

Benchmark: Brass disc in west wing of North Abutment, Sta. 1032+04, NAVD88 Elev. 530.645.

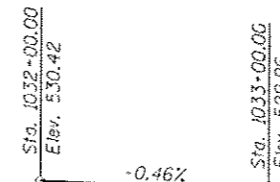
Existing Structure: S.N. 034-0029 was originally built in 1935 as FA-510, Section 120-B-2 at Sta. 1032+73.00 over Inlet Ditch. In 1981 the superstructure was removed and replaced under FA-510, Section 120-B-5. In 1997 the bridge was resurfaced with a waterproofing membrane and bituminous overlay under FA-510, Sections 119RS-8 & 120RS-12. The existing structure is a two span bridge consisting of PPC deck beams on closed abutments and a solid wall pier keyed into rock. The back-to-back length of the existing bridge is 133'-0", the out-to-out width is 33'-0", and there is no skew.

The existing structure shall be removed and replaced. The road will be closed and traffic detoured during construction.

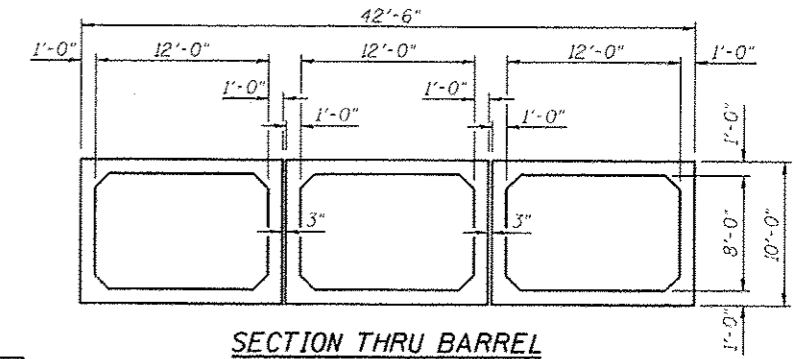
No Salvage.

**INDEX OF SHEETS**

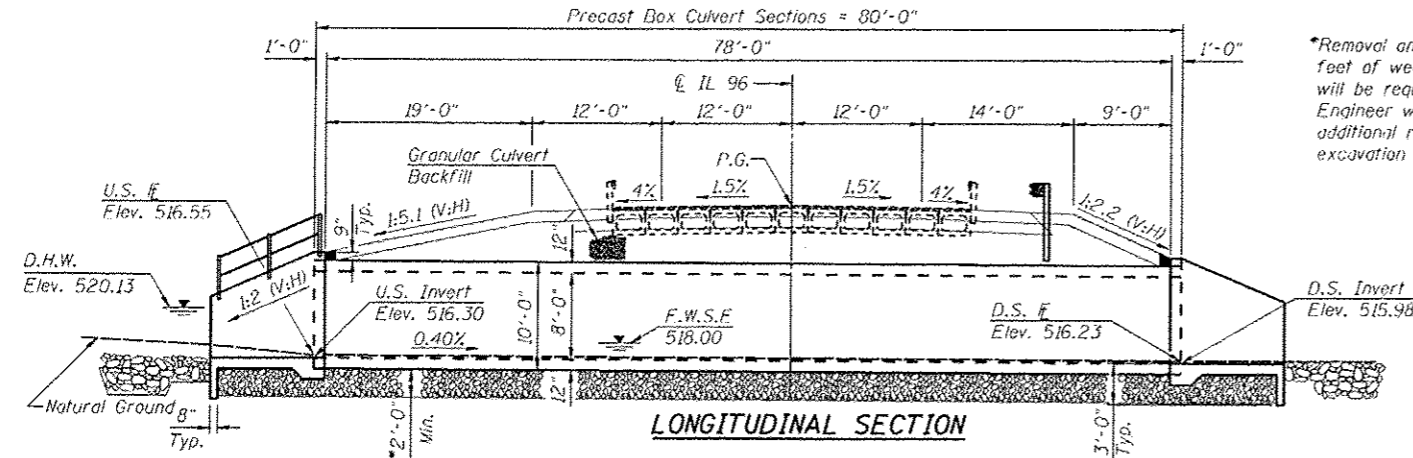
- 1 General Plan
- 2-3 General Data
- 4 Cast-In-Place End Section
- 5 Pipe Handrail Details
- 6 Boring Logs



**PROFILE GRADE**  
(along E roadway - IL 96)



**SECTION THRU BARREL**

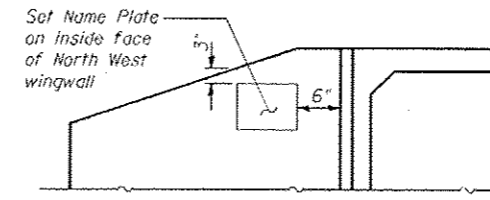


**LONGITUDINAL SECTION**

\*Removal and replacement of at least two feet of weak soil with Rock Fill - Foundation will be required beneath the culvert. The Engineer will determine the limits of additional removal and replacement following excavation to plan grade.

STATION 1032+44.00  
BUILT 20L BY  
STATE OF ILLINOIS  
F.A.P. RTE. 510 SEC. 120B-3  
LOADING HL-93  
STRUCTURE NO. 034-2523

**NAME PLATE**  
See Std. 515001



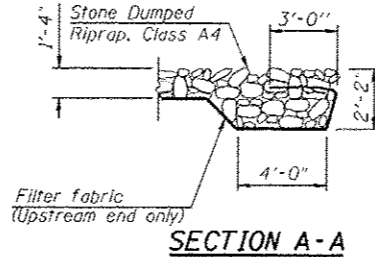
**NAME PLATE LOCATION**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Stone Dumped Riprap, Class A4	Ton	119
Filter Fabric	Sq. Yd.	111
Removal of Existing Structures	Each	1
Name Plates	Each	1
Box Culvert End Sections, Culvert No. 1	Each	2
Precast Concrete Box Culverts 12'x8'	Foot	240
Dewatering Structure No. 1	Each	1
Rock Fill (Special)	Cu. Yd.	3,295
Asbestos Bearing Pad Removal	Each	22
Granular Culvert Backfill	Cu. Yd.	873
Rock Fill-Foundation	Ton	6,912
Pipe Handrail	Foot	70

**GENERAL NOTES**

Removal and replacement of weak soil with Rock Fill (Special) will be required outside the limits of the culvert. The Engineer will determine the required depth following excavation to plan grade.  
Dewatering will be required during construction as per the Special Provision for Dewatering Structure No. 1.  
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.



**SECTION A-A**

**WATERWAY INFORMATION**

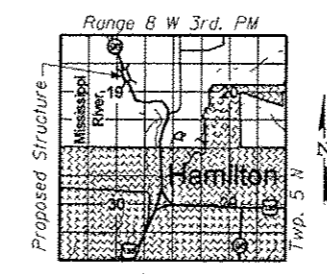
Drainage Area = 0.38 mi.<sup>2</sup>      Exst. Overtopping Elev. 529.03 @ Sta. 1035+50

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exst.	Prop.	Exst.	Prop.	Exst.	Prop.	
Design	50	580	160	130	520.13	1.1	0.1	521.21	520.23
Base	100	700	180	140	520.32	1.1	0.2	521.44	520.50
Max. Calc.	500	980	230	150	520.75	1.2	0.4	521.95	521.15

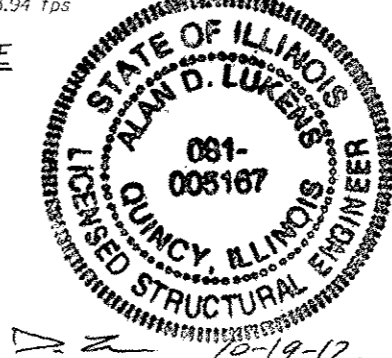
10 Year Velocity through Proposed Culvert = 3.94 fps

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	Upstream	Downstream
	513.30	512.98



**LOCATION SKETCH**



Alan D. Lukens  
Licensed Structural Engineer  
State of Illinois No. 081-005167  
License Expires 11/30/2014  
Date: 10-19-12

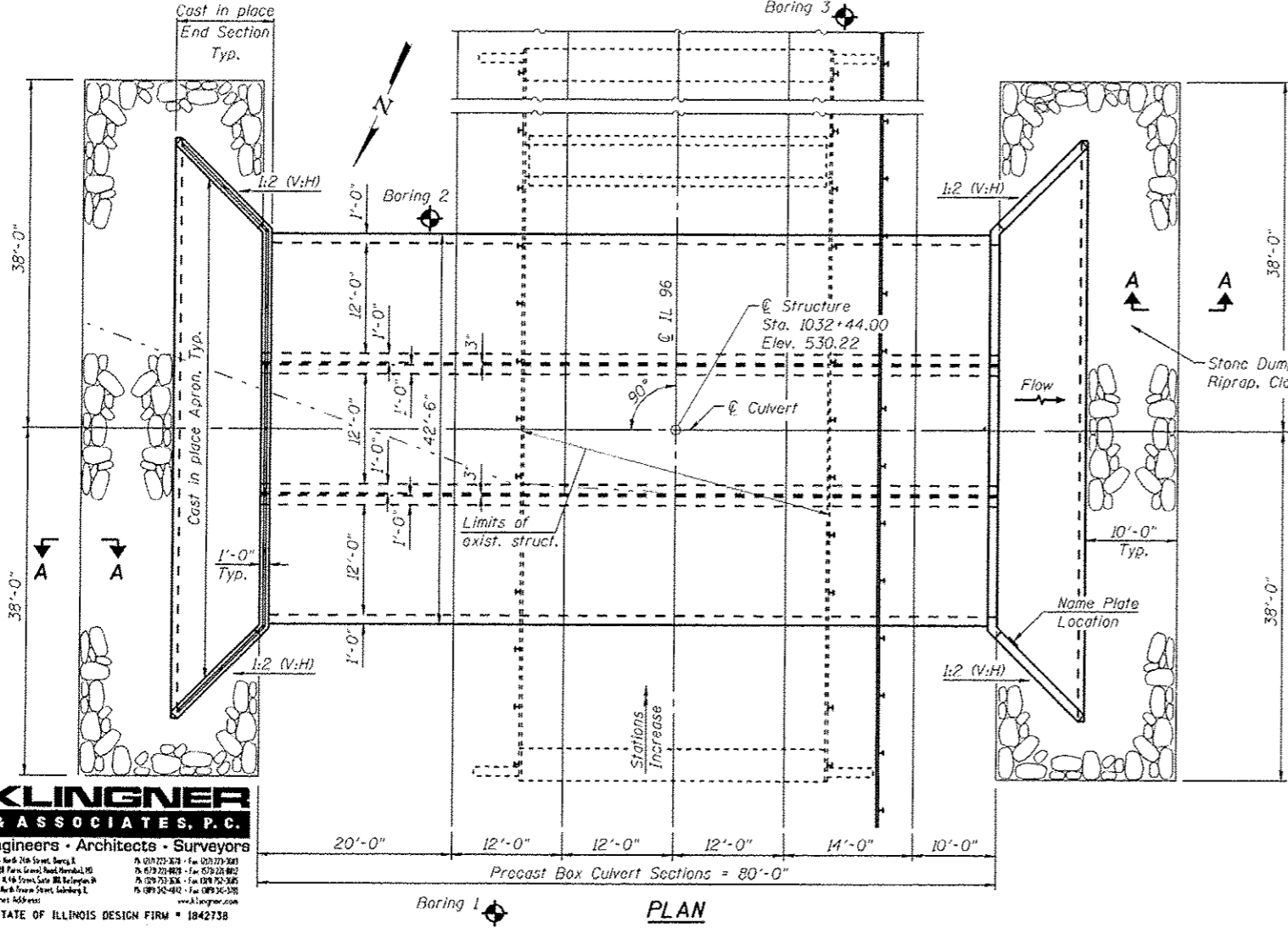
**LOADING HL-93**  
Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**  
2010 AASHTO LRFD Specifications with 2012 Interim

**DESIGN STRESSES**  
**FIELD UNITS**  
f<sub>c</sub> = 3,500 psi  
f<sub>s</sub> = 60,000 psi (Reinforcement)

**PRECAST UNITS**  
f<sub>c</sub> = 5,000 psi  
f<sub>s</sub> = 65,000 psi (Welded Wire Fabric)

**GENERAL PLAN**  
**IL 96 OVER INLET DITCH**  
**F.A.P. ROUTE 510 SECTION 120B-3**  
**HANCOCK COUNTY**  
**STATION 1032+44.00**  
**S.N. 034-2523**



**PLAN**

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111 North First Street, Moline, IL 61701  
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www.klingner.com  
STATE OF ILLINOIS DESIGN FIRM # 1842738

FILE NAME	USER NAME	#USERS	DESIGNED	REVISOR	REVISION	DATE	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILEL#			RJP	ADL				510	120B-3	HANCOCK	38	22
			RJP	ADL								
			ADL									

SHEET NO. 1 OF 6 SHEETS

ILLINOIS FED. AID PROJECT  
Klingner & Associates P.C.