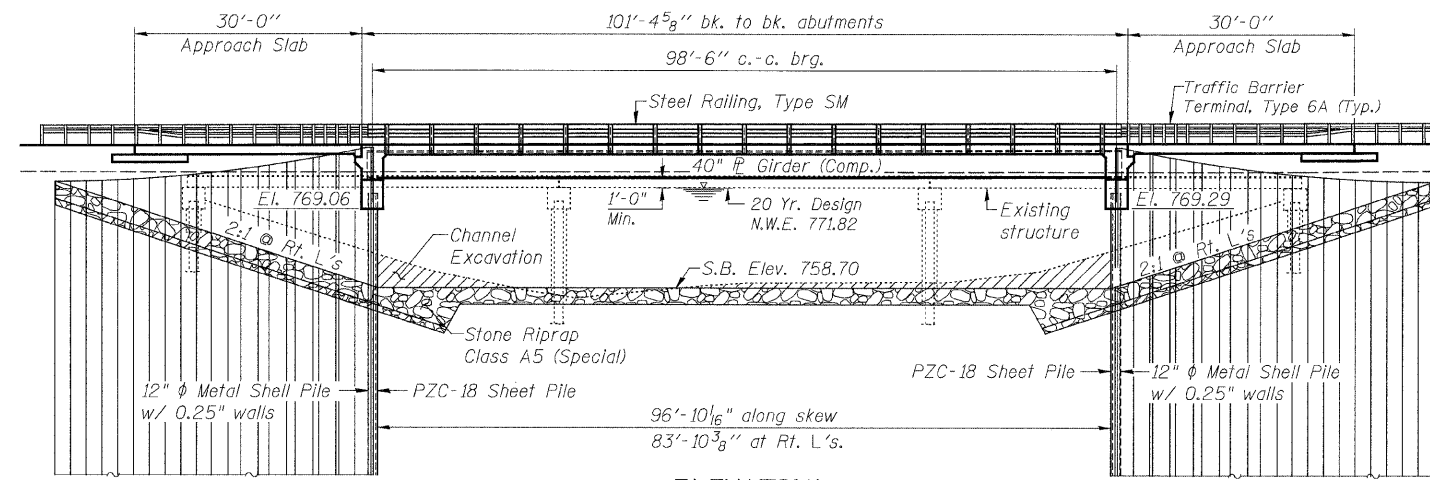


**EXISTING STRUCTURE:** S.N. 006-3031  
Originally built in 1974 as F.A.S. Route 184, Section 72-00104-00-BR. The existing structure is a three span (3 @ 49'-0") precast, prestressed concrete deck beam structure. 142'-10" back to back of abutments and 30'-0" out to out of deck. Structure to be removed and replaced. Road shall be closed to traffic during construction. No salvage.

**BENCH MARK:** Chiseled "□" on the southwest wingwall of existing bridge, 15' Lt. Sta. 58+92, Elev. 773.54

**BILL OF MATERIAL - BRIDGE**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu Yd		432	432
Removal of Existing Structures	Each		1	1
Concrete Structures	Cu Yd	21.4	22.3	43.7
Concrete Superstructure	Cu Yd	201.2		201.2
Bridge Deck Grooving	Sq Yd	502		502
** Protective Coat	Sq Yd	538		538
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	960		960
Reinforcement Bars, Epoxy Coated	Pound	44,350	2,840	47,190
Bar Splicers	Each	62		62
Steel Railing, Type SM	Foot	203		203
Furnishing Metal Shell Piles 12"x0.250"	Foot		602	602
Driving Piles	Foot		602	602
Test Pile Metal Shells	Each		2	2
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	20		20
Geocomposite Wall Drain	Sq Yd	58		58
* Porous Granular Embankment, Special	Ton	617		617
* Stone Riprap, Class A5 (Special)	Ton		1,570	1,570
* Permanent Steel Sheet Piling	Sq Ft		10,476	10,476



**ELEVATION**

**INDEX OF SHEETS**

- 1 General Plan and Elevation
- 2 Riprap & Pile Layout
- 3 Top of Slab Elevations
- 4-5 Top of South & North Bridge Approach Slab Elevations
- 6 Framing Plan
- 7 Superstructure Details
- 8 Integral Abutment Diaphragm Details
- 9 Bridge Approach Slab Details
- 10 South Abutment Details
- 11 South Abutment Sheet Pile Layout
- 12 North Abutment Details
- 13 North Abutment Sheet Pile Layout
- 14 Steel Railing, Type SM Details
- 15 Bar Splicer Assembly and Mechanical Splicer Details
- 16 Metal Shell Pile Details
- 17 Boring Logs

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 3/4" φ, holes 15/16" φ, unless otherwise noted.  
Calculated weight of Structural Steel = 99,951 lbs.  
All structural steel shall be AASHTO M 270 Grade 50, unless otherwise noted.  
No field welding is permitted except as specified in the contract documents.  
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.  
Reinforcement bars designated (E) shall be epoxy coated.  
The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all steel surfaces shall be Reddish Brown, Munsell No. 2.5 Yr. 3/4. See Special Provision for "Cleaning and Painting New Metal Structures".

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

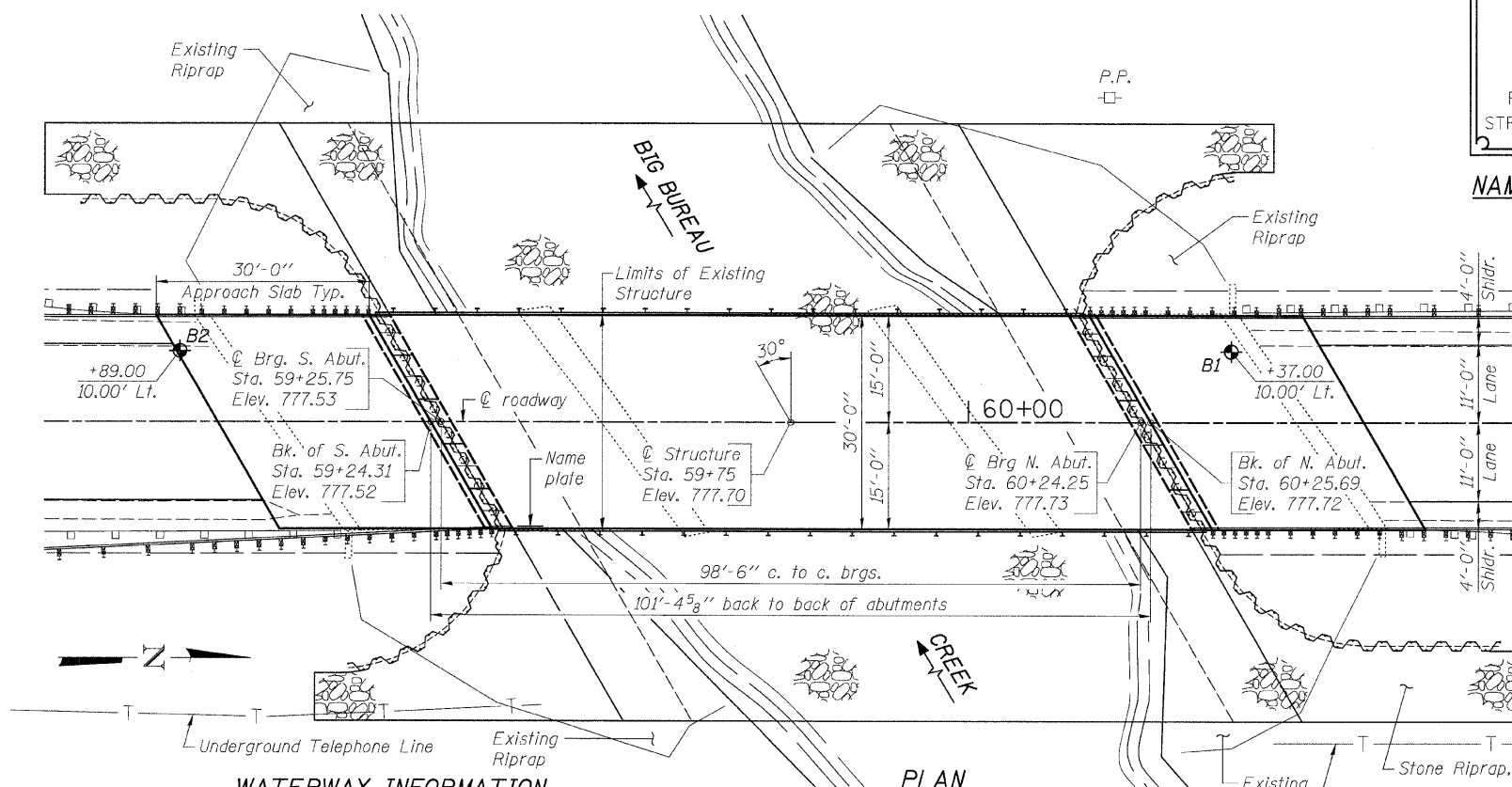
\* See Special Provisions.

\*\* Quantity is for Reinforced Concrete Deck and Approach Pavement.

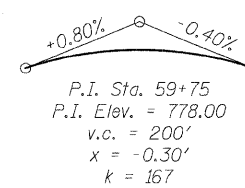
BIG BUREAU CREEK  
BUILT 2011 BY  
BUREAU COUNTY  
SECTION 08-00211-00-BR  
FAS RTE 184 STATION 59+75  
STR. NO. 006-3032 LOADING HL-93

**NAME PLATE LETTERING**

Refer To Std. 515001-03



**PLAN**



**VERTICAL CURVE**

**WATERWAY INFORMATION**

Drainage Area = 55.46 sq. mi. Low Grade Elev. 775.53 @ Sta. 55+81.58

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. Exist. Prop.	H.W.E. Prop.	Head - Ft. Exist. Prop.	Headwater E.L. Exist. Prop.
Design	20	4,500	1,082	1,100	771.82	0.08	771.90
Base	100	6,810	1,112	1,260	773.65	0.86	774.51

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

2010 AASHTO LRFD Bridge Design Specifications, 5th. Edition

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (S<sub>01</sub>) = 0.066g  
Design Spectral Acceleration at 0.2 sec. (S<sub>05</sub>) = 0.118g  
Soil Site Class = C

**DESIGN STRESSES**

**FIELD UNITS**  
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)  
fy = 50,000 psi (M270 Grade 50)

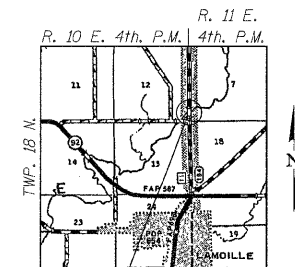
**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	S. Abut.	N. Abut.
	754.70	754.70



Brian K. Converse  
DATE: 2/15/2011  
EXPIRES 11/30/12

"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 Bridge Design Specifications."



**LOCATION SKETCH**

**WILLET, HOFFMANN & ASSOCIATES, INC.**  
CONSULTING ENGINEERS  
Land Surveying - Transportation - Structural  
Environmental - Architecture  
809 East Second Street Dixon, Illinois 61021  
Phone 815.294.3391 Fax 815.294.3395  
Design Firm #184-000918  
www.willett-hoffmann.com

USER NAME =	DESIGNED -	REVISIONS
	M. C. WAGNER	
	B. K. CONVERSE	
	F. D. LACHAT	
	M. A. CACKLEY	

**BUREAU COUNTY**  
**F.A.S. 184 (C.H. 11) OVER BIG BUREAU CREEK**  
**STATION 59+75**

**GENERAL PLAN & ELEVATION**  
**STRUCTURE NO. 006-3032**

STRUCTURAL SHEET NO. 1 OF 17 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
184	08-00211-00-BR	BUREAU	31	10
WHA# 1051D10		CONTRACT NO. 87462		
ILLINOIS FED. AID PROJECT BRS-01840107				