

GENERAL NOTES:

Design Specifications:
 2007 - AASHTO LRFD 4th Edition and 2008 Interims
 Load and Resistance Factor Design
 2009 - AASHTO 1st Edition Guide Specifications for LRFD Seismic Design
 Seismic Design Category = Seismic Performance Zone 2 or 3
 Seismic Peak Horizontal Ground Acceleration:
 Design earthquake = 0.17 G
 Maximum credible earthquake = 0.23 G

Design Loading:
 HL-93 (LRFD Superstructure, LRFD Substructure)
 35#/Sq. Ft. Future Wearing Surface
 Earth 120#/Cu. Ft., Equivalent Fluid Pressure 45#/Cu. Ft.
 Superstructure: Continuous composite

Design Unit Stresses:
 Class B Concrete (Substructure) f'c = 3,000 psi
 Class B-2 Concrete (Drilled Shafts & Rock Sockets) f'c = 5,500 psi
 Class B-1 Concrete (Barrier Curbs) f'c = 4,000 psi
 Class B-2 Concrete (Superstructure, except Barrier Curbs) f'c = 4,000 psi
 Reinforcing Steel (Grade 60) fy = 60,000 psi
 Structural Steel (ASTM A709 Grade 50W) fy = 50,000 psi
 Structural Steel (ASTM A709 Grade HPS70W) fy = 70,000 psi
 Steel casing for drilled shafts (ASTM A252 Grade 2) fy = 35,000 psi

Fabricated Structural Steel:
 All fabricated structural steel shall be ASTM A709 Grade 50W unless noted otherwise.

Fabricated Steel Connections:
 Field connections shall be made with 1" diameter high strength bolts and 1 1/16" diameter holes, except as noted.

Joint Filler:
 All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:
 Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.
 For bar supports for concrete reinforcement, see Sheet No. 118.

Structural Steel Protective Coating:
 System H in accordance with Sec 1081.
 Portions of the structural steel embedded in or in contact with concrete, including but not limited to the top flange of girders, shall be coated with not less than 2.0 mils of the prime coat for System H.

Prime Coat:
 The prime coat shall be applied in the fabrication shop. The cost of the prime coat will be considered completely covered by the contract unit price for the Fabricated Structural Steel. The surfaces of all structural steel located under expansion joints shall be coated with complete System H within a distance of 1 1/2 times the girder depth, but not less than 10 feet, from the centerline of all deck joints. Within this limit, items to be coated shall include all surfaces of beam, girders, diaphragms, stiffeners, bearings and miscellaneous structural steel items.

Field Coat:
 The color of the field coat shall be Brown (Federal Standard #30045). The cost of the intermediate and finish field coats will be considered completely covered by the contract unit price for the Fabricated Structural Steel. At the option of the contractor, the intermediate and finish field coats may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the engineer.

Concrete Protective Coatings:
 Temporary coating for concrete bents and piers (weathering steel) shall be applied on all concrete surfaces above the ground line on all intermediate bents in accordance with Sec 711.
 Protective coating for concrete piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Miscellaneous:
 A minimum vertical clearance of 16'-6" over existing IL Rte. 3 and a minimum lateral clearance of 15'-0" centered on existing lanes shall be maintained during construction.
 A minimum vertical clearance of 22'-0" from top of rails and a minimum lateral clearance of 13'-0" from the centerline of track to nearest temporary construction falsework shall be maintained at all times during construction. See Special Provisions for flagging requirements and railroad insurance.
 High strength bolts, nuts, and washers will be sampled for quality assurance as specified in Sec 106 and Field Section (FS-712) from the MoDOT Materials Manual.

Abbreviations:
 E.F. denotes Each Face
 N.F. denotes Near Face
 F.F. denotes Far Face

The contractor shall submit, for the engineer's approval, a detailed erection plan and procedure, including but not limited to, the sequence of girder erection and bolt tightening, and provisions for the stability of girders and blocking of the bearings during erection and until the concrete deck has reached its design strength. The detailed erection plan and procedure shall be sealed by a licensed structural engineer in the state of Illinois. The engineer's review of such plan and procedure does not relieve the contractor of any responsibility.

The contractor's attention is directed to the requirements for stability of steel girders from erection through strength development of the concrete deck. The girders on this bridge shall be stabilized by use of falsework, temporary bracing, compression flange stiffening trusses, by use of one or more holding cranes until a sufficient number of girders have been erected, are in place and cross frames installed or other proven methods as detailed by the contractor's engineer. The methods used by the contractor shall address all temporary girder conditions including but not limited to wind, simple and cantilever span conditions, temporary support points and reactions, and expected deflections for temporary conditions. The above requirements shall be documented in the stability calculations and erection drawings submitted for review.

The details in the plans were developed assuming the girder cross frames are fully installed and that the contractor adheres to the pouring sequences shown in the plans. The contractor's erection procedure or changes to the pouring sequences could cause deflections, camber, and screed elevations to differ from those calculated in the plans. The differences could affect "fit up" of the steel or incorrect final deck elevations.

If the contractor elects to change the pouring sequences, the effects shall be fully evaluated by the contractor's engineer allowing sufficient time for engineer's review and prior to fabrication. The engineer's review of such changes will be at the contractor's expense and does not relieve the contractor of any responsibility.

ESTIMATED QUANTITIES (BRIDGE)			
Item	Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	105	105
Temporary Shoring	lump sum	1	1
Drilled Shafts (6 ft. 6 in. Dia.)	linear foot	4,694.0	4,694.0
Rock Sockets (6 ft. 0 in. Dia.)	linear foot	828.0	828.0
Supplementary Television Camera Inspection	each	20	20
Foundation Inspection Holes	linear foot	1,228.0	1,228.0
Concrete Coring	linear foot	556.0	556.0
Sonic Logging Testing	each	40	40
Class B Concrete (Substructure)	cu. yard	4,049.5	4,049.5
Slab On Steel	sq. yard	---	24,113
Barrier Curb (Type D)	linear foot	---	10,169
Reinforcing Steel (Bridges)	pound	3,359,440	3,359,440
Mechanical Bar Splice	each	5,200	5,200
Standpipe	lump sum	---	1
Reinforcing Steel (Epoxy Coated)	pound	177,290	177,290
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1	1
Temporary Coating - Concrete Bents and Piers (Weathering Steel)	lump sum	1	1
Fabricated Structural Low Alloy Steel (Misc)	pound	---	595,560
Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W	pound	---	9,099,470
Fabricated Structural Low Alloy Steel (Plate Girder) A709 Grade HPS70W	pound	---	2,116,700
Drainage System (On Structure)	lump sum	---	1
POT Bearing	each	---	96
Modular Expansion Joint	linear foot	---	80
Non-Special Waste Disposal	cu. yard	708	708

Notes:
 * Slip-forming of the barrier curbs is not allowed.
 ** Non-Special Waste Disposal is included in the "SUMMARY OF QUANTITIES (ROADWAY)" table in the Roadway drawings.
 The cost of any required excavation down to the top of the drilled shafts will be considered completely covered by the contract unit price for Drilled Shafts (6 ft. 6 in. Dia.), unless noted otherwise.
 Contractor shall dispose of excavated material and drilling fluids removed from drilled shafts in accordance with Sec 701.4.7.2. Additionally, the contractor shall be responsible for securing a suitable off-site location to dispose of these materials. Payment for removal and disposal of said materials shall be completely covered by the contract unit price for Drilled Shafts (6ft. 6in. Dia.) and Rock Sockets (6ft. 0in. Dia.). Approval of said off-site disposal locations shall be done in accordance with Article 107.22 of the Illinois Standard Specification for Road and Bridge Construction.
 Concrete coring shall be performed on 10% of the drilled shafts in accordance with Sec 701.
 The contractor shall use a mechanical bar splice for #18-V, #14-V and #11-V-Bars at the specified locations. The total bar lengths for bars indicated in the bill of reinforcing steel are determined based on the end of bars being located at the end of the adjacent bar. No additional payment will be made for any additional bar lengths required for the mechanical bar splice. Mechanical bar splice shall be in accordance with the Special Provision for Mechanical Bar Splice. Substitution of lap splices at any location indicating mechanical bar splices is not allowed.
 All erosion control measures and maintenance plans shall be subject to review and approval of the affected Railroads in addition to IDOT requirements.

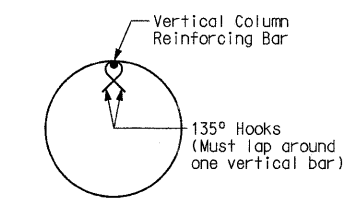
Note:
 On all bridge drawings (Sheets 1 thru 152) "Sec" refers to the sections in the Special Provisions unless specified otherwise.

ESTIMATED QUANTITIES FOR SLAB ON STEEL			
Item		Total	
Class B-2 Concrete	cu. yard	4,562.0	
Reinforcing Steel (Epoxy Coated)	pound	1,431,059	

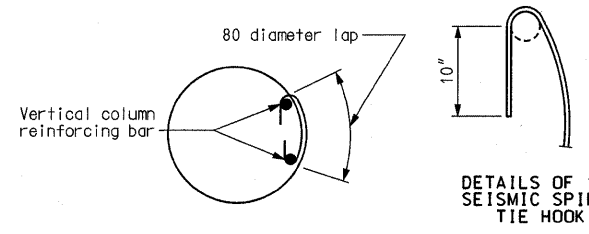
Notes:
 The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard with the horizontal dimensions as shown on the plan of slab. Payment for prestressed panels, stay-in-place forms, conventional forms, all concrete, and coated and uncoated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slabs shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II, or III.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Steel.



DETAIL OF SEISMIC STIRRUP BAR



ANCHOR SPLICES IN SPIRAL AROUND VERTICAL BAR (USE FOR INTERMEDIATE SPLICES OF SPIRALS)

Pier No.		14 (WB)	14 (EB)	15 (WB)	15 (EB)	16 (WB)	16 (EB)	17 (WB)	17 (EB)	18 (WB)	18 (EB)	19 (WB)	19 (EB)	20 (WB)	20 (EB)	21 (WB)	21 (EB)	22 (WB)	22 (EB)	23 (WB)	23 (EB)
Rock Sockets	Foundation Material	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
	Number	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Design Side Friction	kips/sq. foot	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70
	Design End Bearing	kips/sq. foot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

GENERAL NOTES AND ESTIMATED QUANTITIES

CONTRACT NO. 76D61	
F.A. ROUTE	SECTION
999	82-1B-2
FED. AID PROJECT	ILLINOIS
COUNTY	ST. CLAIR
USER NAME = jcolliff	
PLOT SCALE = #SCALE#	
PLOT DATE = 4/14/2010	
DESIGNED -	HNTB
CHECKED -	CMT
DRAWN -	CMT / HNTB
REVISED -	
REVISED -	
REVISED -	
REVISED -	

ILLINOIS APPROACH STRUCTURE FOR NEW I-70 MISSISSIPPI RIVER BRIDGE

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 MISSOURI HIGHWAYS
 AND TRANSPORTATION COMMISSION

HNTB
 715 KIRK DRIVE
 KANSAS CITY, MO 64105
 TELEPHONE (816) 472-1201
 CERTIFICATE OF AUTHORITY NO. 001270

CMT
 CRAWFORD, MURPHY & TILLY, INC.
 2150 WEST WASHINGTON STREET
 SPRINGFIELD, IL 62702
 TELEPHONE (217) 787-8050
 ENGINEERING CORPORATION - 000631