

Bench Mark: Chiseled "a" on top of northwest wingwall on existing structure. Elevation 514.757

Existing Structure: S.N. 031-0026, originally built in 1928 as SBI 108, Section 104-B. The original structure consisted of single span concrete T beam structure on closed abutments. In 1968 the substructure and superstructure were widened with precast deck beams. The back to back abutment length is 43'-1 1/2" and the out to out bridge width is 33'-0". The existing structure is to be removed and replaced. Traffic is to be maintained utilizing stage construction.

No salvage.

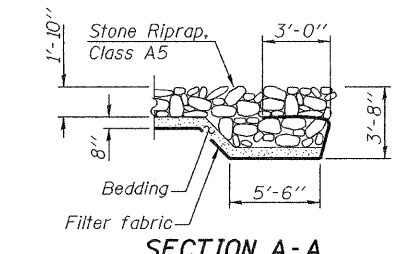
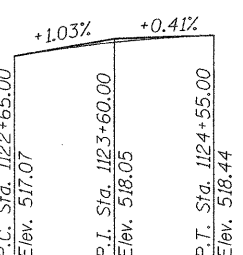
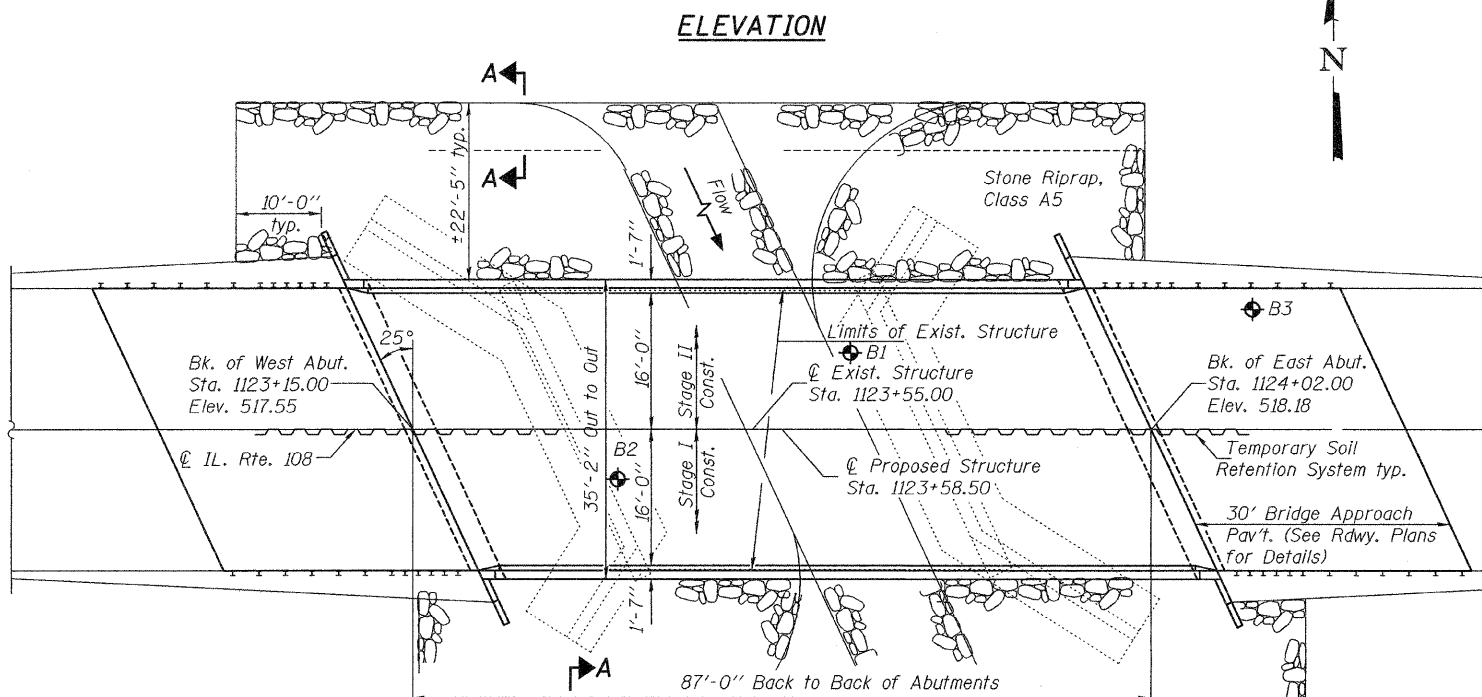
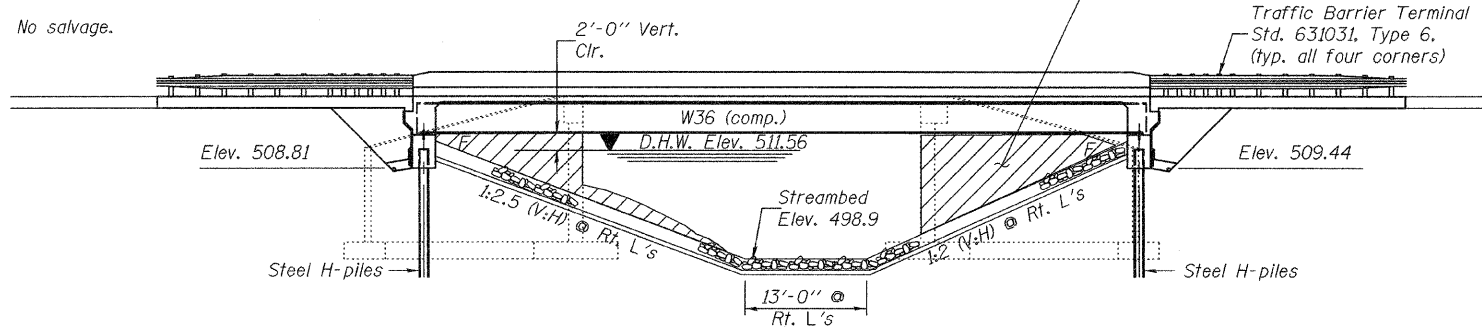
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAP 761	104-BR-2	GREENE	82	50	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #76987

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 3 bolts. Bolts 3/4" in. ϕ , holes 15/16" in. ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 115,780 lbs.
 All structural steel shall be AASHTO M270 Grade 50W.
 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.
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
 Layout of slope protection system may be varied in the field to suit ground conditions 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.
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
 The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.



PROFILE GRADE
(along ϕ F.A.P. Rte. 761)

DESIGNED	Stephan Rye
CHECKED	Michael Kelly
DRAWN	W.D. Collins
CHECKED	SUR/MJR

JANUARY 22, 2009
 EXAMINED
 PASSED



EXPIRES 11-30-2010

- INDEX OF SHEETS
1. General Plan and Elevation
 2. Stage Construction Details
 3. Temporary Soil Retention System
 4. Temporary Concrete Barrier
 - 5.-6. Top of Slab Elevations
 7. West Approach Elevations
 8. East Approach Elevations
 9. Superstructure
 10. Superstructure Details
 11. Diaphragm Details
 12. Structural Steel
 13. Structural Steel Details
 14. West Abutment
 15. East Abutment
 16. Bar Splicer Assembly Details
 17. Concrete Slipforming Details
 18. Steel H-Pile Data
 - 19.-20. Boring Logs

STATION 1123+58.5
 BUILT 20 BY
 STATE OF ILLINOIS
 FAP ROUTE 761 - SECTION 104-BR-2
 LOADING HL93
 STRUCTURE NO. 031-0042

NAME PLATE
 See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		161.2	161.2
Stone Riprap, Class A5	Sq. Yd.		861	861
Filter Fabric	Sq. Yd.		861	861
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		72.7	72.7
Concrete Structures	Cu. Yd.		44.0	44.0
Concrete Superstructure	Cu. Yd.	125.7		125.7
Bridge Deck Grooving	Sq. Yd.		382	382
Protective Coat	Sq. Yd.		290	290
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1044		1044
Reinforcement Bars, Epoxy Coated	Pound	24,680	6,380	31,060
Bar Splicers	Each	337	18	355
Driving Piles	Foot		780	780
Furnishing Steel Piles HP12x84	Foot		780	780
Test Pile Steel HP12x84	Each		2	2
Temporary Soil Retention System	Sq. Ft.		592	592
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		81.0	81.0
Pipe Underdrains for Structures, 4"	Foot		168.0	168.0
Anchor Bolts, 1"	Each		24	24
Concrete Encasement	Cu. Yd.		4.2	4.2
Asbestos Bearing Pad Removal	Each		22	22

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	505.81	506.44

LOADING HL 93

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

DESIGN SPECIFICATIONS
 2007 LRFD Bridge Design Specifications,
 4th. Edition

DESIGN STRESSES

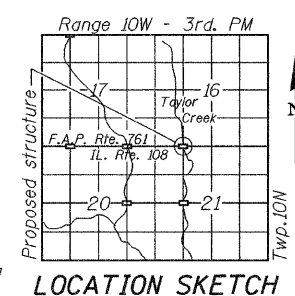
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Bedrock Acceleration Coefficient (A) = 0.06g
 Site Coefficient (S) = 1.0

WATERWAY INFORMATION

Drainage Area = 4.74		Low Grade Elev. 516.04 @ Sta. 1124+84					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Nat. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.	
	10	1,267	292 405	510.60	0.27 0.17	510.87 510.77	
Design	50	2,089	326 461	511.56	0.83 0.55	512.39 512.11	
Base	100	2,467	339 482	511.92	1.08 0.70	513.00 512.62	
Overtopping							
Max. Calc.	500	3,406	367 533	512.72	1.72 1.04	514.44 513.76	



GENERAL PLAN & ELEVATION
 ILLINOIS ROUTE 108 OVER
 TAYLOR CREEK BRANCH
 F.A.P. ROUTE 761 - SECTION 104-BR-2
 GREENE COUNTY
 STATION 1123+58.50
 STRUCTURE NO. 031-0042