

9901-5648-6.dgn JAN. 5, 2010

BENCHMARK: Iron Rod Found
Sta. 11+95.98, 9.28' Lt.
El. 441.069

EXISTING STRUCTURE: S.N. 014-2021
Built in 2005 as F.A.S. Rte. 1780 the existing structure consists of a two 9'-0" x 7'-0" cell cast-in-place concrete box culvert. The structure measures 49'-0 5/8" out to out of headwalls and 19'-9" wide.

Existing two-way traffic to be maintained using Highway Standard 701006.

SALVAGE: Existing structure to remain.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTES:

1. It shall be the responsibility of the Contractor to divert the stream flow during construction in order to maintain flow and keep the construction area free of water. The method of diversion shall be subject to the approval of the Engineer, and the cost shall be included in the unit bid price of "Concrete Box Culverts".
2. Optional use of precast concrete box culvert sections will not be permitted.
3. Reinforcement bars shall conform to the requirements of ASTM A706, Gr. 60 (IL Modified).
4. Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.
5. Exposed edges of concrete shall have 3/4" chamfer unless otherwise noted.
6. All construction joints shall be bonded.

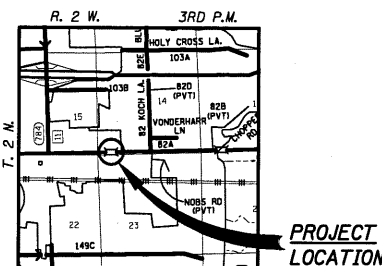
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (Feet)	Upstream	Downstream
	430.12	430.95

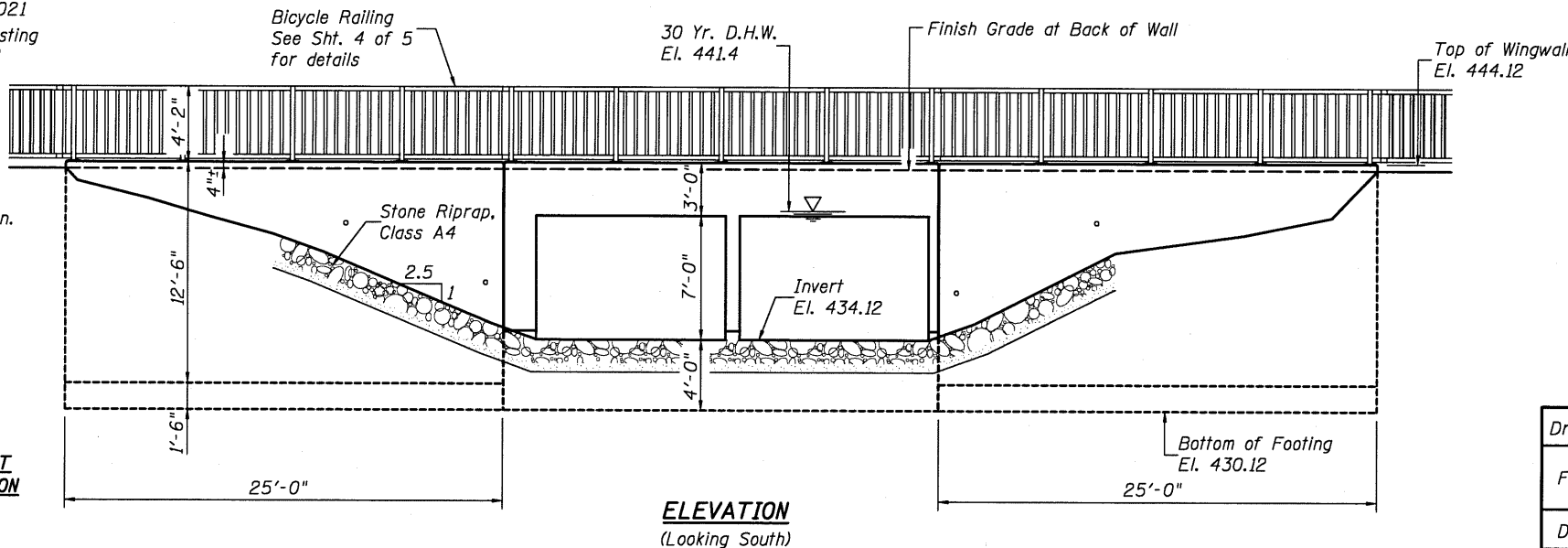
WATERWAY INFORMATION

(Based on original plans)

Drainage Area = 0.958 Sq.Mi.		Low Grade El. = 443.05		Sta. 48+00					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	30	614	126	126	441.4	0.2	0.2	441.6	441.6
Base	100	822	126	126	441.8	0.5	0.5	442.3	442.3
Overtopping	270	1013	126	126	442.0	1.1	1.1	443.1	443.1
Max. Calc.	500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

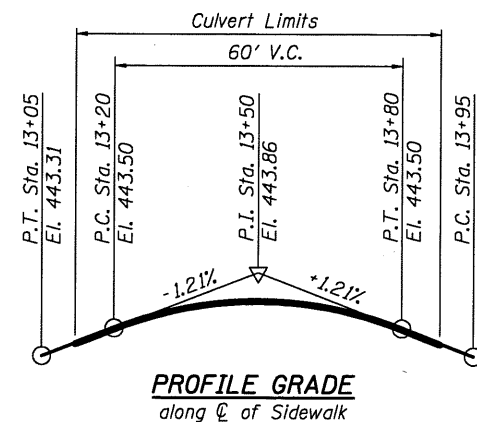
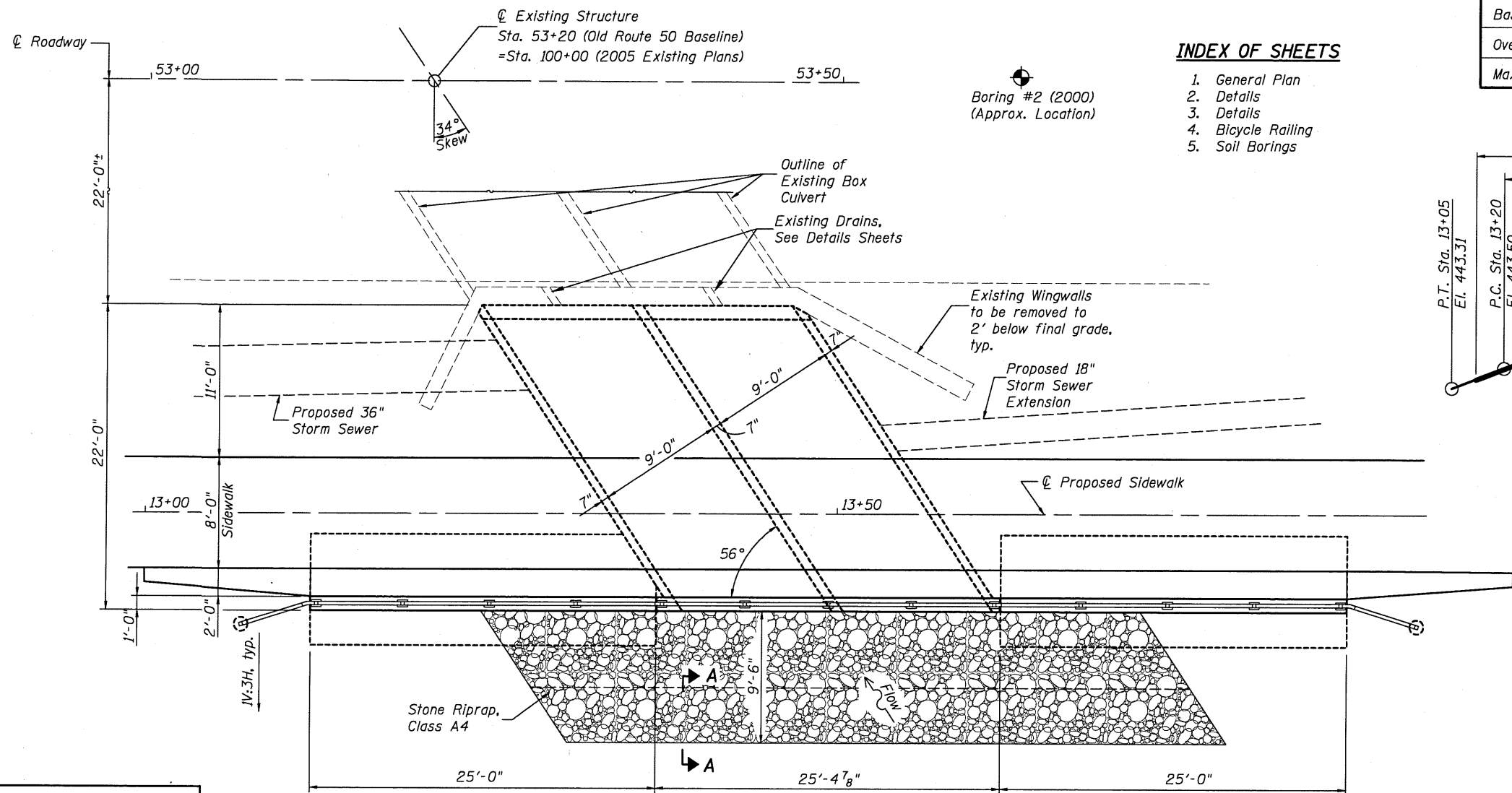


LOCATION SKETCH



INDEX OF SHEETS

1. General Plan
2. Details
3. Details
4. Bicycle Railing
5. Soil Borings



DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

CAST-IN-PLACE CONCRETE

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	QUANTITY
Stone Riprap, Class A4	Sq. Yd.	51
Filter Fabric	Sq. Yd.	51
Reinforcement Bars, Epoxy Coated	Pound	16,840
Bicycle Railing, Special	Foot	86
Expansion Bolts 3/4 inch	Each	38
Concrete Box Culverts	Cu. Yd.	91.9
Channel Excavation	Cu. Yd.	50

**GENERAL PLAN
BOX CULVERT EXTENSION
OLD U.S. RTE. 50
OVER TRIBUTARY TO SHOAL CREEK
STATION 53+20**

DESIGNED	B.G.H.
CHECKED	L.D.G.
DRAWN	K.H.L.
CHECKED	B.G.H.

Bradley G. Hummert Date: 1/6/10

Bradley G. Hummert
Licensed Structural Engineer
in Illinois No. 081-005428

Expires: November 30, 2010



PLAN

SHEET NO.	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	1780	06-00016-00-BT	CLINTON	25	15
5 SHEETS		S.N. 014-2021	CONTRACT NO. 97416		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		