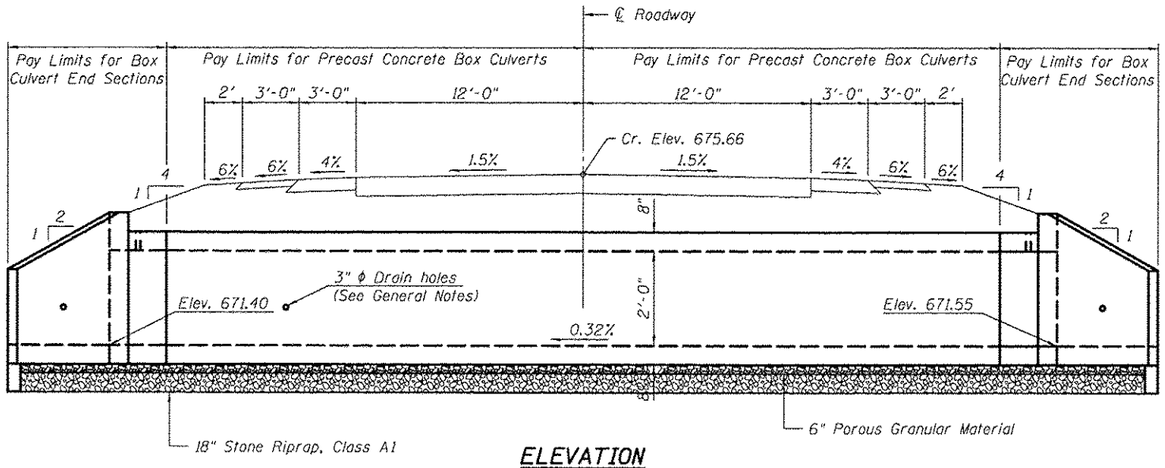
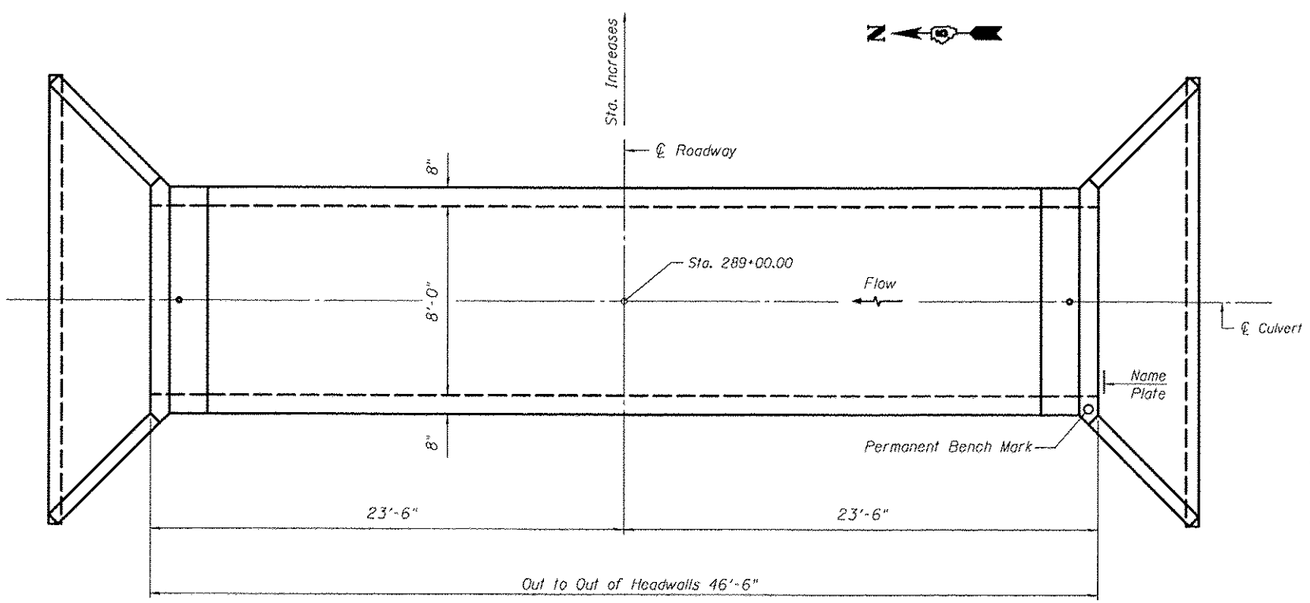
Benchmark: 675.112, Chiseled square on East end of south headwall of exist. A.R. box culvert, Sta. 289+49.7, 14.6' LT

Existing Structure: Sta. 289+46.00, 2'x2' cast-in-place box culvert with concrete headwalls to be removed.



ELEVATION



PLAN

WATERWAY INFORMATION

Drainage Area = 0.3 sq. mi. Low Grade Elev. 675.04 @ Sta. 283+50.00

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.
	10	46	4	14				Over	673.3
Design	50	75	4	16				Over	674.0
Base	100	88	4	16				Over	674.2
Overtopping									
Max. Calc.	500	120	4	16				Over	675.2

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	668.55	668.40

INDEX OF SHEETS

GENERAL NOTES

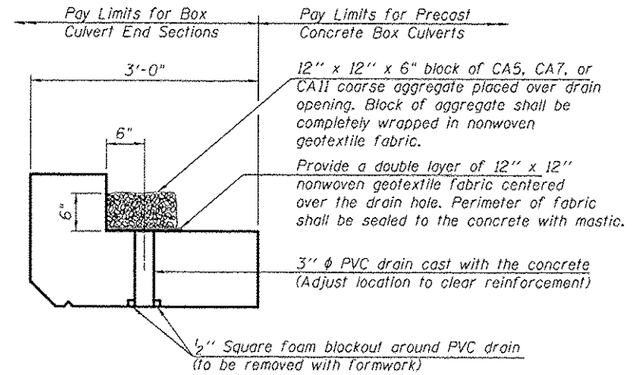
The design fill height for this box is < 2 feet. The precast box culvert sections shall conform to the requirements of AASHTO C 1577.

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.

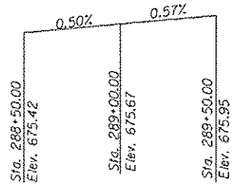
Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

All exposed edges shall be chamfered $\frac{3}{4}$" per article 503.06 of the Standard Specifications.



DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain details will not be measured for payment but shall be included in the contract unit price for the end section.)



PROFILE GRADE

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
6th Edition

LOADING HL-93

DESIGN STRESSES

PRECAST UNITS

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

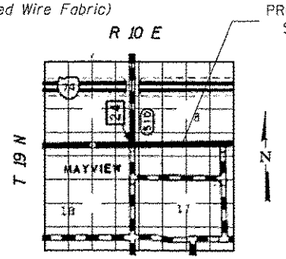
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 4	Each	1.0
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 9	Each	2.0
Precast Concrete Box Culverts, 8x2	Foot	40.5
Permanent Bench Marks	Each	1.0
Stone Riprap, Class A1	Sq. Yd.	96.1
Porous Granular Embankment	Cu. Yd.	37.3

STATION 289+00.00
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. 010-8161

NAME PLATE

See Std. 515001



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
SINGLE 8'x2' PRECAST BOX CULVERT
F.A.S. ROUTE 1512 (US 150)
SECTION (2X,3)RS-3 & 2RS-4
CHAMPAIGN COUNTY
STATION 289+00.00, S.N. 010-8161
CULVERT NO. 9

FILE NAME = c:\pw_work\pwidot\cearlockjd\d0120316\D570663-sht-structures.dgn	USER NAME = cearlockjd	DESIGNED -	REVISED
	FILE NAME =	CHECKED -	REVISED
	PLOT SCALE = 40.0000 ' / in.	DRAWN -	REVISED
	PLOT DATE = 10/10/2013	CHECKED -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STA. 289+00.00 PROPOSED S.N. 010-8161
BOX CULVERT NO. 9
SHEET NO. 7 OF 11 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	(2X,3)RS-3 & 2RS-4	Champaign	551	217
*	F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663		
	ILLINOIS FED. AID PROJECT			