APPROVED

NOV 0 2 2005

AS A BASIS FOR

PREPARATION OF DETAILED PLANS

Bench Mark: Chiseled "□" top of N.E. wingwall S.N. 097-0031, Elev. 385.88

Existing Structure: S.N. 097-0031 built in 1932 as S.B.I. Route 139, Section 101-B, at Section 17+14.21 Super and substructure widened in 1978 as F.A. Route 857, Sec. 101BR-1. Structure consists of 2 spans of PPC deck beams (Spans 1 & 2) & 15 spans of reinf. conc. deck on steel beams (spans 3 thru 17) supported by closed (W) & spill thru pile bent (E) abutments & solid pile (1 & 2) & open conc. pile bent (3 thru 16) piers. 878'-4¾" bk.-bk. abuts. 33'-0" O.-O. deck. The existing structure shall be removed and replaced with the proposed bridge (S.N. 097-0071) and this proposed culvert (S.N. 097-2014). Traffic shall be maintained on a temporary run-around on the north side of the existing bridge during construction.

No salvage

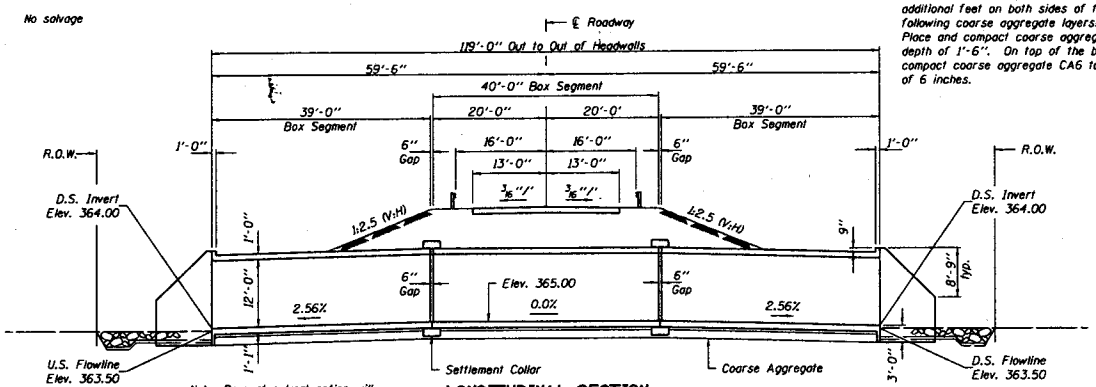
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes: Elevations of the box segments are the elevations at time of construction. Settlement of the box segments is anticipated during and after the placement of the embankment.

Underneath the footprint of the culvert box (plus 2 additional feet on both sides of the box) place the following coarse aggregate layers:
Place and compact coarse aggregate CA1 to a minimum depth of 1'-6". On top of the base CA1, place and compact coarse aggregate CA6 to a minimum depth of 6 inches.

				SHEET NO. 1
				1 SHEET
PROJ. FEDERAL ROAD - NO. 1	ILLINOIS	FED. AID PROJECT		

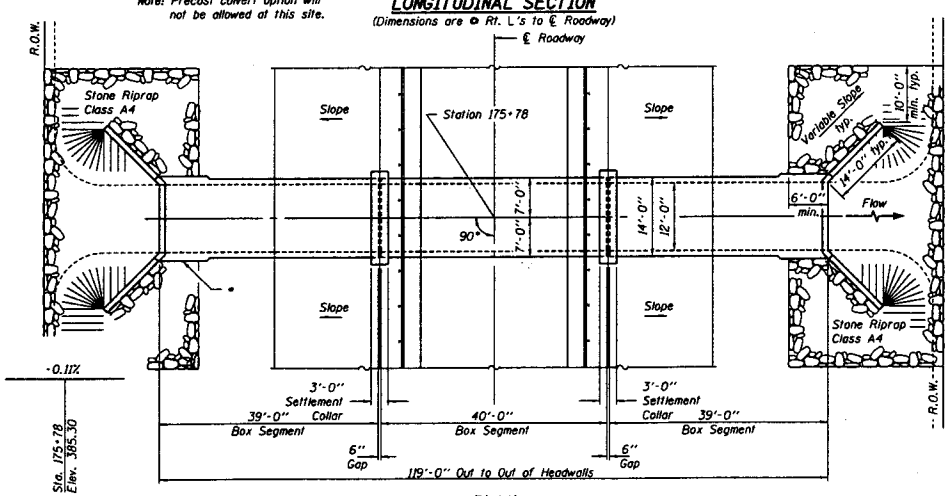
Contract #



Note: Precast culvert option will not be allowed at this site.

LONGITUDINAL SECTION

(Dimensions are ⊥ Rt. L's to ℄ Roadway)

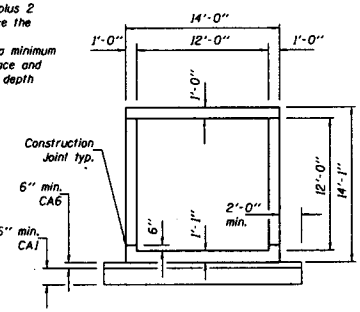


PLAN

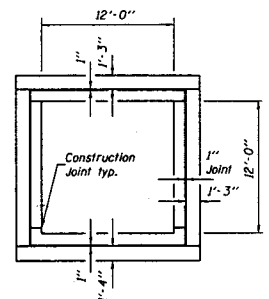
*Note: Soil/riprap to be placed to the top of the box at all four corners.

PROFILE GRADE

(along ℄ of roadway)

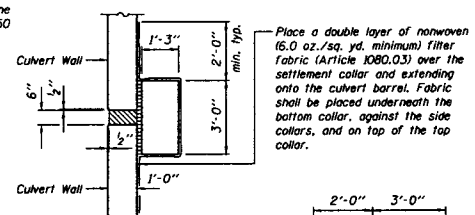


SECTION THRU BARREL



Note: Provide 1" thick by 3'-0" wide Preformed Closed Cell Plastic Joint Filler (Article 1051.08) between the barrel and the settlement collar.

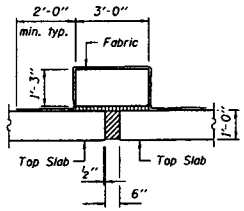
SECTION THRU BARREL AT SETTLEMENT COLLAR



Place a double layer of nonwoven (6.0 oz./sq. yd. minimum) filter fabric (Article 1080.03) over the settlement collar and extending onto the culvert barrel. Fabric shall be placed underneath the bottom collar, against the side collars, and on top of the top collar.

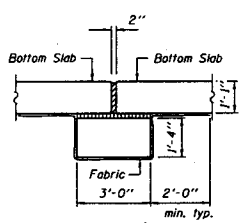
Note: Provide 6" thick by 1½" deep Preformed Closed Cell Plastic Joint Filler (Article 1051.08) between the adjacent walls of the box culvert segments.

SECTION THRU SETTLEMENT COLLAR & CULVERT WALLS



Note: Provide 6" thick by 1½" deep Preformed Closed Cell Plastic Joint Filler (Article 1051.08) between the top slabs of the box culvert segments.

SECTION THRU SETTLEMENT COLLAR & TOP SLABS



Note: Provide 2" thick by 12½" deep Preformed Closed Cell Plastic Joint Filler (Article 1051.08) between the bottom slabs of the box culvert segments.

SECTION THRU SETTLEMENT COLLAR & BOTTOM SLABS

HIGHWAY CLASSIFICATION

F.A.P. Rte. 857 - Il. Rte. 4
Functional Class: Minor Arterial
ADT: 2478 (1999); 3268 (2019)
ADTT: 10.5%
DHV: 392 (2019)
Design Speed: 55m.p.h.
Posted Speed: 55 m.p.h.

LOADING HS20-44

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

DESIGN SPECIFICATIONS

2002 AASHTO

DESIGN STRESSES

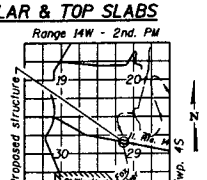
FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

WATERWAY INFORMATION

Drainage Area = 29400.0 sq. mi.
P. Low Grade Elev. 385.1 ft. @ Sta. 169+50
E. Low Grade Elev. 385.1 ft. @ Sta. 169+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design		8284	8765	3789	375.7	0.2	0.3	375.9	376.0
Base	100	9381	9460	4109	376.6	0.3	0.3	376.9	376.9
Overtopping									
Max. Calc.	500	10424	10021	4370	377.3	0.3	0.4	377.6	377.7



LOCATION SKETCH

GENERAL PLAN
ILLINOIS ROUTE 14 OVER FOX RIVER
F.A.P. ROUTE 857 - SECTION 101BR-6
WHITE COUNTY
STATION 175+78.00
STRUCTURE NO. 097-2014

DESIGNED	M.K. Christensen
CHECKED	
DRAWN	W.D. Collins
CHECKED	M.K. Christensen

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EXAMINED

ENGINEER OF BRIDGE DESIGN

PASSED

ENGINEER OF BRIDGES AND STRUCTURES

11-2-05

D-97-038-97