CONTRACT NO. 72829

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
75	84-12; 11-3	•	729	454
STA.	TO STA.			
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

• SANGAMON AND CHRISTIAN

Sheet 1 of 3 Sheets

Bench Mark:
Sta. 1484+96.52±, 248.25'± lt. Set R.R. spike in center of County Hwy. 21 @ 0.50 mile East of Il. Rte. 29 & Franklin intersection.
Elev. = 592.30

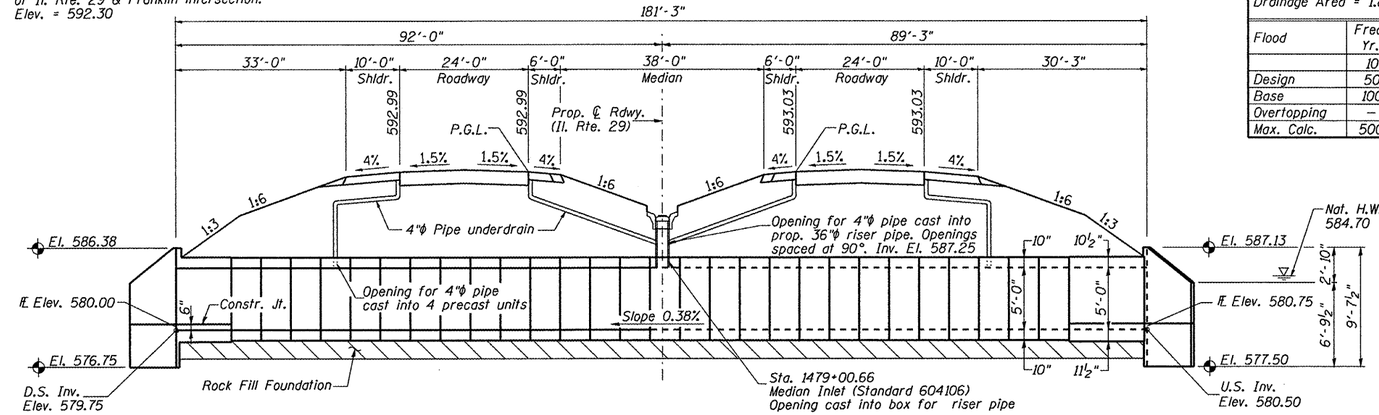
Existing Structure:
No existing structure

Proposed Structure:
10' x 5' Double precast box culvert with cast-in-place end sections.

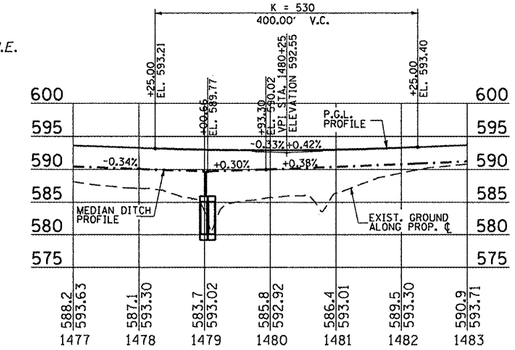
WATERWAY INFORMATION

Drainage Area = 1.83 mi. Ex. Low Grade Elev. = ft. @ Sta.
Pr. Low Grade Elev. = 593.10 ft. @ Sta. 1479+05

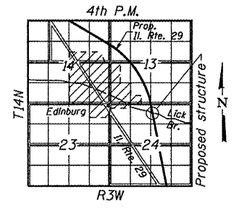
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	290		71	583.78		584.42		0.64
Design	50	481		91	584.70		585.49		0.79
Base	100	568		100	585.22		586.38		1.16
Overtopping	–	–	–	–	–	–	–	–	–
Max. Calc.	500	781		100	586.99		589.42		2.43



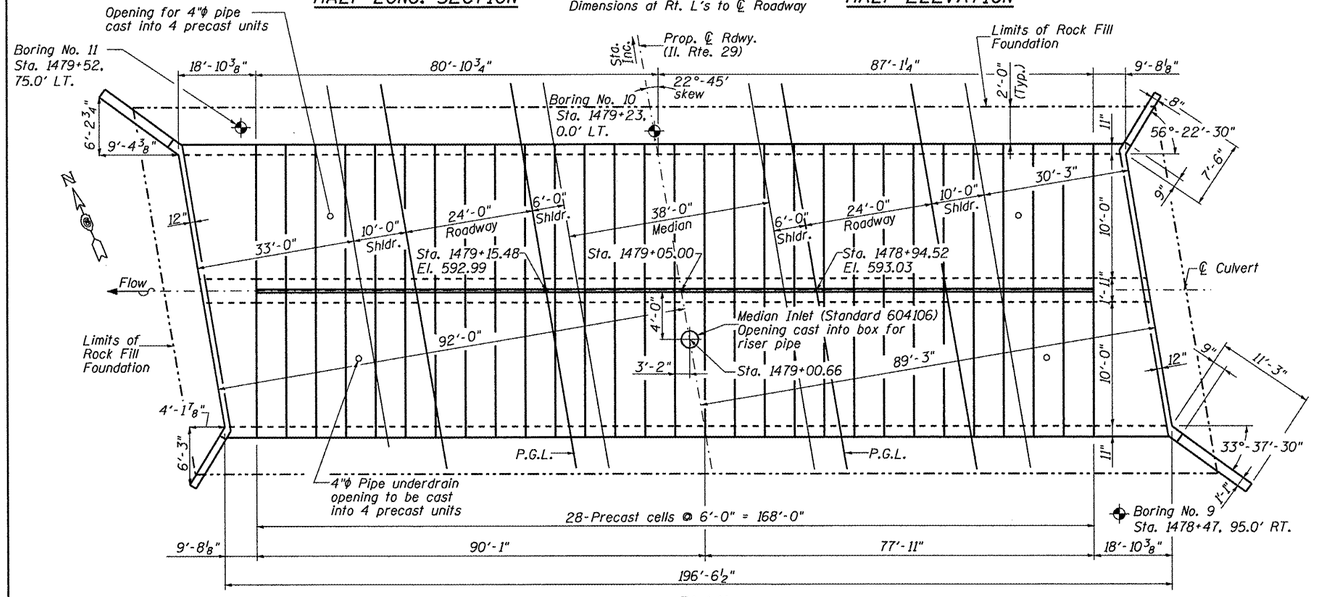
HALF LONG. SECTION



ROADWAY PROFILE



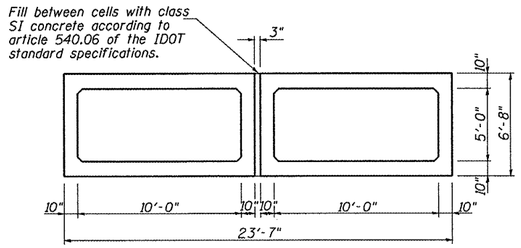
LOCATION SKETCH



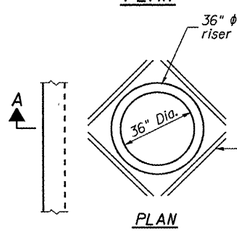
PLAN

Dimensions at Rt. L's to ℄ Roadway

HALF ELEVATION

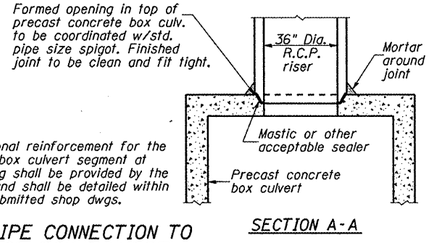


SECTION THRU PRECAST BARREL



PLAN

Additional reinforcement for the prop. box culvert segment at opening shall be provided by the mfg. and shall be detailed within the submitted shop dwgs.



SECTION A-A

RISER PIPE CONNECTION TO PRECAST BOX CULVERT

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interim Revisions

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS	PRECAST UNITS
f'c = 3,500 psi	f'c = 5,000 psi
fy = 60,000 psi	fy = 65,000 psi (W.W.F.)

BILL OF MATERIAL

Item	Unit	Quantity
Porous Granular Embankment	Cu. Yd.	187
Filter Fabric	Sq. Yd.	809
Precast Concrete Box Culvert 10' X 5'	Foot	336
Concrete Box Culverts	Cu. Yd.	86.4
Reinforcement Bars	Pound	13,670
Rock Fill Foundation	Ton	781
Granular Culvert Backfill	Cu. Yd.	679

Exp. 11-30-2012

LICENSED STRUCTURAL ENGINEER
WILLIAM L. BAILEY, JR.
5087
STATE OF ILLINOIS

03-28-2012

NOTES:

1. The Precast Culvert shall be designed in accordance with ASTM C1577.
2. Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60.
3. It shall be the responsibility of the contractor to divert the stream flow in order to keep the construction area free of water. The method of water diversion shall be subject to the approval of the Engineer and the cost shall be included in the item "Precast Concrete Box Culverts 10' x 5'."
4. Precast end sections will not be allowed.
5. All construction joints shall be bonded.
6. Limits of Removal and Replacement of weak soils with Rock Fill Foundation will be determined by the Engineer.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOX CULVERT
GENERAL PLAN
PROPOSED STRUCTURE NO. 011-2514
STA. 1479+05.00

SCALE: NONE DRAWN BY: GLD
DATE: 03/06/2012 CHECKED BY: WLB

GPE
L:\IDOT\030660\draw\sheets\Structures\LICK BRANCH CULV_01.dgn
3/28/2012