

Bench Mark: Chiseled square on the top of the southeast corner of concrete wall @ southwest corner of 3rd. & Elm Streets, extreme southeasterly end of wall, elev. 538.68.

Existing Structure: S.N. 034-2005 was built in 1937 as Section 6G-WSP0, FAP 522 (IL Route 96) as a cast-in-place concrete arch culvert. It has a length of 73'-6" and the culvert opening is approximately 19'-0" wide at the base and approximately 10'-0" high at it's apex. The structure has a 35° left ahead skew.

No Salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60. See Special Provisions.
Reinforcement bars designated (E) shall be epoxy coated.
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
For backfilling and embankment see Standard Specifications.
Precast culvert alternate is not allowed.

INDEX OF SHEETS

1. General Plan
2. Culvert Details
3. Soil Borings

DESIGN SPECIFICATIONS

2002 AASHTO Standard specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

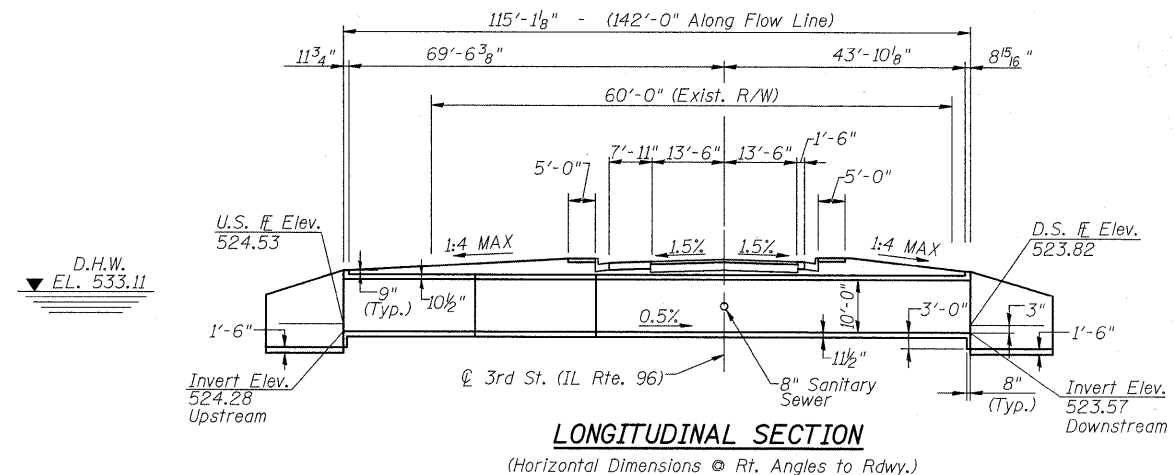
LOADING HS20-44

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Temporary Support System *	L. Sum	1
Rock Excavation for Structures	Cu. Yd.	95
Porous Granular Embankment	Cu. Yd.	300
Trench Backfill	Cu. Yd.	75
Stone Riprap, Class A4	Sq. Yd.	129
Filter Fabric	Sq. Yd.	129
Removal of Existing Structures	Each	1
Reinforcement Bars	Pound	106820
Reinforcement Bars, Epoxy Coated	Pound	940
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	452.2
Granular Culvert Backfill *	Cu. Yd.	343.3
Structure Excavation	Cu. Yd.	1260

* See Special Provisions



LONGITUDINAL SECTION

(Horizontal Dimensions @ Rt. Angles to Rdwy.)

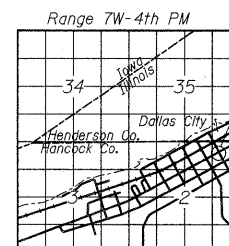
APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Relve Anderson (TJD)
ENGINEER OF BRIDGES AND STRUCTURES

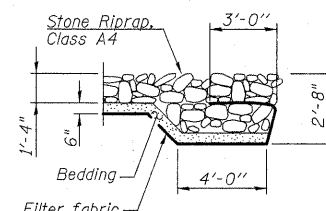
STATION 9+39.04
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. ROUTE 522 SEC. (6G-WPSO)BR
LOADING HS20-44
STR. NO. 034-2524

NAME PLATE

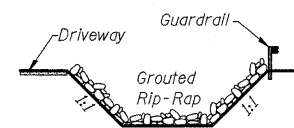
See Std. 515001



LOCATION SKETCH



SECTION A-A



SECTION B-B

DESIGN SCOUR ELEVATION TABLE

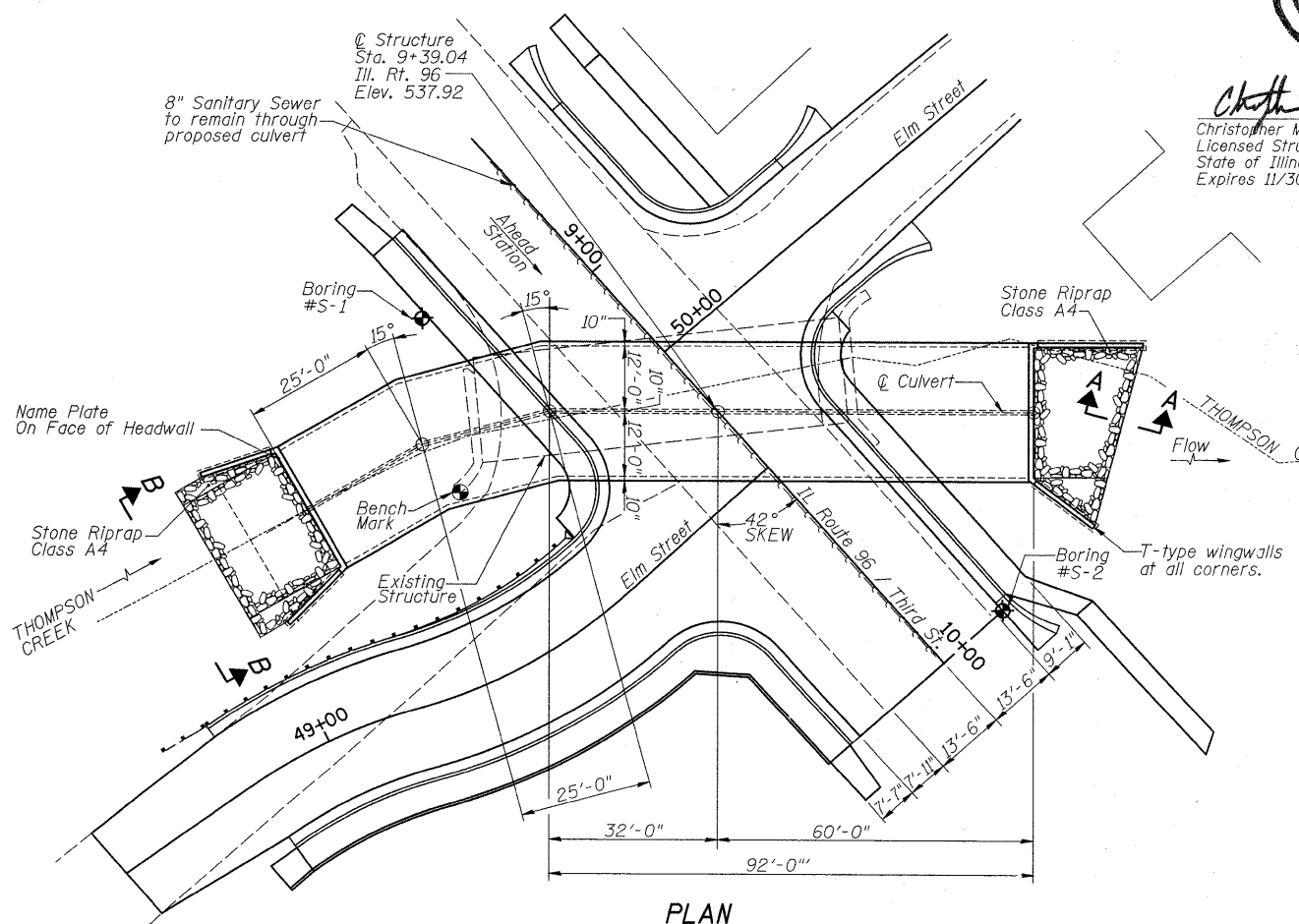
Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	520.62	521.14

WATERWAY INFORMATION

Existing Low Grade Elev. = 537.49 ft. @ Sta. 10+52.85
Proposed Low Grade Elev. = 537.49 ft. @ Sta. 10+52.85

Flood	Freq. Yr.	Q (TOTAL) C.F.S.	Opening Sq. Ft.		Nat. H.W. EL.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
10	756	117	187	531.50	531.70	0.55	0.22	532.05	531.92	
Design	50	1270	134	230	532.90	533.11	1.27	0.61	534.17	533.72
Base	100	1520	145	248	533.42	533.63	1.71	0.86	535.13	534.49
Max. Calc.	500	2130	145	240	534.49	534.75	2.74	1.60	537.23	536.35

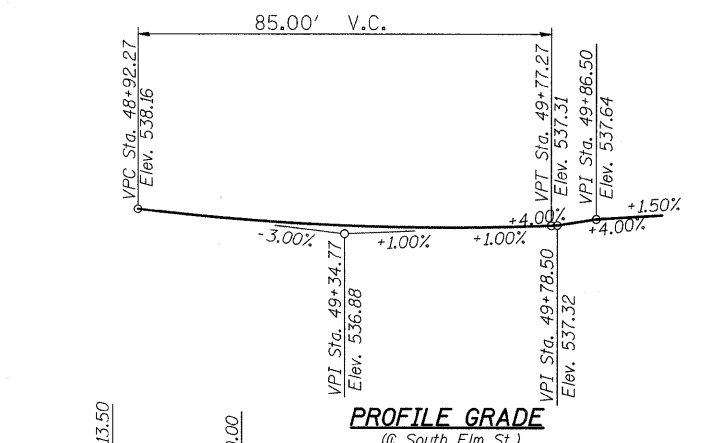
10 Yr. Velocity through Ex. Bridge=4.6 f.p.s. 10 Yr. Velocity through Prop. Bridge=4.2 f.p.s.



PLAN



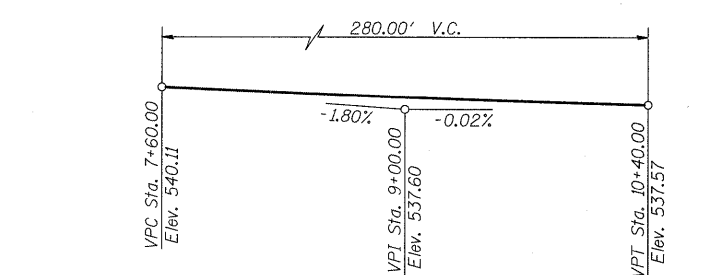
Christopher M. Whiting
Licensed Structural Engineer
State of Illinois
Expires 11/30/2010
Date 10/20/09



PROFILE GRADE



PROFILE GRADE



PROFILE GRADE

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 96 OVER THOMPSON CREEK
F.A.P. ROUTE 522 SECTION (6G-WPSO) BR
HANCOCK COUNTY
STATION 9+39.04
STRUCTURE NO. 034-2524

DESIGNED	PMW
CHECKED	CMW
DRAWN	MKC
DATE	9/18/09
FILE	Box Culvert Details.dwg



SHEET NO. 1
3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
522	(6G-WPSO)BR	HANCOCK	41	24
CONTRACT NO. 68214				