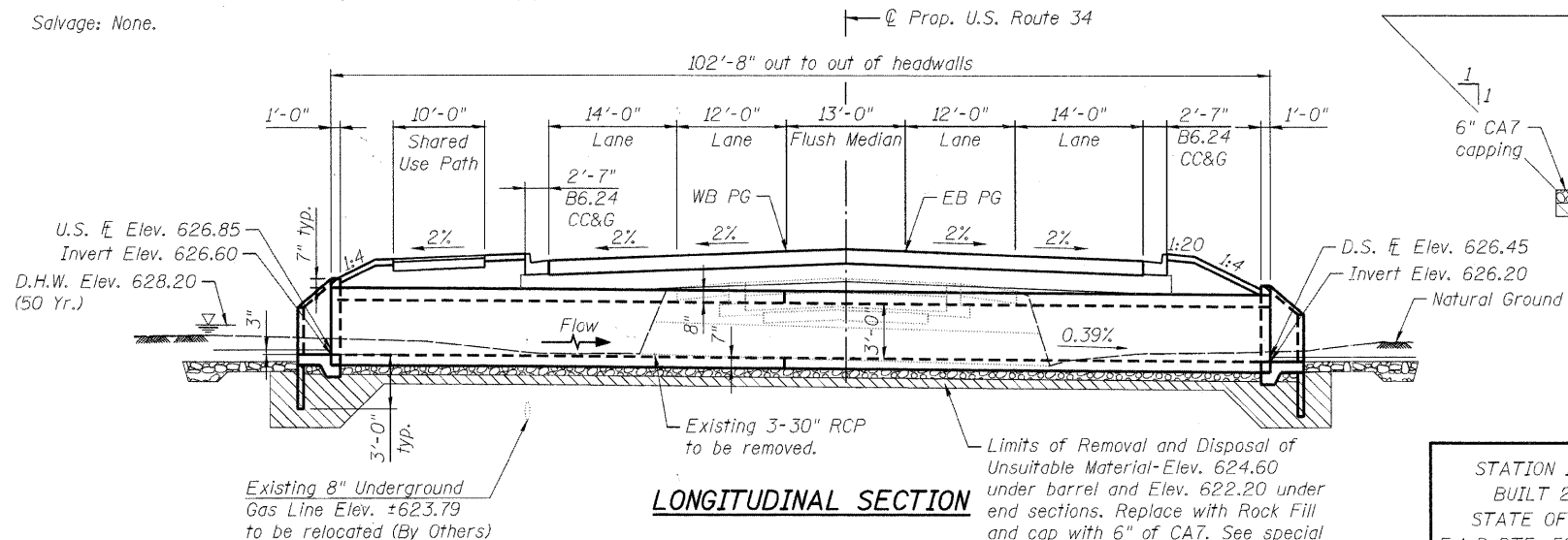


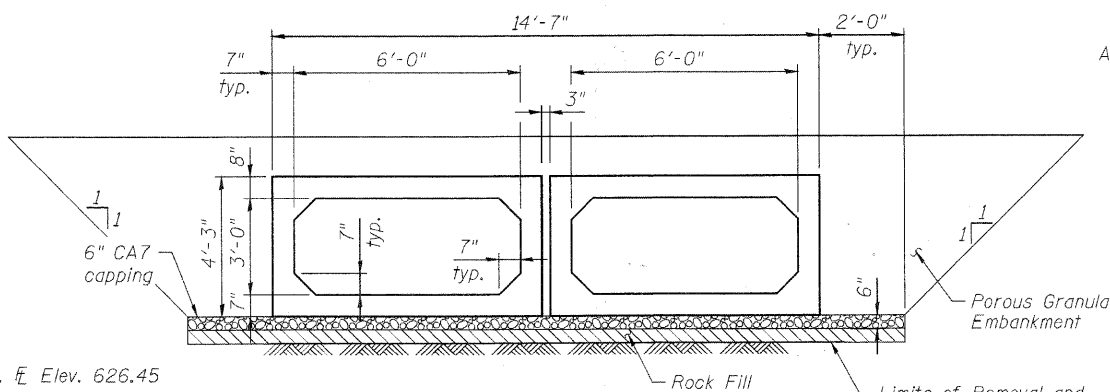
Bench Mark:
(BM#257) Railroad spike in power pole, North side of center line US 34
Sta. 108+49.60, Offset 48.50' Lt., Elev. 628.88.

Existing Structure: Triple barrel concrete pipe structure. The culvert length is 45'-0" with a skew of zero degrees. Each barrel pipe is 30-inch in diameter.

Salvage: None.



LONGITUDINAL SECTION



SECTION THRU PRECAST BARREL

The Rock Fill shall be capped with 6" of CA7 and satisfy the standard specifications unless otherwise indicated in the special provisions. The cost of the capping material shall be included in the pay item for "Rock Fill".

LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES
FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

PRECAST UNITS

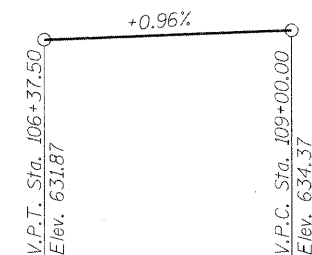
$f'_c = 5,000$ psi (Precast)
 $f_y = 65,000$ psi (Welded Wire Fabric)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A): 0.035g
The Site Coefficient (S): 1.0

DESIGN SPECIFICATIONS

2002 AASHTO



PROFILE GRADE

(Along US-34 P.G.L. EB/WB)

DESIGN SCOUR
ELEVATION TABLE

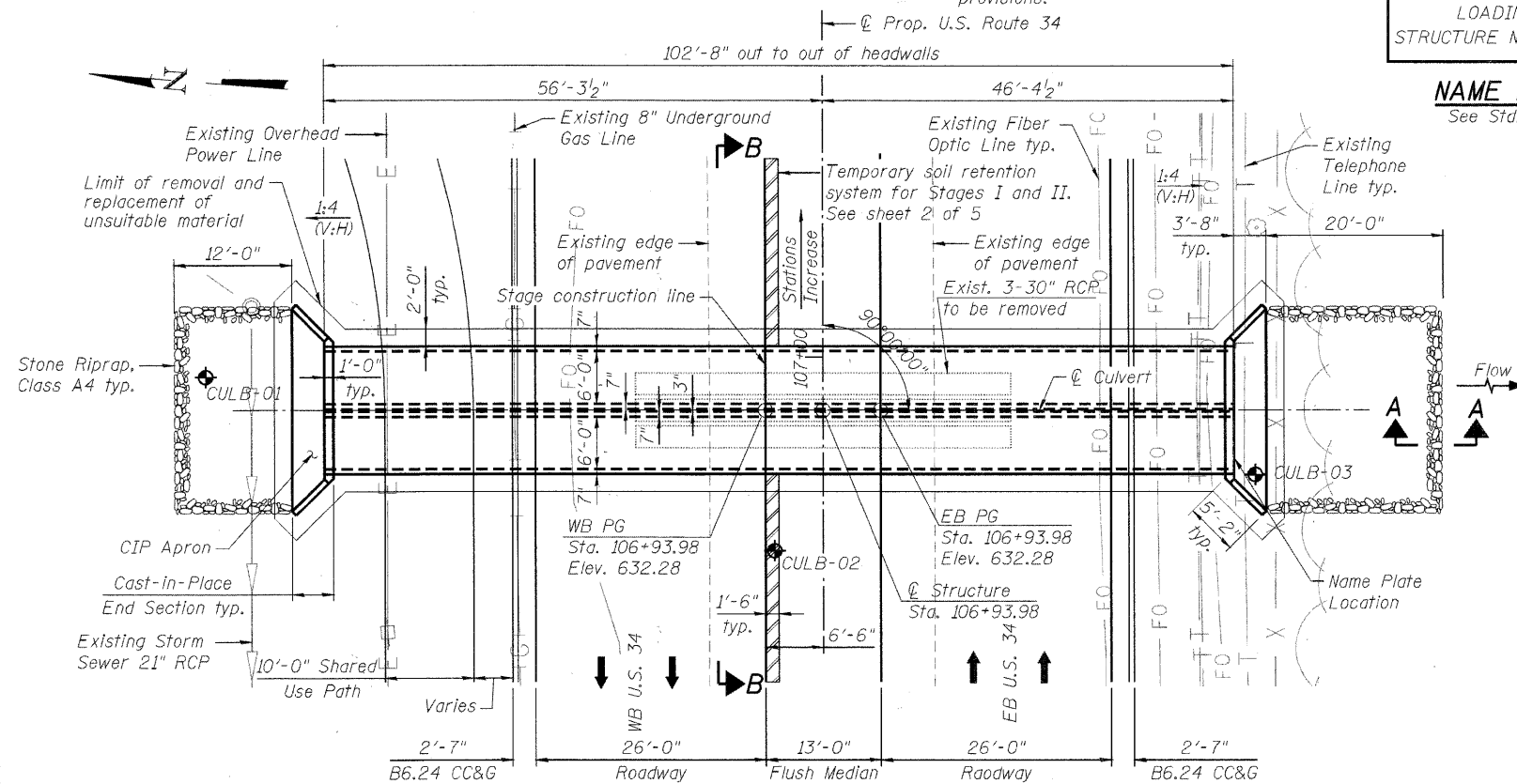
Design Scour Elevation (ft.)	Upstream	Downstream
	623.60	623.20

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	101
Porous Granular Embankment	Cu. Yd.	143
Geotechnical Fabric for Ground Stabilization	Sq. Yd.	257
Stone Riprap, Class A4	Sq. Yd.	86
Filter Fabric	Sq. Yd.	116
Pipe Culvert Removal	Foot	135
Structure Excavation	Cu. Yd.	191
Name Plates	Each	1
Box Culvert End Sections	Each	2
Precast Concrete Box Culvert 6' X 3'	Foot	205.5
Pipe Culverts, Class A, Type 1 30" (Temporary)	Foot	51
Grating for Concrete Headwall	Each	2
Temporary Soil Retention System	Sq. Ft.	151
Rock Fill	Cu. Yd.	101

STATION 106+93.98
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P RTE. 591 SEC. 14R-1
LOADING HS20
STRUCTURE NO. 047-2541

NAME PLATE
See Std. 515001



PLAN

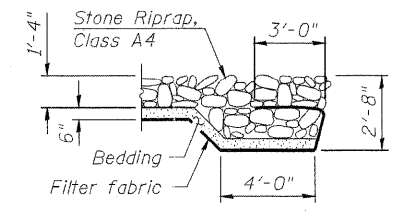
WATERWAY INFORMATION

Drainage Area = 1.37 mi. ²		Exist. Low Grade Elev. 630.50 @ Sta. 105+50		Prop. Low Grade Elev. 631.50 @ Sta. 105+50		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
	10	83.8	15	627.8	1.8	629.6
Design	50	166	15/15 OTR	628.2	2.5	630.7
Base	100	273	15/45 OTR	628.6	2.3	630.9
Overtopping	-	-	-	-	-	-
Max. Calc.	500	-	-	-	-	-

Notes:
For section B-B, see sheet 2 of 5.
For stage construction details, see sheet 2 of 5.

LEGEND

◆ Indicates Boring Location



SECTION A-A

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706, Grade 60. See Special Provisions.
Precast Concrete box culverts shall conform to the requirement of article 540.06 of the Standard Specifications and the applicable requirements of AASHTO M 273.
The removal and replacement is required for the culvert barrel and wingwalls footings during the construction. The limit and quantities of removal and replacement shown are based on the boring data and may be modified during construction. The District Geotechnical and Field Engineers will identify limits and quantity for variable subsurface conditions encountered in the field.
Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.
Class SI concrete shall be used for cast-in-place concrete.
Exposed edges shall be beveled 3/4".
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Prior to commencing work, the Contractor shall verify the location of all existing utilities. Work shall be completed in such a manner so as not to disturb or damage the existing utilities.

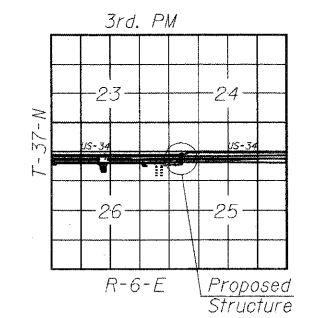


Signed Jamal Grainawi
JAMAL I. GRAINAWI, S.E. II Lic. No. 081-005161
Expires 11-30-2012

Date MAY 6, 2011

INDEX OF SHEETS

- 1 General Plan
- 2 Stage Construction Details
- 3 Cast-In-Place End Section Details
- 4 Culvert Grate Detail
- 5 Soil Boring Logs



LOCATION SKETCH

GENERAL PLAN
U.S. ROUTE 34 OVER UNNAMED DITCH
F.A.P RTE. 591 - SEC. 14R-1
KENDALL COUNTY
STATION 106+93.98
STRUCTURE NO. 047-2541

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 047-2541

SHEET NO. 1 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	13R-214R-1 & BR-10115R-1	KENDALL	429	324
			CONTRACT NO. 66985	
ILLINOIS FED. AID PROJECT				

T:\16829-PrattierPkw-Ph2\Struct\Cadd\Prefinal\US34 Double Box Culvert\0472541-D366985-001-GPE.dgn 01-JUN-2011 15:04



FILE NAME	DESIGNED	REVISIONS
0472541-D366985-001-GPE.dgn	H. Alkhatib	-
	R. Otrremlak	-
	H. Alkhatib	-
	J. Grainawi	-