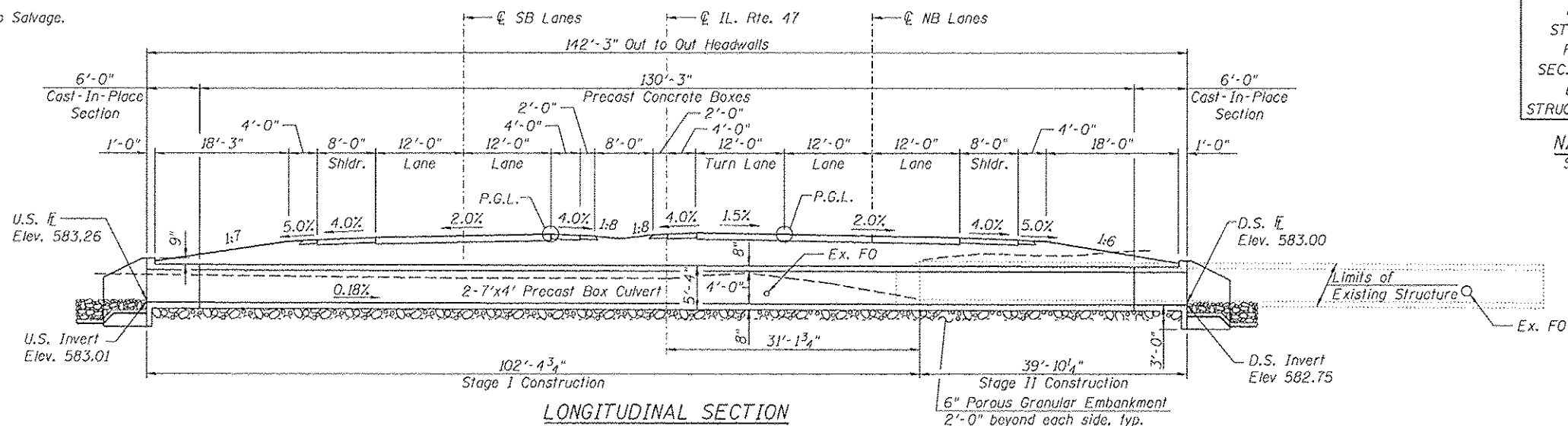


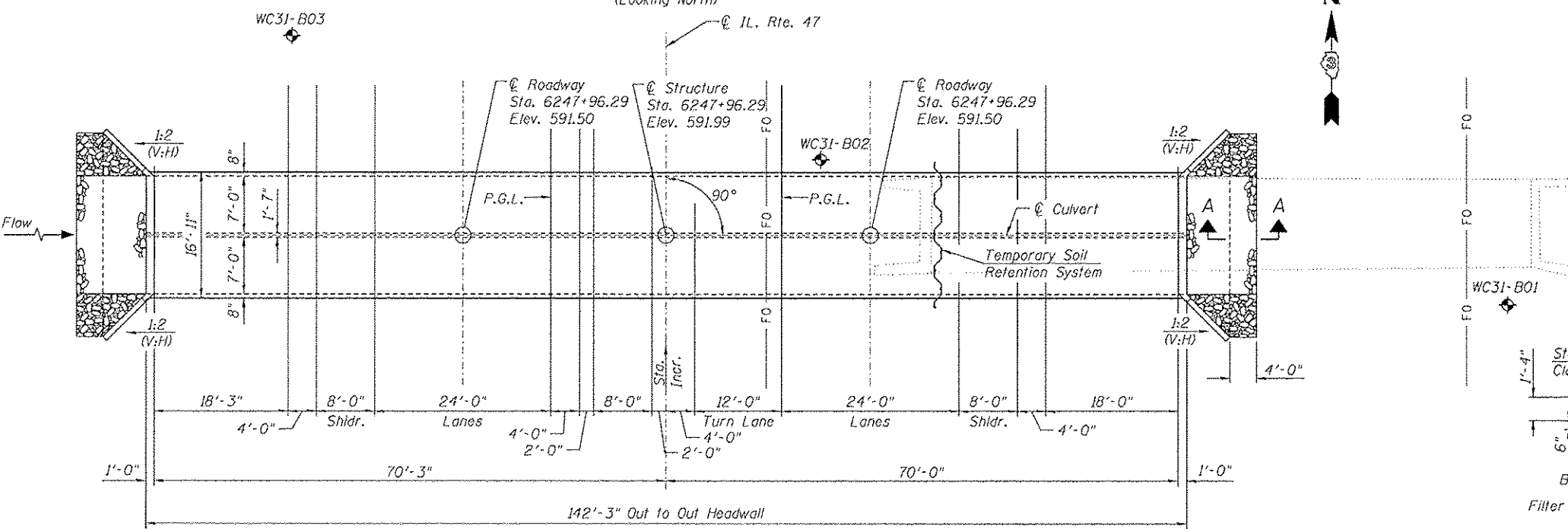
Benchmark: R.R. spike in west face of P.P. located on east side of IL. Rte. 47 just south of 2nd house south of Sherrill Rd., Elev. 592.26

Existing Structure: The existing structure consists of an 10' x 4' concrete box culvert with concrete wingwalls. The culvert is approximately 77'-0" in length with no skew. Existing structure to be removed and replaced. Traffic to be maintained utilizing stage construction.

No Salvage.



LONGITUDINAL SECTION
(Dimension's at Rt L's to \bar{C} Roadway, unless noted otherwise)
(Looking North)



PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	55.2
Stone Riprap, Class A4	Sq. Yd.	46
Filter Fabric	Sq. Yd.	46
Removal of Existing Structures	Each	1
Reinforcement Bars	Pound	4080
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	21.0
Precast Concrete Box Culverts 7'x4'	Foot	260.5
Temporary Soil Retention System	Sq. Ft.	134

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. Invert	D.S. Invert
	580.01	579.75

WATERWAY INFORMATION

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	191	19	46	585.7	586.6	1.0	0.0	586.7	586.4
Base	50	292	21	48	585.9	586.7	2.0	0.7	587.9	587.4
Overtopping	100	333	21	48	585.9	586.7	2.7	1.0	588.6	587.7
Max. Calc.	500	431	22	51	586.1	586.9	2.8	1.7	588.9	588.6

10 year velocity through Existing Structure = 5.03 fps
10 year velocity through Proposed Structure = 3.1 fps

STATION 6247+96.29
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 326
SEC. (110)R, BR & BR-1
LOADING HL-93
STRUCTURE NO. 032-2536

NAME PLATE
See Std. 515001

INDEX OF SHEETS

1. General Plan & Elevation
2. General Data
3. Culvert Details
4. Soil Borings

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

LOADING HL-93

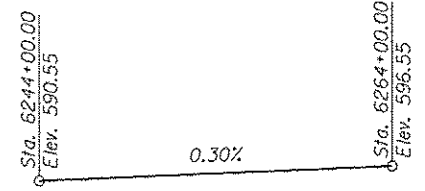
Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

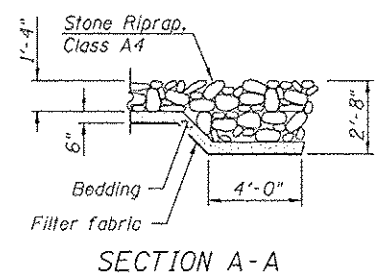
- FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
- PRECAST UNITS
f'c = 5,000 psi
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

GENERAL NOTES

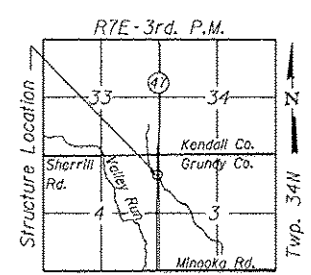
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The last section of precast culvert on each end shall have reinforcing bars extending from the precast culvert to be incorporated into the cast-in-place end sections as shown on sheet 3.
Precast concrete box culverts shall conform to the design requirements of ASTM C1577.
See Box Culvert Backfilling Detail within roadway detail sheets for limits of Granular Culvert Backfill.



PROFILE GRADE
(Along IL. Rte. 47 P.G.)



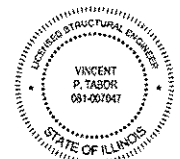
SECTION A-A



LOCATION SKETCH

GENERAL PLAN & ELEVATION

IL. RTE. 47 OVER
DRAINAGE DITCH
F.A.P. RTE. 326-SEC (110)R,
BR & BR-1
GRUNDY COUNTY
STATION 6247+96.29
STRUCTURE NO. 032-2536



Vincent P. Tabor 7/15/2013
Date

Vincent P. Tabor
Licensed Structural Engineer
State of Illinois No. 081-007047
Expires 11/30/2014

REVISION	USER NAME	DESIGNED	CHECKED	DRAWN	CHECKED
REVISION	FILE NAME	PSS	VPT	AJF	VPT
REVISION	PLOT SCALE				
REVISION	PLOT DATE				



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 032-2536

SHEET NO. 1 OF 4 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(110)R, BR & BR-1	GRUNDY	644	389
				CONTRACT NO. 66883
ILLINOIS FED. AID PROJECT				