

Benchmark: 687.296. Chiseled square on east end of concrete pipe in south-east QUAD of the intersection of US 150 and C.R. 2075 E, Sta. 344+11.00, 28.0' RT.

Existing Structure: Sta. 333+43.57, 2'x2' cast-in-place box culvert with concrete headwalls to be removed.

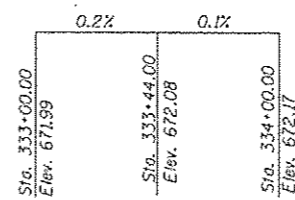
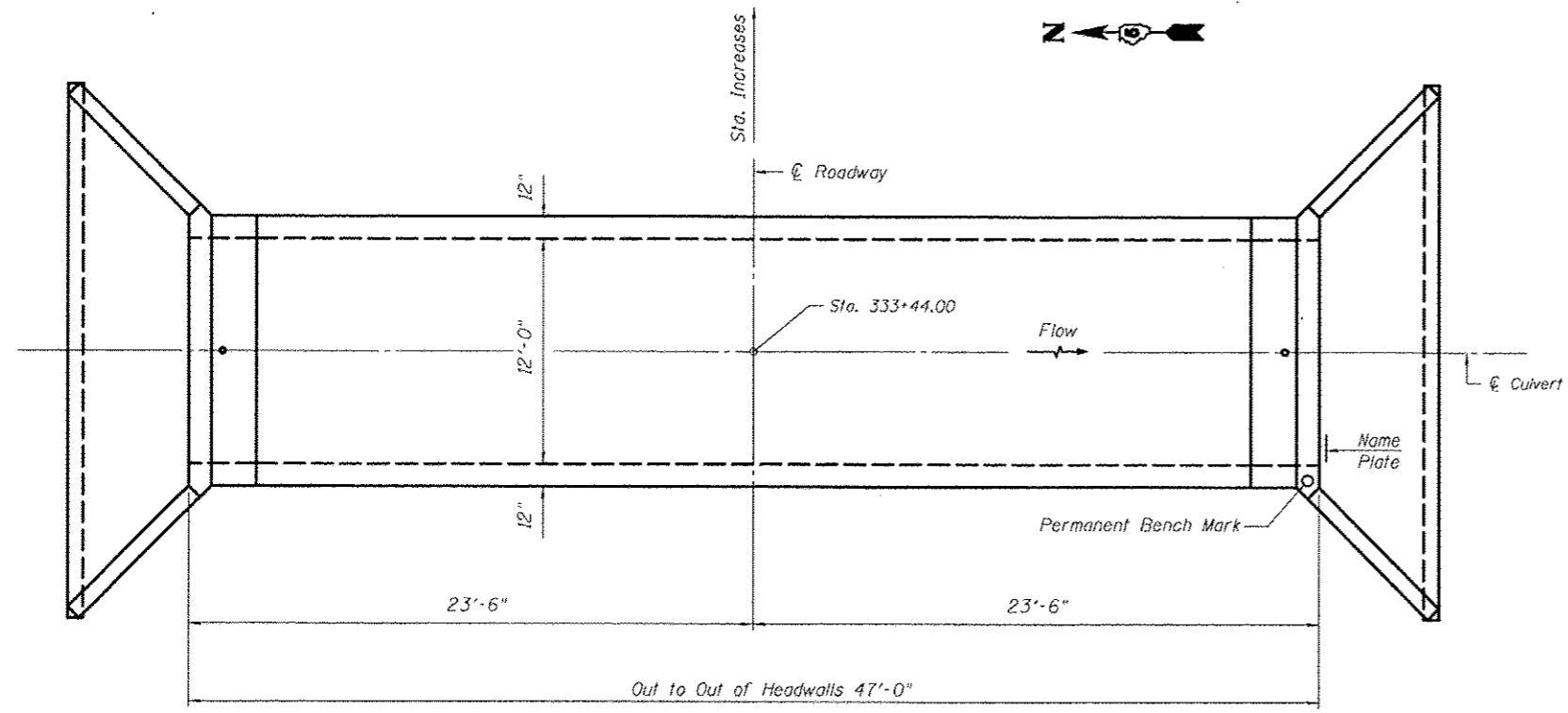
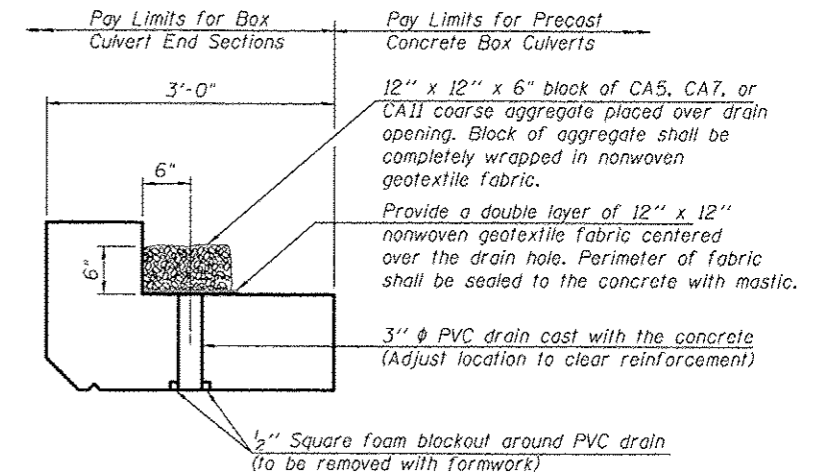
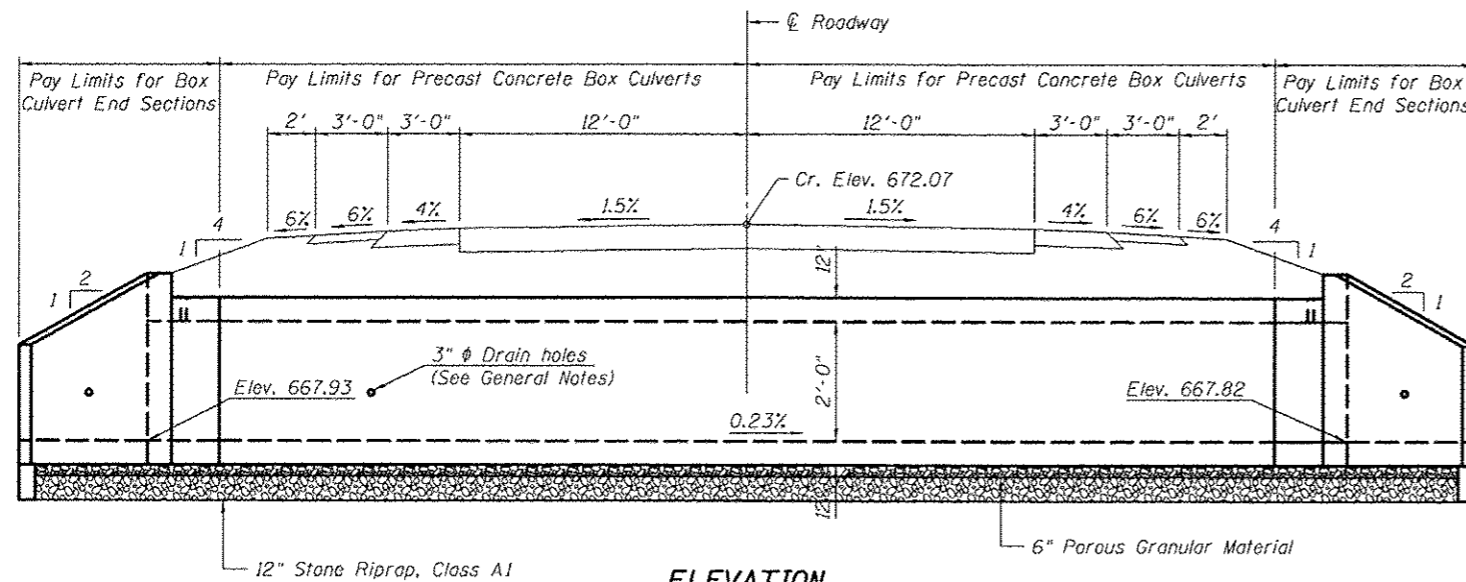
**INDEX OF SHEETS**

1. Plan & Profile Sheet
2. General Plan and Elevation
- 3-4. Precast Concrete Box Culvert Apron End Section Details
5. Porous Granular Embankment Details

**GENERAL NOTES**

The design fill height for this box is < 2 feet. The precast box culvert sections shall conform to the requirements of AASHTO C 1577.  
 Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.  
 The 6 in. thick layer of porous granular material required for the precast concrete box culvert per Art. 540.06 of the Standard Specifications shall also apply to the end sections. Cost of the porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.  
 Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

All exposed edges shall be chamfered 3/4" per article 503.06 of the Standard Specifications.



**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge Design Specifications  
 6th Edition

**LOADING HL-93**

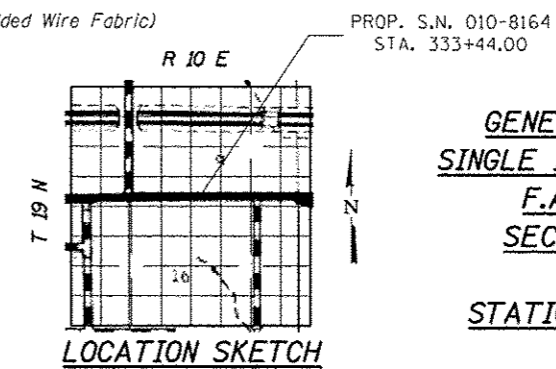
**DESIGN STRESSES**

*f*'c = 5,000 psi  
*f*y = 65,000 psi (Welded Wire Fabric)

**PRECAST UNITS**

STATION 333+44.00  
 BUILT 2014 BY  
 STATE OF ILLINOIS  
 F.A.S. RT. 1512 US 150  
 SEC. (2X,3)RS-3 & 2RS-4  
 LOADING HL-93  
 STR. NO. 010-8164

**NAME PLATE**  
 See Std. 515001



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 12	Each	2.0
Precast Concrete Box Culverts, 12x2	Foot	39.0
Permanent Bench Marks	Each	1.0
Stone Riprap, Class A1	Sq. Yd.	129.1
Porous Granular Embankment	Cu. Yd.	32.1

**GENERAL PLAN AND ELEVATION  
 SINGLE 12'x2' PRECAST BOX CULVERT  
 F.A.S. ROUTE 1512 (US 150)  
 SECTION (2X,3)RS-3 & 2RS-4  
 CHAMPAIGN COUNTY  
 STATION 333+44.00, S.N. 010-8164  
 CULVERT NO. 12**

**WATERWAY INFORMATION**

Drainage Area = 2.11 sq. mi. Low Grade Elev. 671.93 @ Sta. 332+50.00

Flood	Freq. Yr.	0	C.F.S.	Opening	Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
				Exist.	Prop.	Exist.	Prop.	Exist.
Design	10	76	4	22.4				Over 669.8
Base	50	119	4	24				Over 670.4
Overtopping	100	137	4	24				Over 670.6
Max. Calc.	500	181	4	24				Over 671.5

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	Upstream	Downstream
	664.93	664.82