

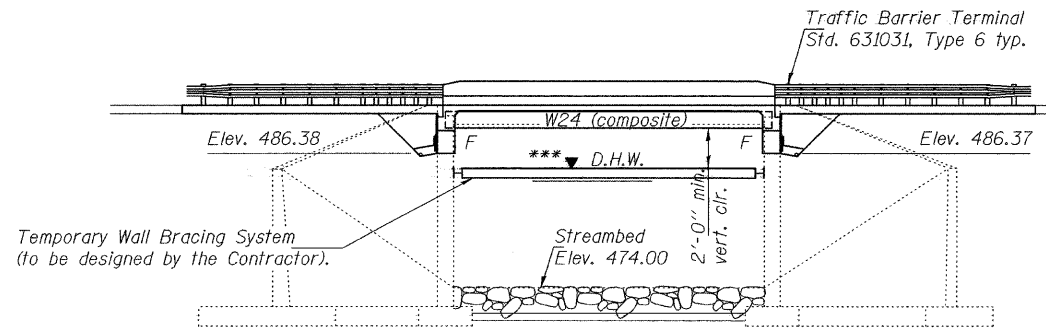
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 20 SHEETS
F.A.P. 322	12-1, BR	UNION	36	17	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Bench Mark: B.M. 9 is chiseled square on the N.W. wingwall of S.N. 091-0022 at Sta. 801+19.2, 26.5 feet right of U.S. 51. Elev. 492.51

Existing Structure: S.N. 091-0022 Built 1962 as F.A. Route 2, Section 12-1B at Station 801+60 as a simple span reinforced concrete channel Nelson beams 40'-4" Bk.-to-Bk. abutments 48'-9" O.-O. deck. Closed abutments supported on spread footings. The existing superstructure is to be removed and replaced. Traffic to be maintained utilizing stage construction.

No salvage



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  2. General Details
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  6. Top of Slab Elevations
  7. North Approach Elevations
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  9. Superstructure
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  20. Cantilever Forming Bracket

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 3/4 in.  $\phi$ , holes 15/16 in.  $\phi$ , unless otherwise noted.  
Calculated weight of Structural Steel = 2,090 (AASHTO M270 Gr. 36) = 20,330 (AASHTO M270 Gr. 50)

No field welding is permitted except as specified in the contract documents. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

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

The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

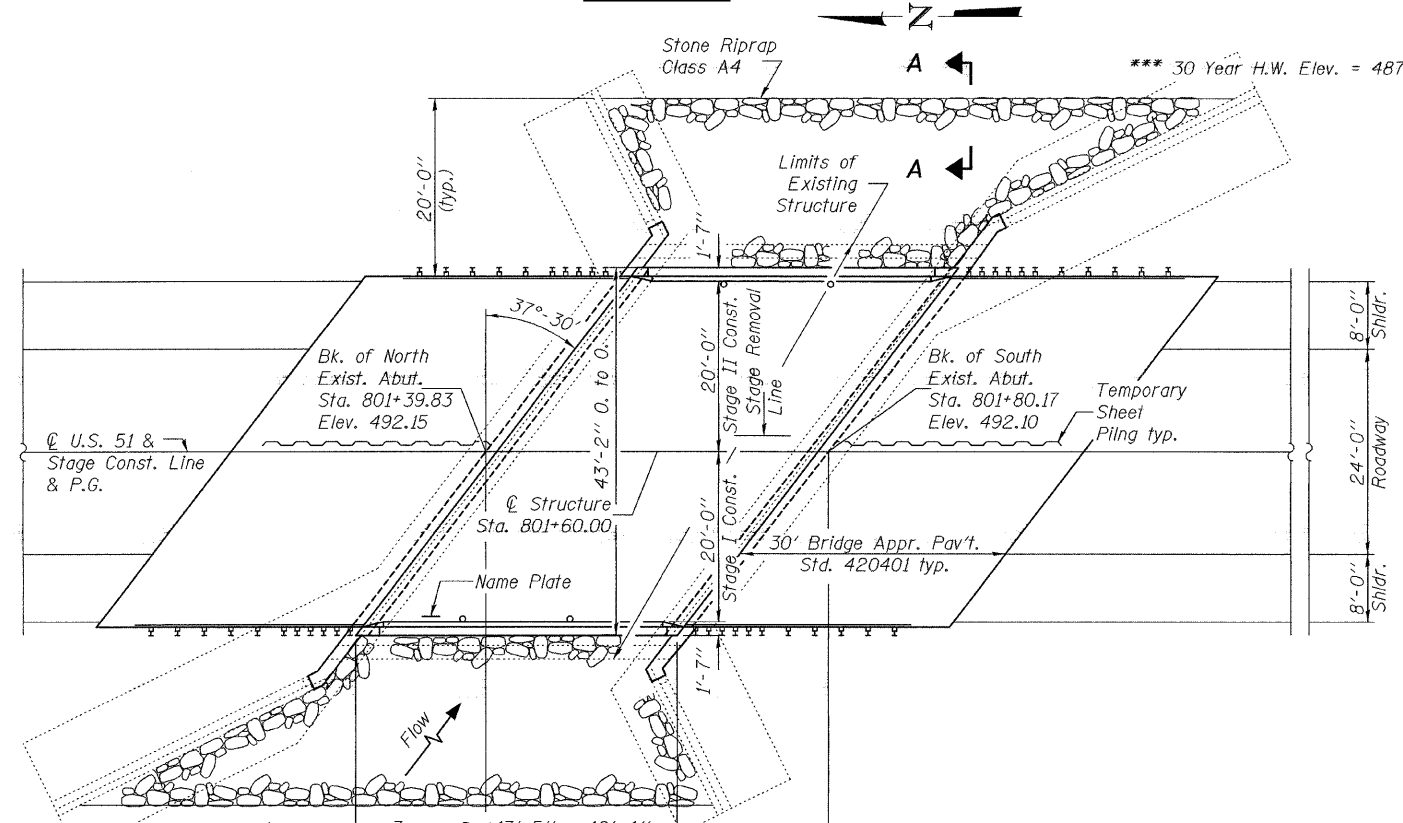
Slip forming of the parapets is not allowed on this contract.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). 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 interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision for "Cleaning and Painting New Metal Structures".

**ELEVATION**



STATION 801+60.00  
REBUILT 20 BY  
STATE OF ILLINOIS  
F.A.P. RTE. 322 SEC. 12-1, BR  
LOADING HL93  
STRUCTURE NO. 091-0022

**NAME PLATE**

See Std. 515001  
Existing nameplate shall be cleaned and incorporated next to new name plate. Cost included with Name Plates.

**TOTAL BILL OF MATERIAL**

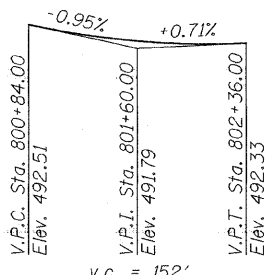
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		97	97
Stone Riprap, Class A4	Sq. Yd.		416	416
Filter Fabric	Sq. Yd.		416	416
Protective Coat	Sq. Yd.		208	208
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.	18.8		18.8
Structure Excavation	Cu. Yd.		97	97
Floor Drains	Each	4		4
Concrete Structures	Cu. Yd.		22.1	22.1
Concrete Superstructure	Cu. Yd.	68.9		68.9
Bridge Deck Grooving	Sq. Yd.	164.8		164.8
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,116		1,116
Reinforcement Bars, Epoxy Coated	Pound	13,500	3,940	17,440
Bar Splicers	Each	229	16	245
Temporary Sheet Piling	Sq. Ft.		195	195
Name Plates	Each	1		1
Anchor Bolts, 1" $\phi$	Each	24		24
Geocomposite Wall Drain	Sq. Yd.		31	31
Pipe Underdrains for Structures, 4"	Foot		152	152
Structural Repair of Concrete < 5"	Sq. Ft.		311	311
Temporary Wall Bracing System	L. Sum	1		1
Furnishing and Erecting Structural Steel	Pound		25,750	25,750

**EXISTING CURVE DATA**

PI Sta. = 816+33.80  
 $\Delta = 9^\circ-57'-30''$  (LT)  
 $D = 0^\circ-15'-00''$   
 $R = 22,918.26'$   
 $T = 1,996.70'$   
 $L = 3,983.34'$   
 $E = 86.81'$   
P.C. Sta. = 796+37.10  
P.T. Sta. = 836+20.44

\*\*Since radius is so large build bridge straight. Curve Data for information only.

**PLAN**



**PROFILE GRADE**  
(along  $\phi$  U.S. Rte. 51)

**LOADING HL-93**

(Superstructure only)  
Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

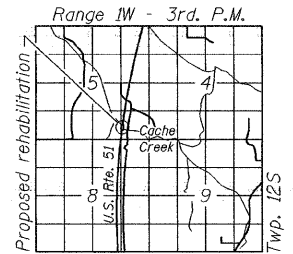
2007 AASHTO LRFD Bridge Design Specifications  
U.S. 4th. Edition

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)  
 $f_y = 50,000$  psi (AASHTO M270 Gr. 50)  
 $f_y = 36,000$  psi (AASHTO M270 Gr. 36)

**FIELD UNITS (Existing Construction)**

$f'_c = 1,400$  psi (super.)  
 $f'_c = 1,000$  psi (sub.)  
 $f_s = 20,000$  psi (reinforcement)  
**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 2  
Bedrock Acceleration Coefficient (A) = 0.14g  
Site Coefficient (S) = 1.2



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**

U.S. ROUTE 51 OVER  
CACHE CREEK  
F.A.P. ROUTE 322 - SECTION 12-1, BR  
UNION CO.  
STATION 801+60.00  
STRUCTURE NO. 091-0022

DESIGNED: Patrick M. Bohne  
CHECKED: Jay D. Edwards  
DRAWN: BECKY M. LEACH  
CHECKED: PMP JDE

EXAMINED: [Signature] July 22, 2008  
PASSED: [Signature]  
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2008