BENCH MARK #1:

Railroad spike in power pole, North side of Il Rte. 9, sta. 50+03, 31.97 ft. left, Elev. 747.163.

BENCH MARK #2:

Railroad spike in power pole, North side of Il Rte. 9, sta. 47+91, 30.40 ft. left, Elev. 747.183.

EXISTING STRUCTURE:

The existing structure number 027-2536, originally built in 1923, section 14(I) in Ford County to carry a drainage ditch under Il Rte. 9 approximately 1.3 miles east of Il Rte. 115. The existing structure is an 8 ft wide by 4 ft high single box culvert. The existing structure will be removed and replaced, in stages, with a single 14 ft wide by 6 ft high cast in place box culvert.

STAGING:

Traffic shall be maintained at all times utilizing stage construction.

SALVAGE:

No Salvage

GENERAL NOTES:

1. Reinforcement bars shall conform to the requirements of ASTM A 706, Grade 60. See special provisions.
2. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
3. The material used to replace the unsuitable material removed below the bottom of the proposed cast-in-place reinforced concrete box culvert and wingwalls shall be clean crushed CA-7 and shall be paid for as "Porous Granular Embankment, Special".
4. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details details and calculations will be required for review and acceptance by the Engineer.
5. Precast concrete culvert alternate will not be allowed.

LOADING HS20-44

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

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specs. for Highway Bridges

DESIGN STRESSES

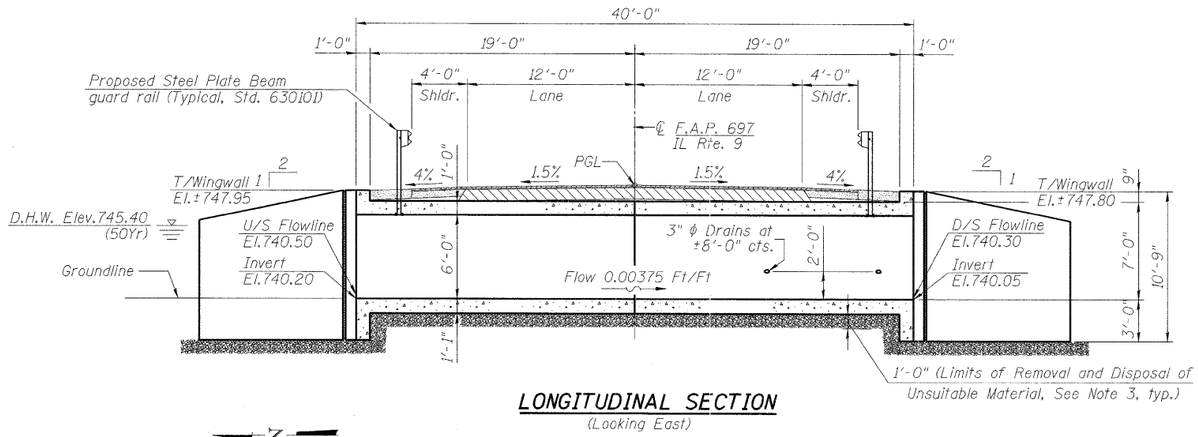
Field units
f'c = 3,500 psi (Concrete)
fy = 60,000 psi (Reinforcement)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S.	D.S.
	737.20	737.05

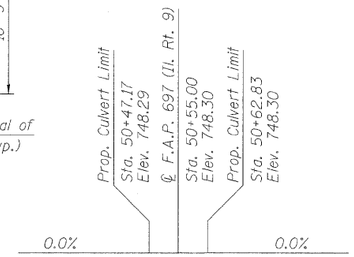
DESIGNED	GBC/GMK
CHECKED	GBC/GMK/SMK
DRAWN	RR
CHECKED	GBC/GMK/SMK

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



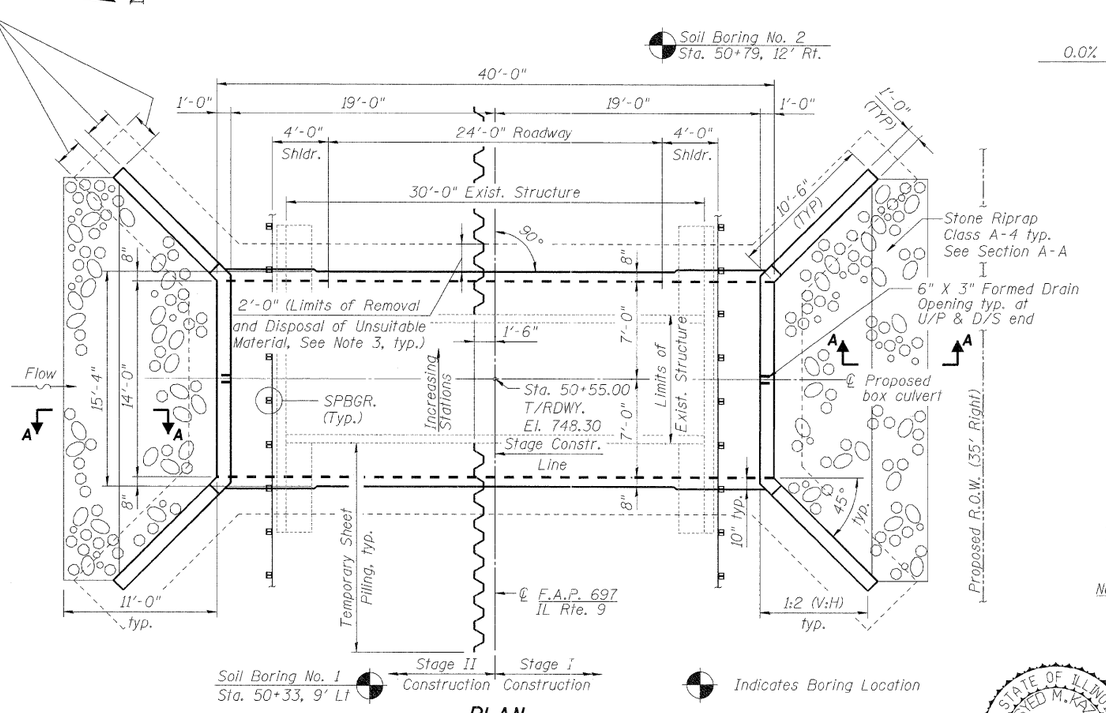
LONGITUDINAL SECTION

(Looking East)



PROFILE GRADE

(Along ℄ F.A.P. 697)



PLAN

WATERWAY INFORMATION

Drainage Area = 1.06 sq. mi. Low Grade Elev. = 747.72 Exist./Prop. @ Sta. 47+50.00

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	361	21	65	744.9	3.0	0.1	747.9	744.9
Design	50	599	25	73	745.4	2.7	1.1	748.1	746.5
Base	100	706	28	76	745.7	2.6	1.8	748.2	747.4
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	969	31	82	746.0	2.4	2.0	748.4	748.0

Max. H.W.E.: 747.9± (ft.) Max. H.W.E. Date: 4/21/1994
Exist. 10 Year Velocity: 8.74 (ft./sec.)
Prop. 10 Year Velocity: 5.89 (ft./sec.)

INDEX OF SHEETS

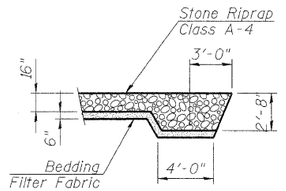
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	43
Porous Granular Embankment, Special	Cu. Yd.	47
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	639
Reinforcement Bars	Pound	15,530
Bar Splicers	Each	72
Temporary Sheet Piling	Sq. Ft.	952
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	65.1

STATION 50+55.00
BUILT 200 BY
STATE OF ILLINOIS
F.A.P. RT. 697 SEC. 17(I)
LOADING HS20-44
STR. NO. 027-2552

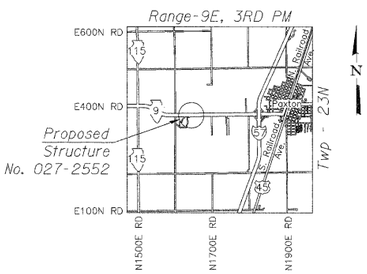
NAME PLATE

See Std. 515001



SECTION A-A

Note: For quantities, see roadway plans



LOCATION SKETCH

STATE OF ILLINOIS
SYED M. KAZI
081-004047
REGISTERED STRUCTURAL ENGINEER

Syed M. Kazi
Licensed Structural Engineer
State of Illinois
Lic. No. 081-004047
Expires: 11-30-2010

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E Anderson
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN AND ELEVATION
ILLINOIS ROUTE 9 OVER DRAINAGE DITCH
F.A.P. ROUTE 697 - SECTION 17(I)
FORD COUNTY
STATION 50+55.00
SN 027-2552

Scale: None December 2008

Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 W. Jackson Blvd. Suite 950 Chicago, IL 60604-2003

SHEET NO. S1
S5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
697	17(I)	FORD	29	17
		CONTRACT NO. 66874		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		