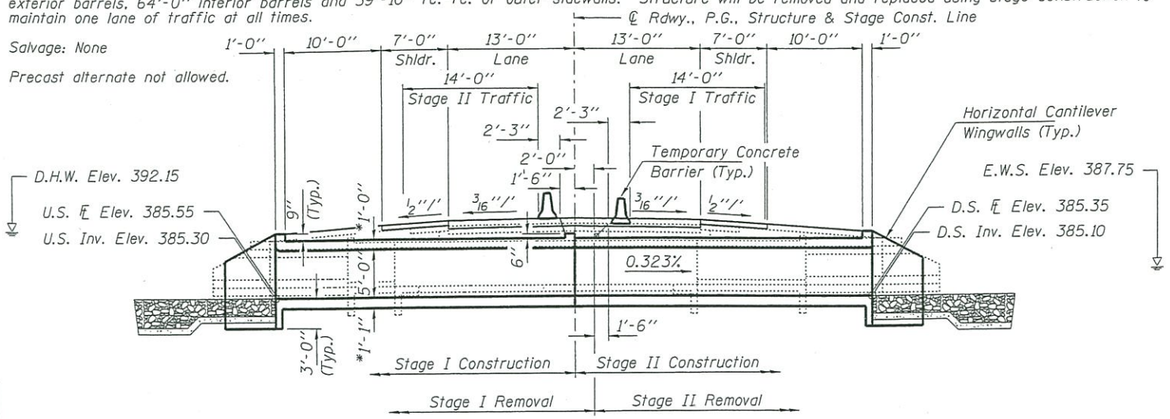
BENCHMARK: BM#392027 - Top of culvert 33' Rt., Sta. 755+91, Elev. 390.71.

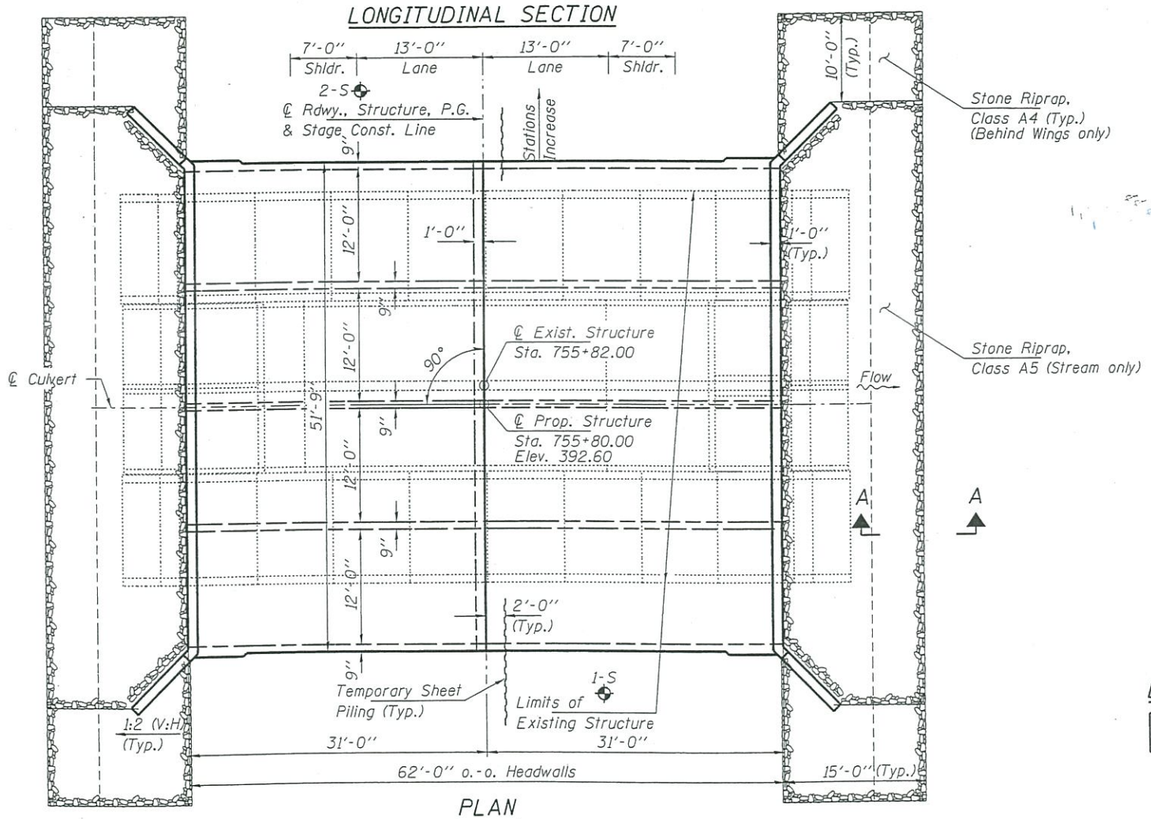
EXISTING STRUCTURE: SN 039-2027 was originally built in 1922 as SBI-2, Section 4. The culvert was extended in 1954 and two additional culvert barrels were added in 1998. The structure is a four barrel culvert with 2-8'x4' CIP and 2-10'x4' PC boxes with a length of 68'-0" o.-o. headwall exterior barrels, 64'-0" interior barrels and 39'-10" fc.-fc. of outer sidewalls. Structure will be removed and replaced using stage construction to maintain one lane of traffic at all times.

Salvage: None

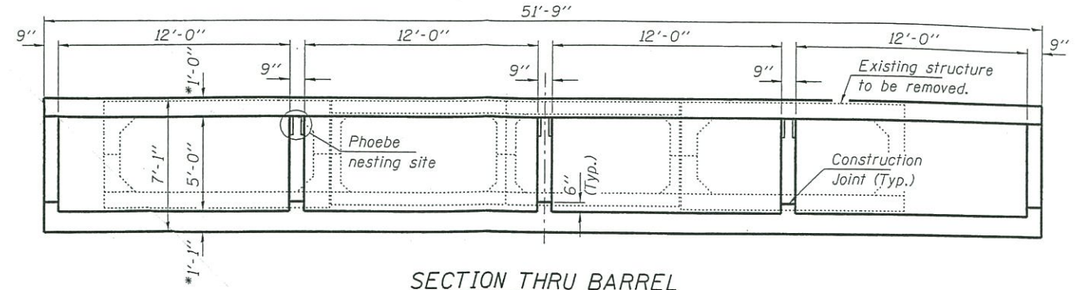
Precast alternate not allowed.



LONGITUDINAL SECTION



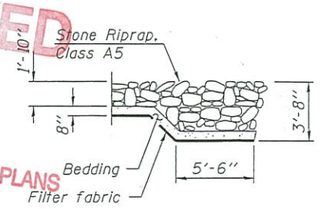
PLAN



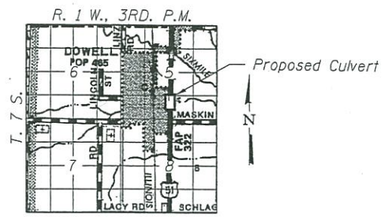
SECTION THRU BARREL

*Slab thickness may be refined in final design.
(Looking East)

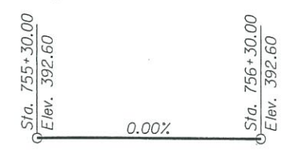
APPROVED
JAN 22 2014
AS A BASIS FOR PREPARATION OF DETAILED PLANS



SECTION A-A



LOCATION SKETCH



PROFILE GRADE
(along ℄ roadway)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Downstream	Upstream
	382.10	382.30

WATERWAY INFORMATION

Drainage Area = 1.89 Sq. Mi. Proposed Low Grade Elev. 392.1 @ Sta. 753+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Exist. Overtop	10	827	130	220	391.02	1.23	0.43	392.25	391.45
Prop. Overtop	25	1120	130	220	391.66	1.07	0.71	392.73	392.37
Design	50	1360	130	220	392.15	0.79	0.59	392.94	392.74
Base	100	1600	130	220	392.61	0.49	0.37	393.10	392.98
Max. Calc.	500	2230	130	220	393.68	0.00	0.00	393.68	393.68

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
6th Edition with 2013 interims.

LOADING HL-93

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

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

HIGHWAY CLASSIFICATION

FAP Route 322 - US 51
Functional Class: minor arterial
ADT: 7200 (2011) / 7371 (2032)
ADTT: 504 / 516 (7%)
DHV: 553 (2032)
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
Directional Distribution: 50% / 50%

GENERAL PLAN
US ROUTE 51
OVER DRAINAGE DITCH
FAP ROUTE 322 - SECTION 4B-1
JACKSON COUNTY
STATION 755+80.00
STRUCTURE NUMBER 039-2030

FILE NAME = 100101-sht-culvert.dgn	USER NAME = $USER$	DESIGNED - M.D.C.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3535 STEVENSON DRIVE, SUITE 251 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - C.C.S.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 12/16/2013	DRAWN - D.A.B.	REVISED -
		CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 039-2030
SHEET NO. 1 OF 1 SHEETS

FAP	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	4B-1	JACKSON		
		CONTRACT NO. 78204		
		ILLINOIS FED. AID PROJECT		