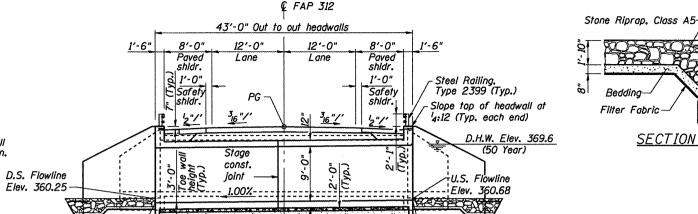
BENCHMARK: BM 1010 Top of exposed rebar on the northwest corner of headwall of SN 039-2001, Elev. 371.48

EXISTING STRUCTURE: SN 039-2001 was originally built in 1933 as Route 150, Section 123. It is a double barrel 12'S by 8'-6"R reinforced concrete box culvert with L-Type wing walls and side mounted steel railing. The barrel length is 41'-4" o. to o. headwalls. The length along centerline roadway is 26'-6" There is a 10 degree skew. Traffic shall be maintained utilizing stage construction.

No salvage.



Limits of Removal and Disposal of Unsuitable Material and Rock Fill-Replacement <u>LONGITUDINAL SECTION</u>

-U.S. Invert Elev. 360,43

€ FAP 312 5'-0" 40'-0" 40'-0" 5'-0" Boring 1-5 Traffic Barrier Terminal, Type 6A (Special), Std. 631032 Paved Paved shidr. hinge line (Typ. shidr. Traffic Barrier Terminal, Type 6A. 1'-0" 1'-0" Std. 631032 Stage const. Steel Railing, - C Exist. & prop. Type 2399 (Typ.) structure Flow Sta. 476+15 Elev. 372.30 15'-0" Note Plate - Stage **₩**openina remova in headwall '-0" line A (Typ.) -Provide Temporary Support System for Stage I traffic 'Stage I Stage II___ constr. constr. Stone Riprap. Class A5 (Typ.) Temporary Soil Retention System

(TVD.)

D.S. Invert

Elev. 360.00-

STATION 476+15 BUILT 20__ BY STATE OF ILLINOIS F.A. RT. 312 SEC. 123B-3 LOADING HS20-44 STR. NO. 039-2028

3'-0"

5'-6"

SECTION A-A

NAME PLATE (See Hwy. Std. 515001)

APPROVED For Structural Adequacy Only Engineer of Bridges & \$tructures

WATERWAY INFORMATION

Boring 2-S Clear width

(Typ.)

40'-0"

PLAN

43'-0" Out to out headwalls

Exist. Low Grade Elev. = 371.69 Ft. © Sta. 479+00 Drainage Area = 1.12 Sq. Mi. Prop. Low Grade Elev. = 371.69 Ft. © Sta. 479+00									
Flood	Frea.		Opening					Headwater El.	
r 100a	Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
	10	772	149	192	368.0	0.2	0.1	368.2	368.1
Design	50	1310	187	216	369.6	0.7	0.3	370.3	369.9
Base	100	1570	199	216	370.1	1.2	1.0	371.3	371.1
Overtopping	140	1720	202	-	370.2	1.5	•	371.7	-
Overtopping	150	1745	-	216	370.2	-	1.5	-	371.7
10 year velocity through existing culvert = 5.6 ft/s									
10 year velocity through proposed culvert = 4.7 ft/s									

<u>DESIGN SPECIFICATIONS</u> 2002 AASHTO

<u>LOADING HS20-44</u> Allow 50 psf for future wearing surface.

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

Traffic Barrier Terminal,

Type 6A (Special), Std. 631032



LOCATION SKETCH

STRUCTURE INDEX OF SHEETS

General Plan	Sheet No. 1 of 10
Stage Construction Details	Sheet No. 2 of 10
Temporary Support System Details	Sheet No. 3 of 10
Box Culvert Details (1 of 2)	Sheet No. 4 of 10
Box Culvert Details (2 of 2)	Sheet No. 5 of 10
Steel Railing, Type 2399	Sheet No. 6 of 10
Bar Splicer Assembly and Mechanical Splicer Details	Sheet No. 7 of 10
Temporary Concrete Barrier For Stage Construction	Sheet No. 8 of 10
Boring Logs (1 of 2)	Sheet No. 9 of 10
Boring Logs (2 of 2)	Sheet No. 10 of 10

GENERAL NOTES

- 1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
- 2. Reinforcement bars designated (E) shall be epoxy coated.
- 3. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- 4. For backfilling and embankment, see Standard Specifications. Backfill culvert excavation with Porous Granular Embankment, except the outer 3' at each end of the culvert shall be backfilled with impervious material. See sheet 2 of 10 for limits of PGE.
- 5. Precast alternate is not allowed.
- 6. The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.
- 7. The Rock Fill shall be capped with 6 in, of CA 7 and satisfy the Standard Specifications unless otherwise indicated in the Special Provisions. The cost of the capping material shall be included in the pay item for Rock Fill - Replacement. Rock fill shall be composed of Stone Riprap, Class A1.
- 8. Modify existing channel to match culvert at each end as directed by the Engineer, cost included in the pay item for Stone Riprap, Class A5.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu. Yd.	411
Stone Riprap, Class A5	Sq. Yd.	137
Filter Fabric	Sq. Yd.	137
Removal of Existing Structures No. 1	Each	1
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	103
Reinforcement Bars, Epoxy Coated	Pound	28,180
Bar Splicers	Each	<i>154</i>
Steel Railing, Type 2399	Foot	56
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	173.7
Temporary Soil Retention System, (Location 1)	Sq. Ft.	415
Temporary Support System, Location 1	Each	1
Rock Fill - Replacement	Ton	212

See Roadway Plans for quantities of Temporary Concrete Barrier, Earth Excavation, and Pavement Removal.



08-15-2011 DATE

IL 3 OVER BRANCH OF REEDS CREEK FAP ROUTE 312 - SECTION 123B-3 JACKSON COUNTY STATION 476+15

ESCA
7000
GIAST TO SANGLAFUL PASSINERS

Design Scour

Elevation (Ft.)

PROFILE GRADE (Along & FAP 312)

SCOUR INFORMATION

Downstream

357.00

Guardrail

transition

Upstream

357.43

Steel Plate

Beam Guardrail

Limits of Removal & Disposal

of Unsuitable Material and Rock Fill-Replacement-

(Short Radius)

USER NAME = HAS		DESIGNED	-	RDP	09/11	REVISED	-
ESCA PROJECT NO. 988.08		CHECKED	~	JTS	09/11	REVISED	-
PLOT SCALE = 0:2 ':' / IN.		DRAWN	-	DWH	11/11	REVISED	-
PLOT DATE = 11/9/2011	1:51:22 PM	CHECKED	-	RDP	11/11	REVISED	-

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

GENERAL PLAN STRUCTURE NO. 039-2028							
SHEET	NO.	1	OF	10	SHEETS		

 F.A.P. RTE.	SECTION	COUNTY	TOTAL	SHEET NO.	
312	123B-3	JACKSON	58	37	
		CONTRACT	NO. 7	3197	
	ILLINOIS FED. A	ID PROJECT			