

Existing Structure: The existing structure is a ±34'-0" long reinforced cast-in-place concrete box culvert with a 3'-0" x 3'-0" opening. The original structure was constructed as S.B.I. Route 109 Construction Section 101-A at the original station of 354+46.

Salvage: None

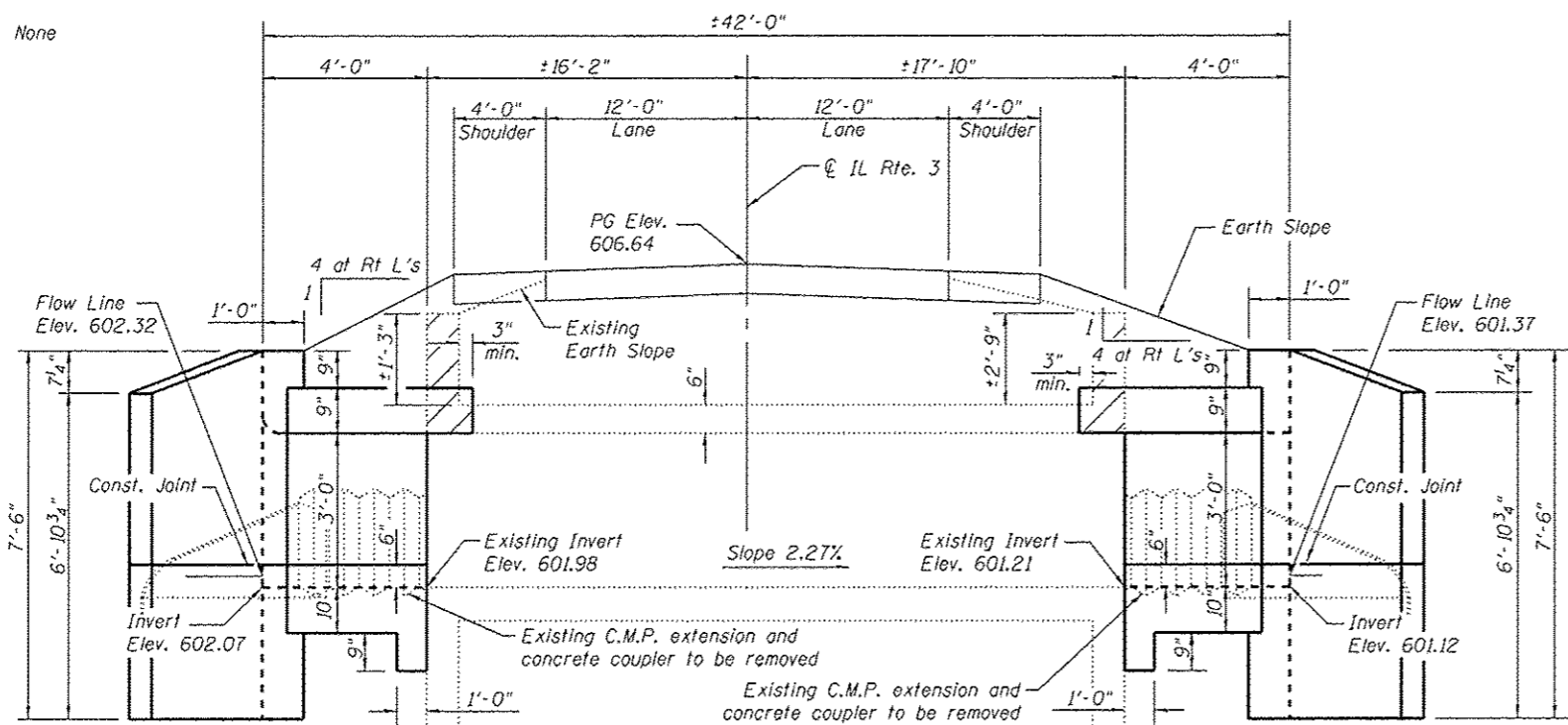
### GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity furnished at the unit price for the work.

The verification of allowable soil bearing pressure underlying the proposed box culvert shall be verified by a dynamic cone penetration (DCP) test or other acceptable measures as provided by the District Geotechnical and Field Engineers. The results of the test must exceed the calculated bearing pressures shown on the plans prior to placement of the Concrete Box Culvert. Tests failing to exceed the calculated bearing pressures as shown on the plans will require subsurface modification that must be coordinated with the District Geotechnical and Field Engineers.

Expansion bolts shall be according to Standard Specification Article 1006.09.

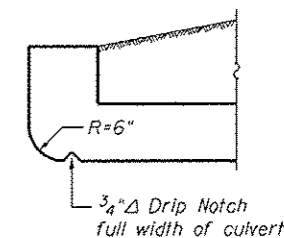
Precast alternative not allowed at this site.  
 A distance half the length of the wingwall but not less than 6'-0" of the barrel shall be poured monolithically with the wingwalls.  
 Calculated max. soil pressure under barrel = 2,783 psf.  
 For Riprap details and quantities see Roadway Plans.  
 Existing C.M.P. extension and concrete coupler to be removed shall be paid for as Removal of Existing Structures, see Roadway Plans.  
 For Total Bill of Material see sheet 3 of 4.  
 The minimum edge distance from the center of a hole to the free edge of a structural shape or plate shall be 1 1/2" unless noted otherwise.  
 The Contractor may install the thru bolts using drilling and grouting in lieu of providing a formed hole using steel pipe. Installation shall be in accordance with Article 509.06 using a method that results in the annulus surrounding the bolt being completely filled with adhesive. The method of drilling shall not result in spalled concrete at the exit face. Epoxy grouted thru bolts shall be snug tightened followed by an additional 1/3 turn on the interior nut at final installation. Cost included with Traversable Pipe Gate.



LEFT EXTENSION

ELEVATION

RIGHT EXTENSION



HEADWALL DETAILS AT UPSTREAM END

### DESIGN SPECIFICATIONS

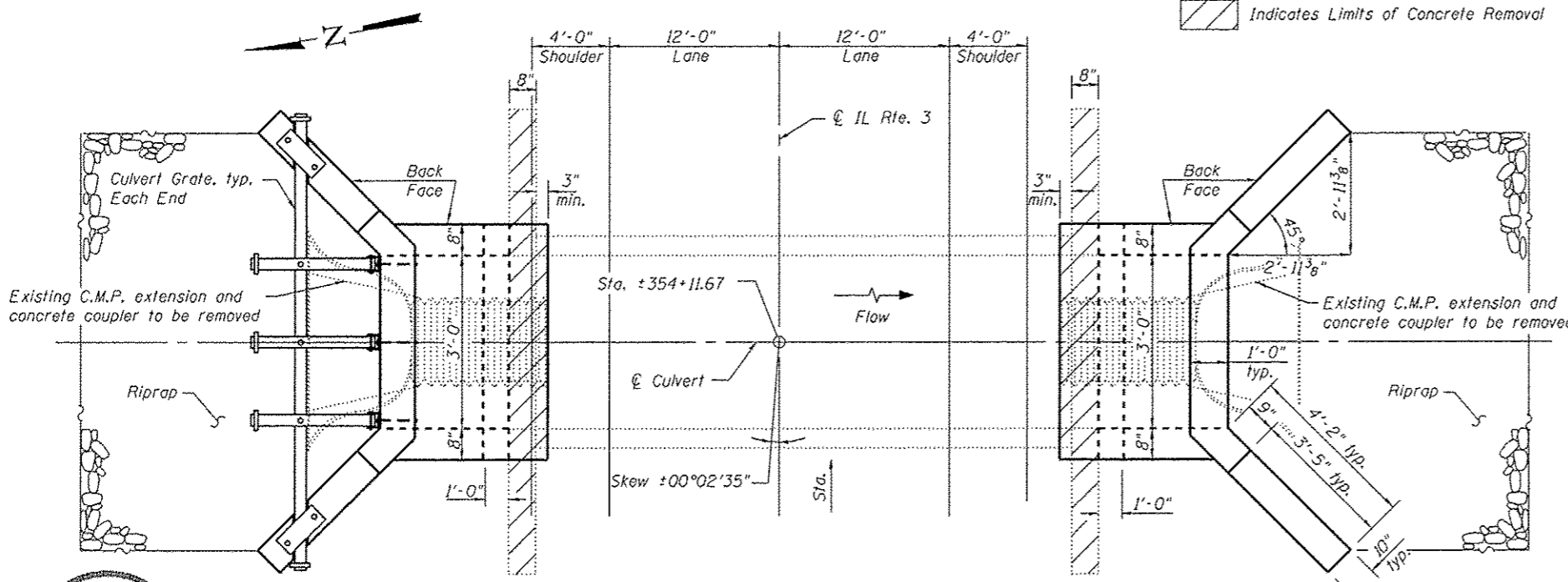
2002 AASHTO Standard Specifications for Highway Bridges

### LOADING HS 20-44

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

### DESIGN STRESSES

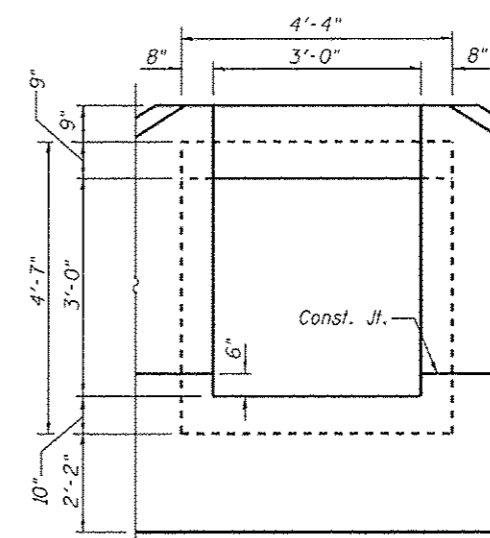
EXISTING CONSTRUCTION	NEW CONSTRUCTION
$f_y = 40,000 \text{ psi}$	$f_y = 60,000 \text{ psi}$
$f'_c = 3,000 \text{ psi}$	$f'_c = 3,500 \text{ psi}$



LEFT EXTENSION

PLAN SHOWING OUTLINES

RIGHT EXTENSION



BOX CULVERT END ELEVATION (Dimensions Shown at Rt L's)

GENERAL PLAN & ELEVATION  
 ILLINOIS ROUTE 3  
 F.A.S. RTE. 752 - SEC. 101-2RS-1  
 JERSEY COUNTY  
 STATION 354+11.67

Note:  
 See Sheet 2 of 4 for Existing Corrugated Metal Pipe Extension and Limits of Concrete Removal.  
 See Sheet 4 of 4 for Culvert Gate Details.



Client Fuesting 8/6/14

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

USER NAME	DESIGNED	REVISIONS
jdirkalmen	JD	-
Checked	BB	-
Drawn	EW	-
Checked	CJF	-

LOCHMUELLER GROUP  
 1228 N. RANDOLPH ST. NORTH DAVENP  
 ILLINOIS 61802  
 PHONE: 618-881-1000

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
752	101-2RS-1	JERSEY	438	250
CONTRACT NO. 76789			ILLINOIS FED. AID PROJECT	