, Pin Plates, Base Plates and Stiffener Plates - AASHTO M270, Grade 50  
All plates Shall Conform to the Minimum Charpy V-Notch Toughness of 25 ft.-lbs. at 40° F.

**FORM LINER**  
Concrete Form Liner Required at Abutments. See Special Provisions.

STATE OF ILLINOIS  
R. SHANKAR  
NAEP  
81-3676  
CHICAGO, ILL.  
REGISTERED STRUCTURAL ENGINEER

DATE: 10/18/05  
EXPIRES: 11/30/06

**PROFILE GRADE**  
(Along & Roadway)

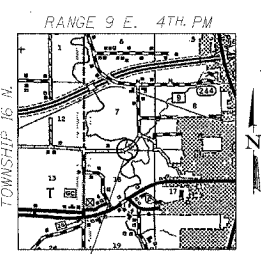
STATE OF ILLINOIS  
BRIAN K. CONVERSE  
081-006213  
DIXON, ILL.  
REGISTERED STRUCTURAL ENGINEER

DATE: 10/17/05  
EXPIRES: 11/30/2006

"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 Specifications for Highway Bridges."

**GENERAL NOTES**

Reinforcement Bars Shall Conform To The Requirements Of AASHTO M-31, M-42 Or M-53 Grade 60. Calculated Weight Of M270 Gr. 36 Structural Steel = 50,690 lbs. (For Information Only)  
The Contractor Shall Drive One Test Pile In A Permanent Location At Each Abutment, As Directed By The Engineer, Before Ordering The Remainder Of Piles.  
\*\*\* Dimensions for this Lumber are Nominal Dimensions.  
Channel Excavation Shall Be Full Depth Under The Bridge Then Tapered To The Right Of Way.



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**  
SECTION 98-20101-00-BR  
T.R. 245 OVER BIG BUREAU CREEK  
STA. 13+70 (S.N. 006-4288)  
BUREAU COUNTY

Designed By: B.K. Converse  
Date: July, 05  
Checked By: W.R. Leslie  
Date: July, 05  
Drawn By: F.D. Lachat  
Date: July, 05

**WILLET, HOFMANN & ASSOCIATES, INC.**  
CONSULTING ENGINEERS  
Land Surveying - Transportation - Structural  
Environmental - Architecture  
WHA # 1104D04