

**GENERAL NOTES**

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts.  
 Bolts 7/8" φ, holes 15/16" φ, unless otherwise noted.  
 Calculated weight of Structural Steel = 1,084,160 lbs (AASHTO M270 Grade 50),  
 58,200 lbs (AASHTO M270 Grade 36).

No field welding is permitted except as specified in the contract documents.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 If the Contractor elects to use cantilever forming brackets on the exterior girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior girder at each of these additional bracket locations.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

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 Gray, Munsell No. 5B 7/1.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

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

The approach slab concrete pours shall be scheduled such that there will be a minimum of 12 hours of increasing temperatures following the conclusion of the pours. The approach slabs may be poured on the same day or on different days, with no requirements for the previous approach slab pour to be completely cured before pouring the other approach slab.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Granular Backfill for Structures	Cu. Yd.		296.6	296.6
Stone Riprap, Class A5	Sq. Yd.			2,523
Filter Fabric	Sq. Yd.			2,523
** Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		300	300
Floor Drains	Each	11		11
Concrete Structures	Cu. Yd.		295.2	295.2
Concrete Superstructure	Cu. Yd.	765.4		765.4
Concrete Superstructure (Approach Slab)	Cu. Yd.	122.2		122.2
Bridge Deck Grooving	Sq. Yd.	2,439		2,439
Protective Coat	Sq. Yd.	3,030		3,030
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	7,428		7,428
Reinforcement Bars	Pound		49,070	49,070
Reinforcement Bars, Epoxy Coated	Pound	226,630	56,410	283,040
Bar Splicers	Each		492	492
Furnishing Steel Piles HP14x117	Foot		490	490
Driving Piles	Foot		490	490
Test Pile Steel HP14x117	Each		2	2
Name Plates	Each	1		1
Drilled Shaft in Soil	Cu. Yd.		99.7	99.7
Drilled Shaft in Rock	Cu. Yd.		32.0	32.0
Anchor Bolts 1"	Each	24		24
Anchor Bolts 1/2"	Each	24		24
Geocomposite Wall Drain	Sq. Yd.		127	127
Pipe Underdrains for Structures 4"	Foot		174	174
Drainage Scuppers, DS-II	Each	4		4
Mechanical Splicers	Each		184	184
Asbestos Bearing Pad Removal	Each	14		14
Thermal Integrity Profile Testing	Each		2	2
Thermal Integrity Profile Data Collection	Foot		304	304

\*\*Removal of existing gauging station safety cage and its attachment shall be included in the cost of Removal of Existing Structures.

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**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevations (ft.)				
	S. Abut.	Pier 1	Pier 2	N. Abut.
Q100	426.37	392.02	389.09	426.81
Q200	426.37	391.90	388.97	426.81

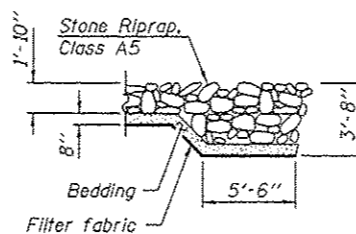
Note: Design scour elevations based on potential thalweg future movement.

**WATERWAY INFORMATION**

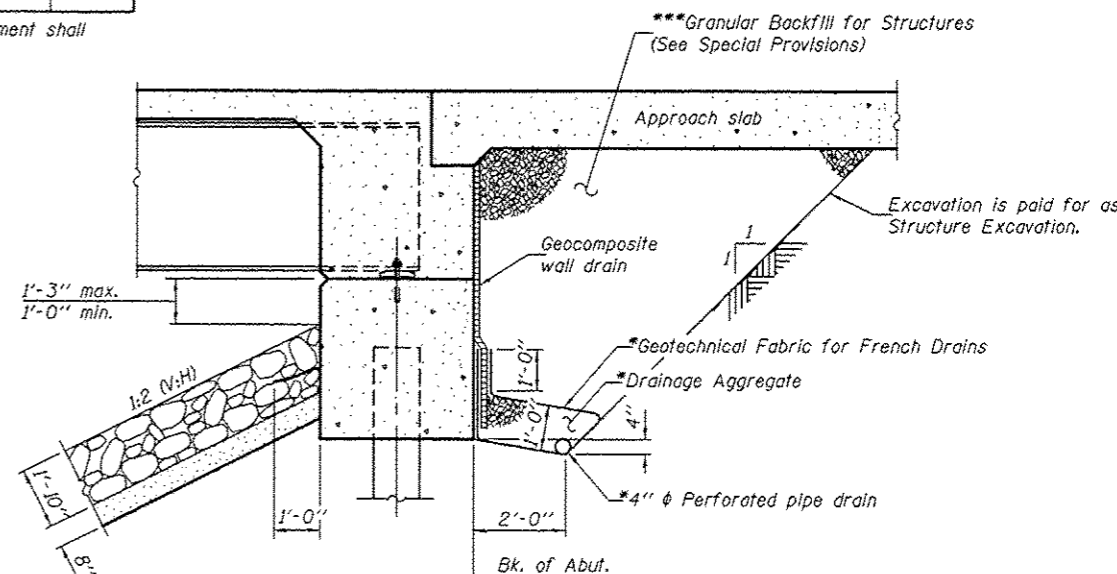
Drainage Area = 2330 sq. mi. Existing overtopping Elev. 429.68 @ Sta. 19+00  
 Proposed overtopping Elev. 429.82 @ Sta. 27+00

Flood Event	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design/Overtop Exist.	50	30415	8653	10384	429.7	0.1	0.1	429.8	429.8
Overtop Proposed	55	30800	-	10433	429.8	-	0.1	-	429.9
Base	100	33337	8653	11016	431.0	0.2	0.2	431.2	431.2
Scour Design Check	200	36543	8653	11198	431.3	0.3	0.2	431.6	431.5
Max. Calc.	500	40550	8653	11390	431.6	0.3	0.2	431.9	431.8

10 Year velocity through existing bridge = 2.5 ft./sec.  
 10 Year velocity through proposed bridge = 2.4 ft./sec.



**SECTION A-A**



\* Included in the cost of Pipe Underdrains for Structures 4".

\*\*\* Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

**SECTION THRU INTEGRAL ABUTMENT**

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

5/30/2017 1:04:15 PM

DESIGNED - FRANK W. SHARPE	EXAMINED - <i>James F. [Signature]</i>	DATE - MAY 5, 2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 051-0064 SHEET NO. 2 OF 30 SHEETS	F.A.P. RTE. 332	SECTION (16 BR) B-1	COUNTY LAWRENCE	TOTAL SHEETS 167	SHEET NO. 97
CHECKED - PAUL S. JOHNSON	PASSED - <i>[Signature]</i>	REVISED / Δ 5/30/2017 D.H.C.			CONTRACT NO. 74180	ILLINOIS FED. AID PROJECT			
DRAWN - h.t. duong									
CHECKED - F.W.S. / P.S.J.									

Δ REV 6-7-17