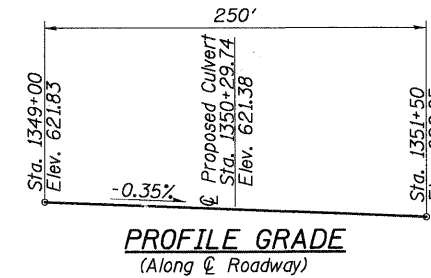
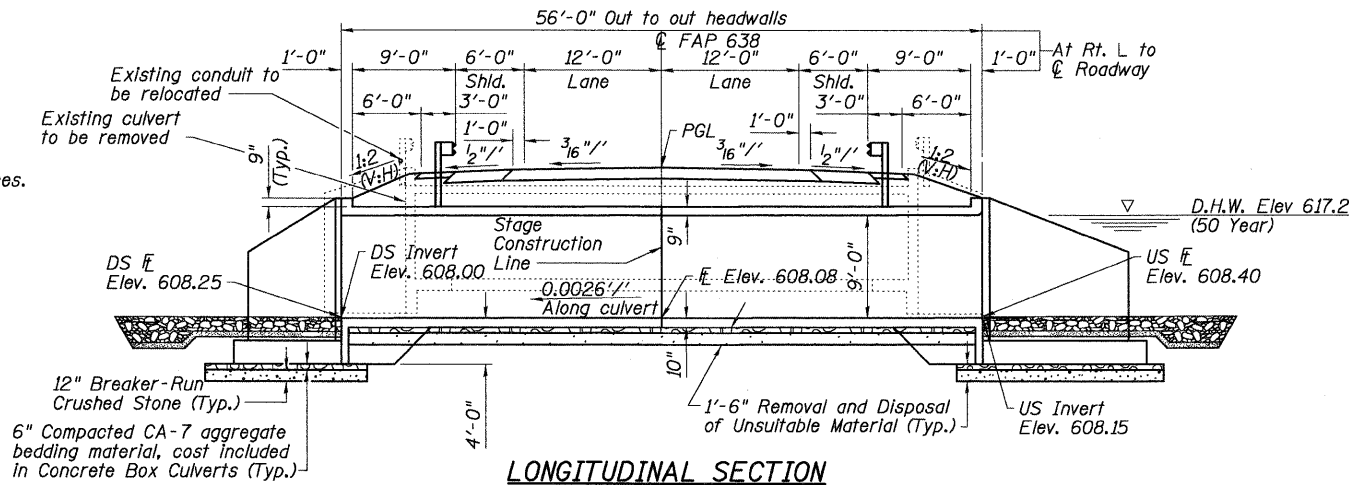


**BENCHMARK:** Chiseled square on SE wingwall of box culvert over Elks Branch, SN 037-2003  
Sta. 1350+19, 31.8' Rt.  
Elev. 619.03

**EXISTING STRUCTURE:**  
SN 037-2003 was originally built in 1931 as section 129. The structure is a cast-in-place concrete triple box culvert with 3 - 9' S x 7.5' R cells skewed 13° right forward. The culvert is 42'-9" long headwall to headwall and is 40'-0" wide between guardrail faces. The existing structure is to be removed and replaced. One lane of traffic will be maintained utilizing stage construction.

No salvage.

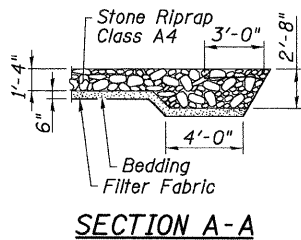


**TOTAL BILL OF MATERIAL**

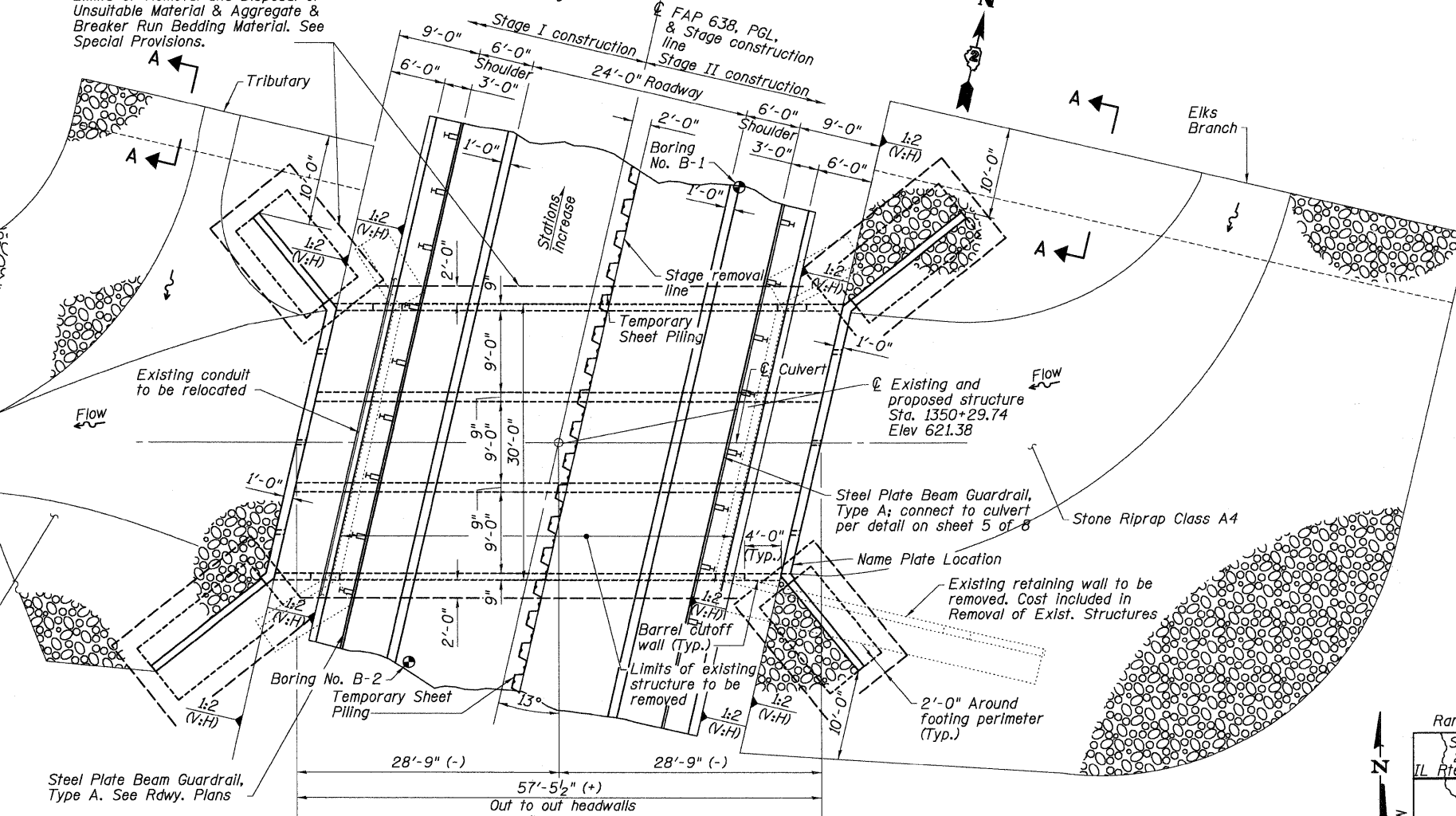
ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	160
Removal of Existing Structures	Each	1
Reinforcement Bars	Pound	27860
Reinforcement Bars, Epoxy Coated	Pound	740
Temporary Sheet Piling	Sq. Ft.	1859
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	209.4
Bar Splicers	Each	114
Breaker-Run Crushed Stone	Ton	178

**GENERAL NOTES**

The substitution of Precast Concrete Box Culverts will not be allowed. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated. All construction joints shall be bonded. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer. The boring logs for this structure indicate that groundwater levels may encroach on the construction limits of this structure. It shall be the responsibility of the Contractor to control groundwater and divert the stream flow during construction in order to keep the construction area free of water. The method of controlling the water shall be subject to approval of the Engineer and the cost shall be included in the contract unit price for Concrete Box Culverts. Controlled Low-Strength Material per Section 1019 shall be placed on the rock fill at the stage line. The concrete shall retain the rock fill until the second stage rock fill is placed. This work will be included in the pay item for Breaker-run Crushed Stone. See Roadway Plans for Trench Backfill details and quantities. The streambed of Elks Branch will be regraded from 1000' upstream to 100' downstream of the structure to transition to the proposed invert elevation of the culvert. The channel upstream of the structure will also be shifted to the east to reduce the need for guardrail. See roadway plans for details and quantities. Adequacy of the existing culvert to carry Stage I Traffic was confirmed with the 9/16/08 Coring Report.



Limits of Removal and Disposal of Unsuitable Material & Aggregate & Breaker Run Bedding Material. See Special Provisions.



STATION 1350+29.74  
BUILT BY  
STATE OF ILLINOIS  
F.A.P. 638 SEC. 129BR  
LOADING HS-20  
STRUCTURE NO. 037-2027

**NAME PLATE**  
See Std. 515001

**WATERWAY INFORMATION PLAN**

Flood	Frequency Year	Discharge (cfs)	Waterway Opening (Sq. Ft.)		Nat. H.W.E.	Head (Ft.)		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	761	141	232	616.8	0.4	0.1	617.2	616.9
Design	50	1176	152	243	617.2	1.1	0.3	618.3	617.5
Base	100	1352	154	243	617.3	1.5	0.5	618.8	617.8
Overtopping	74	1276	153	-	617.2	1.3	-	618.5	-
Max Calc.	500	1770	-	243	617.4	-	1.1	-	618.5

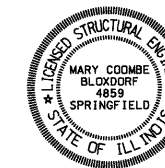
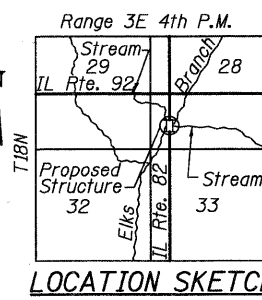
**DESIGN SPECIFICATIONS**  
2002 AASHTO

**LOADING HS20-44**  
Allow 50 psf for future wearing surface.

**DESIGN STRESSES**  
**FIELD UNITS**  
f'c = 3,500 psi  
fy = 60,000 psi (Reinf.)

**SCOUR INFORMATION**

Design Scour Elevation (Ft.)	Upstream	Downstream
	604.15	604.00



Exp. 11/30/10  
Mary Coombe Bloxdorf 9/8/09

**GENERAL PLAN**  
**IL ROUTE 82 OVER ELKS BRANCH**  
**STATION 1350+29.74**  
**STRUCTURE NO 037-2027**

**COOMBE-BLOXDORF P.C.**  
Engineers / Land Surveyors  
Springfield, Illinois  
Design Firm License No. 184-002703

PROJECT NO. 08047  
SCALE  
DATE 09/08/09  
DESIGN BY GJB  
DRAWN BY CFC  
CHECKED BY REG CME

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
638	129BR	HENRY	42	18

8 SHEETS

CONTRACT NO. 64A04

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT