

Existing Structure: The existing structure is a ±75'-7" long reinforced cast-in-place concrete box culvert with a 2'-0" x 2'-0" opening. The original structure was constructed as S.B.I. Route 109 Construction Section 101-A at the original station of 344+29.

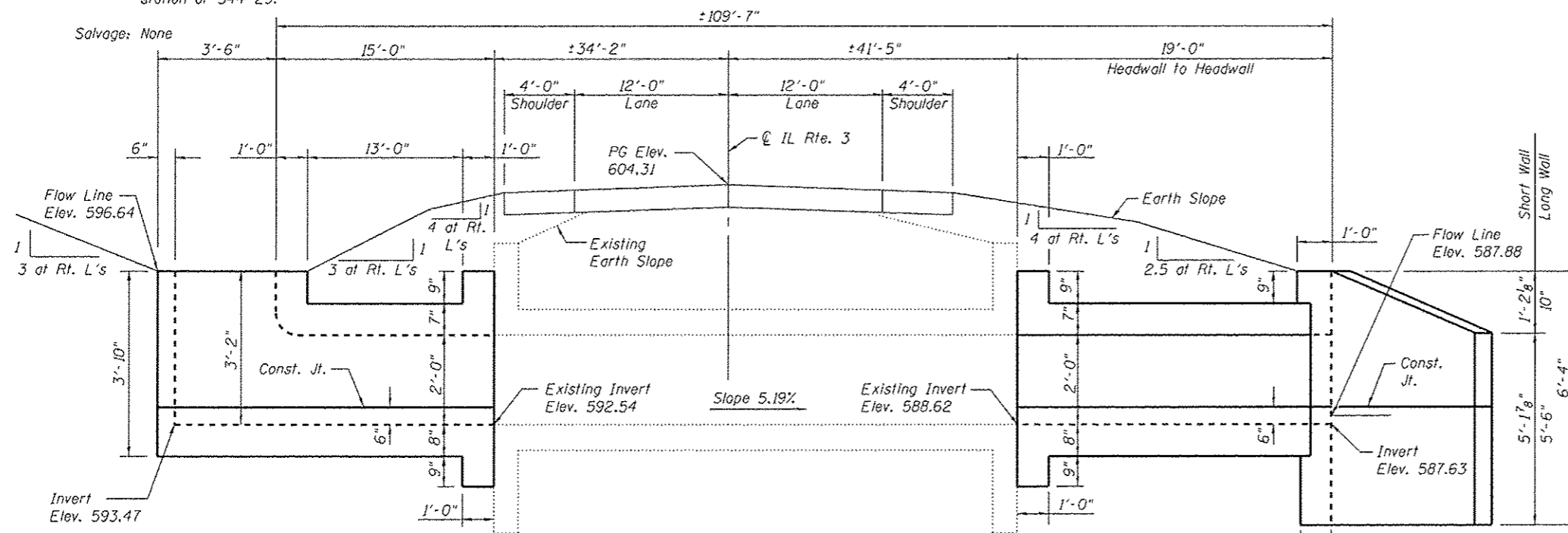
**GENERAL NOTES**

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.

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 wing wall but not less than 6'-0" of the barrel shall be poured monolithically with the wing walls. Existing Block Drop Inlet to be removed shall be paid for as Removal of Existing Structures, see Roadway Plans.

For Riprap details and quantities see Roadway Plans. Bars noted thus, 4x2-#5 indicates 4 lines of bars with 2 lengths of bars per line. 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.

Calculated max. soil pressure under barrel = 2,450 psf. For Total Bill of Material see sheet 3 of 3. 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 Grate.

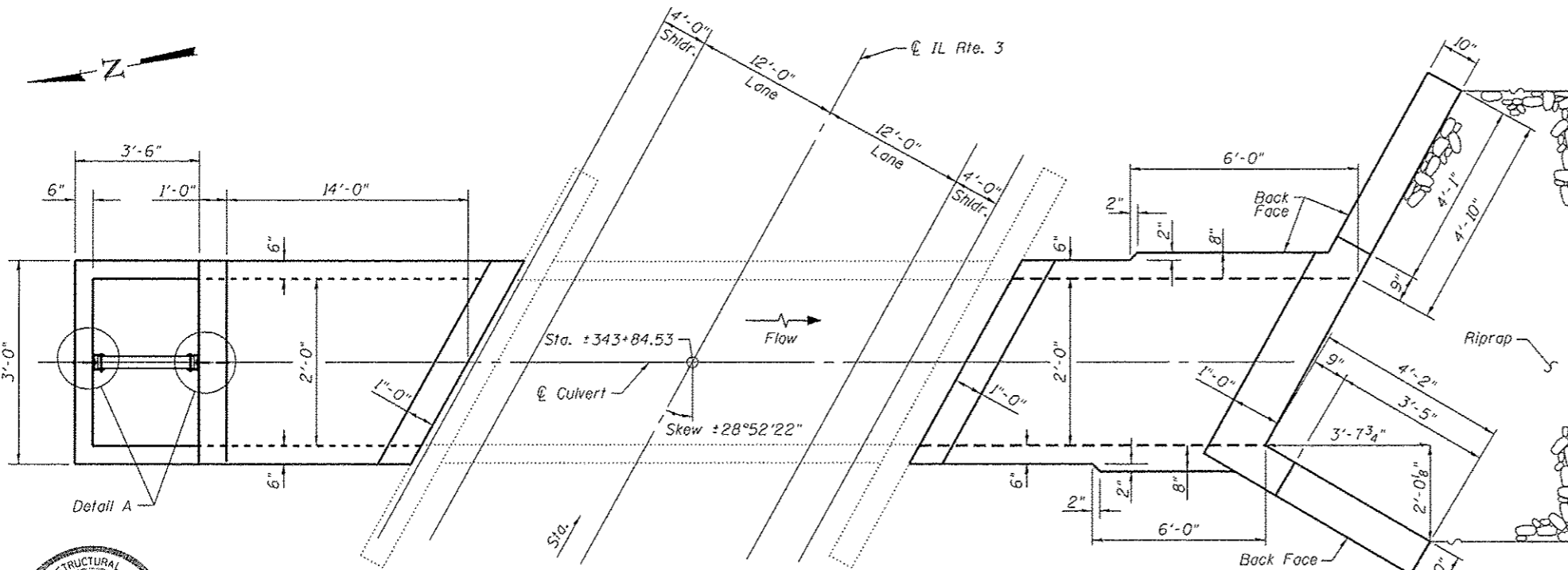


**LEFT EXTENSION**

**ELEVATION**

**RIGHT EXTENSION**

(Existing Block Drop Inlet not shown for clarity)

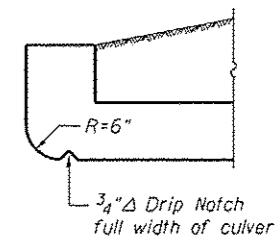


**LEFT EXTENSION**

**PLAN SHOWING OUTLINES**

**RIGHT EXTENSION**

(Existing Block Drop Inlet not shown for clarity)



**HEADWALL DETAILS AT UPSTREAM END**

**DESIGN SPECIFICATIONS**

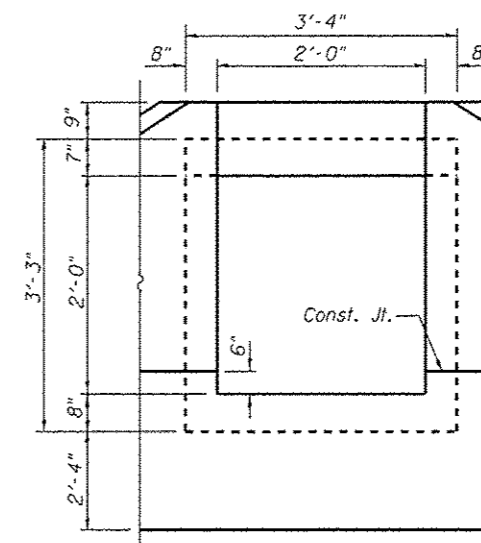
2002 AASHTO Standard Specifications for Highway Bridges

**LOADING HS 20-44**

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

**DESIGN STRESSES**

EXISTING CONSTRUCTION	NEW CONSTRUCTION
fy = 40,000 psi	fy = 60,000 psi
f'c = 3,000 psi	f'c = 3,500 psi



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

**GENERAL PLAN & ELEVATION**

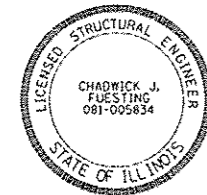
ILLINOIS ROUTE 3

F.A.S. RTE. 752 - SEC. 101-2RS-1

JERSEY COUNTY

STATION 343+84.53

Note: See Sheet 2 of 3 for Existing Block Drop Inlet Removal. See sheet 3 of 3 for Detail A.



Chadwick J. Fuesting 8/8/14

FILE NAME = 343+84.53-76789-021.dgn

USER NAME	DESIGNED	CHECKED	REVISIONS
jdinko	JD	BB	
Illinois Design Firm Number 184.001670		EW	
PLOT SCALE		CJF	
PLOT DATE 8/8/2014			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
752	101-2RS-1	JERSEY	438	243

CONTRACT NO.	SHEET NO.
76789	1 OF 3 SHEETS

SHEET NO. 1 OF 3 SHEETS

ILLINOIS FED. AID PROJECT