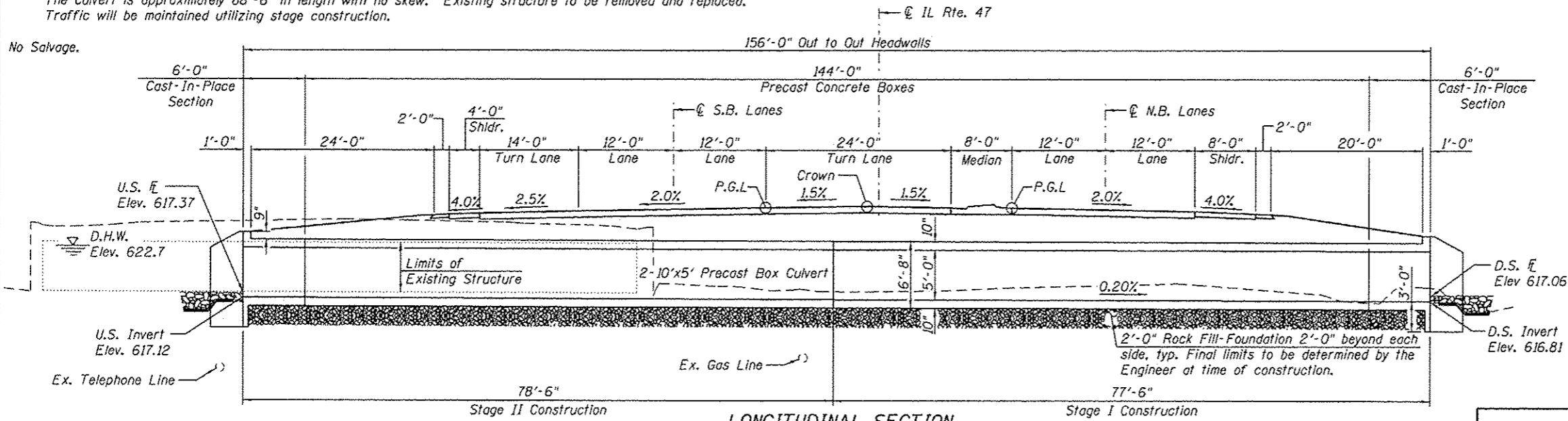


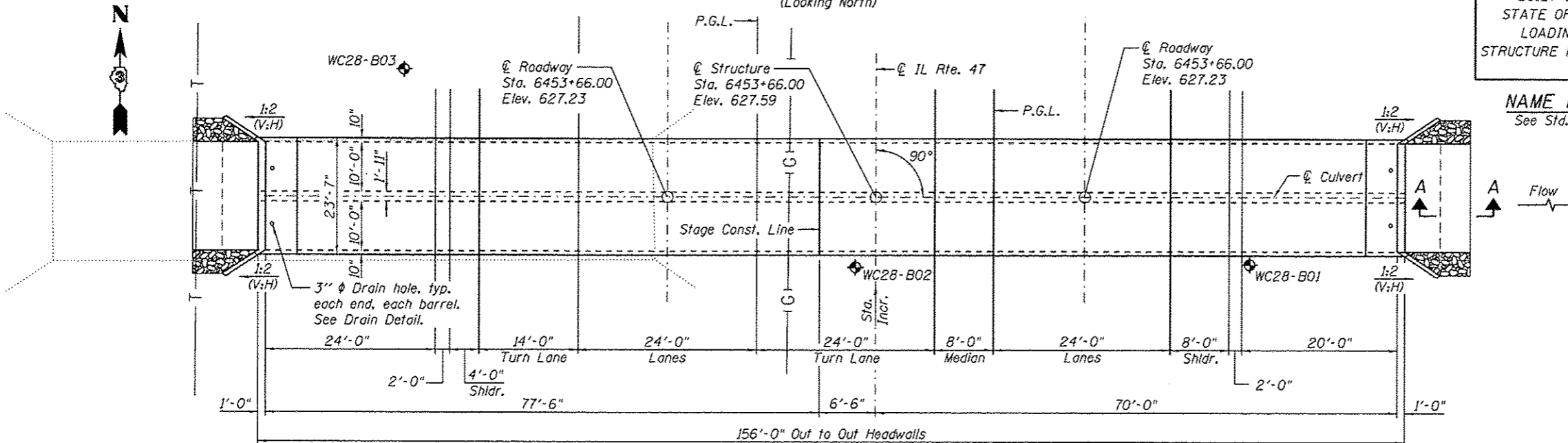
Benchmark: B.M. 7009. Found cut "x" north end of westerly headwall on box culvert 290' north of US Route 52. Elevation = 624.56.

Existing Structure: The existing structure consists of a double 10'x5' precast concrete box culvert with concrete wingwalls. The culvert is approximately 88'-6" in length with no skew. Existing structure to be removed and replaced. Traffic will be maintained utilizing stage construction.

No Salvage.



LONGITUDINAL SECTION
(Dimensions at Rt. L's to \varnothing Roadway, unless noted otherwise)
(Looking North)



PLAN

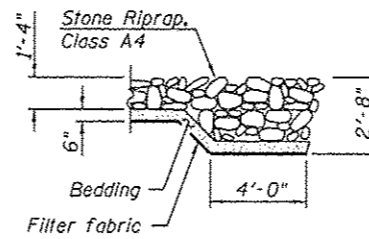
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Rock Fill-Foundation	Ton	598
Stone Riprap, Class A4	Sq. Yd.	68
Filter Fabric	Sq. Yd.	68
Removal of Existing Structures No. 5	Each	1
Reinforcement Bars	Pound	8240
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	39.2
Precast Concrete Box Culvert 10'x5'	Foot	288.0
*Membrane Waterproofing for Culverts	Sq. Yd.	442

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. Invert	D.S. Invert
	614.12	613.81

*Waterproofing membrane shall cover the top surface of the culvert, including the top and inside face of edge beams at stage lines, and extend 6 inches up the inside face of the headwall. For precast box culverts, the waterproofing membrane shall cover the top 1 foot of the outside face of the sidewalls. For cast in place box culverts, the waterproofing membrane shall extend to 6 inches below the construction joint between the culvert sidewall and the top slab on the outside face of the sidewalls.



SECTION A-A



Vincent P. Tabor 7/14/2014
Date

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

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
 $f_y = 60,000$ psi (Reinforcement)

PRECAST UNITS

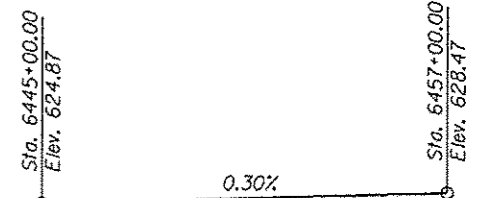
$f'_c = 5,000$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 65,000$ psi (Welded Wire Fabric)

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 of 4. Precast concrete box culverts shall conform to the design requirements of ASTM C1577.

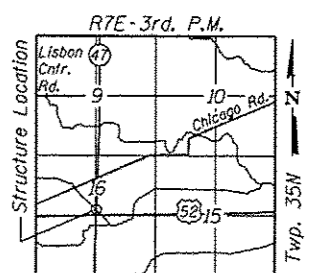
STATION 6453+66.00
BUILT 20 BY
STATE OF ILLINOIS
LOADING HL-93
STRUCTURE NO. 047-2030

NAME PLATE
See Std. 515001



PROFILE GRADE

(Along IL Rte. 47 P.G.)



LOCATION SKETCH

GENERAL PLAN & ELEVATION

IL. RTE. 47 OVER

DRAINAGE DITCH

F.A.P. RTE. 326

SEC-(109,110)R-1

KENDALL COUNTY

STATION 6453+66.00

STRUCTURE NO. 047-2030

REVISION	USER NAME	DESIGNED	FILE NAME	CHECKED
REVISD -		PSS		VPT
REVISD -				AJF
REVISD -				VPT

LINE ENGINEERING LTD.
Consulting Engineers
Springfield, Illinois

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 047-2030

SHEET NO. 1 OF 4 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(109, 110)R-1	KENDALL	619	380

CONTRACT NO. 66B84
ILLINOIS FED. AID PROJECT