

Bench Mark: Sta 58+03, 39' Rt, RR spike in PP, EI 726.70

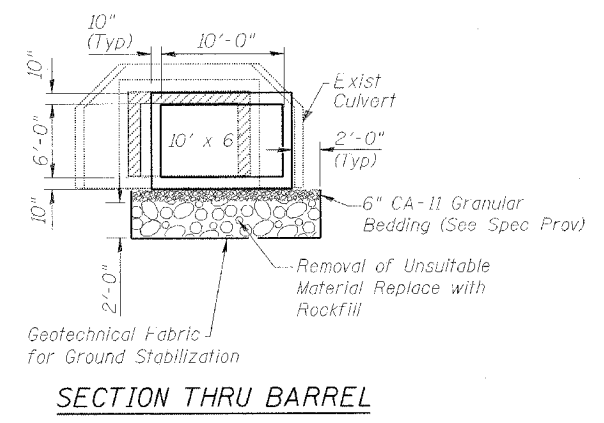
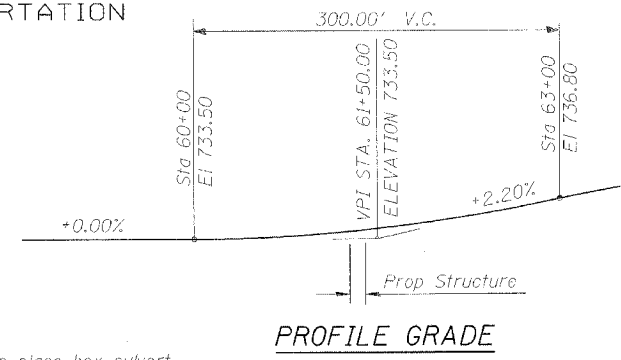
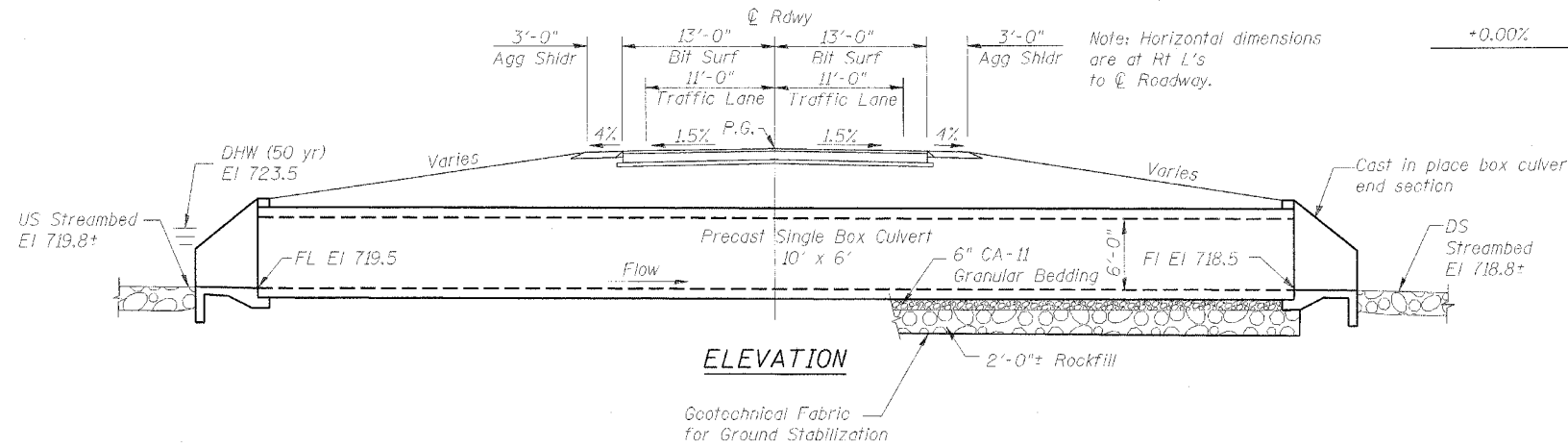
Existing Structure: A 10' x 7' reinforce concrete box culvert with an internal concrete frame which reduces the capacity to that of a 8' x 6' culvert. Two field drainage tiles enter the culvert. One at the entrance and the other near the middle of the culvert along the floor. The contractor shall remove the existing structure as required and replace it with a single 10'x9' precast concrete box culvert.

Salvage: None

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1379	(108 - B-1) BR	STARK	43	19
STA. 61+35.31				
ILLINOIS		IL RTE 91		

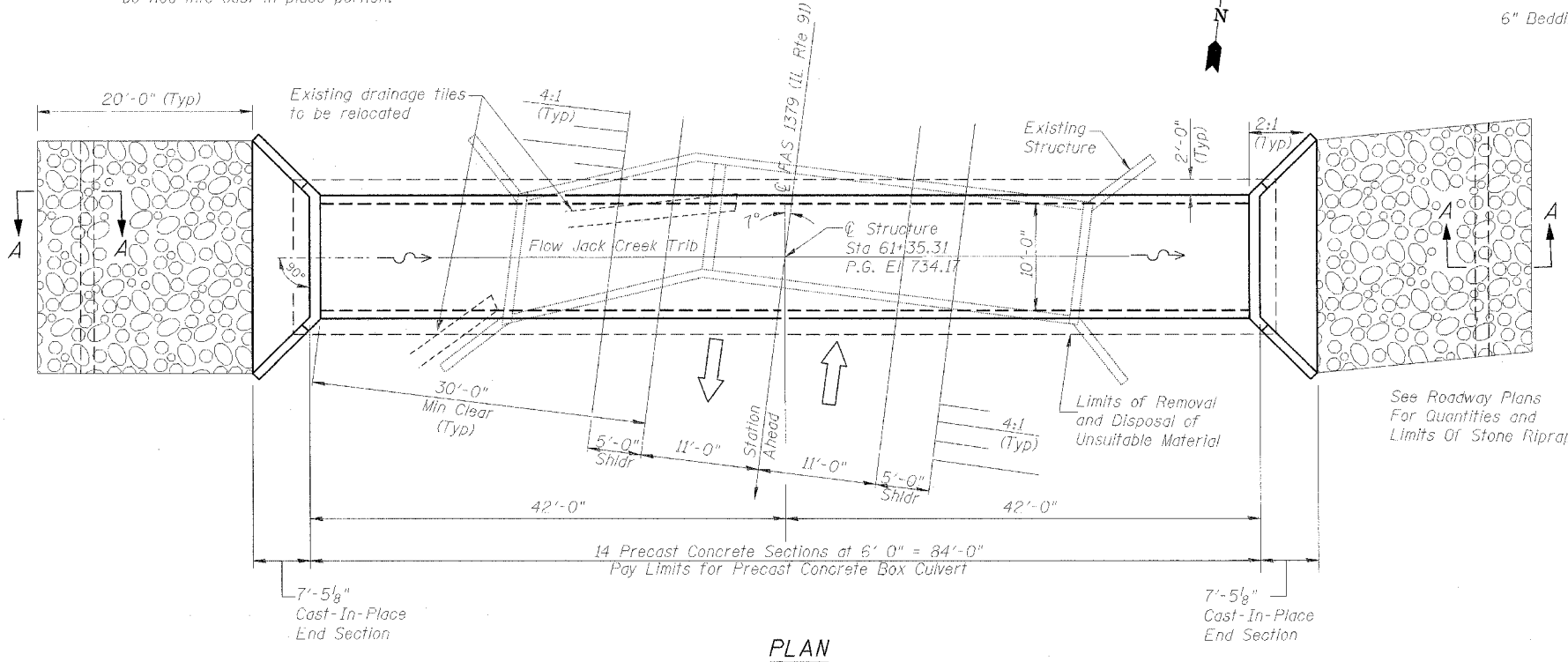
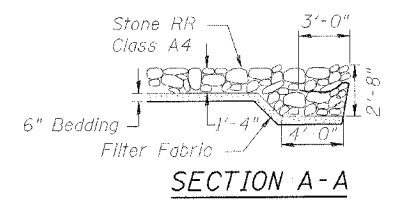
SHEET 1 OF 2



**GENERAL NOTES**

1. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53 Grade 60.
2. All exposed edges shall have 3/4" chamfer.
3. For back filling and embankment see Standard Specifications, Art. 502
4. This box culvert has a fill height of 8.5 feet. The precast concrete box culvert shall conform to the requirements of AASHTO M 259.
5. Precast end sections are not allowed.
6. Remove existing structure including wings, abutments, and footings.
7. 15"x15" voids cast in wingwalls for field tile outlet. Voids to be grouted once field tile is installed.

Note: Precast culvert sections at the ends of each barrel are to have exposed reinforcing bars to be tied into cast in place portion.



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu Yd	98
Geotechnical Fabric for Ground Stabilization	Sq Yd	211
Removal of Existing Structures	Each	1
Box Culvert End Sections, Culvert No. 2	Each	2
Precast Concrete Box Culvert 10' x 6'	Foot	84
Rockfill	Ton	204

\* See Special Provisions

**HR** HURST-ROSCHE ENGINEERS, INC.  
CONSULTING ENGINEERS & ARCHITECTS  
1400 E. TREMONT ST.  
HILLSBORO, ILLINOIS 62049

DESIGNED	MLB
CHECKED	JSP
DRAWN	MLB
CHECKED	JSP

**WATERWAY INFORMATION**

Drainage Area = 0.6 Sq mi		Low Grade EI 733.0		Sta 61+20					
Flood	Freq Yr	Q of s	Opening sq ft	Not HWE	Head - ft	Headwater EI			
			Exist	Prop	Exist	Prop			
Design	50	320	32	40	723.5	1.8	1.0	725.3	724.5
Base	100	370	34	43	723.8	2.2	1.3	726.0	725.1
Overtopping									
Max Calc	500	500	38	47	724.2	4.1	2.1	728.3	726.3

**DESIGN STRESSES**

FIELD UNITS  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf)

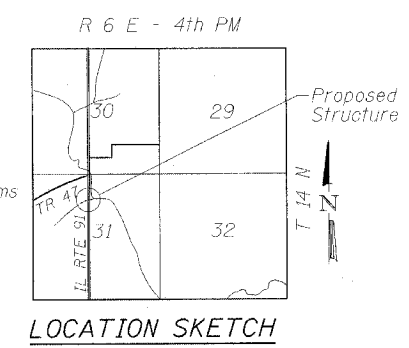
**DESIGN SPECIFICATIONS**

1996 AASHTO with 1997, 1998, 1999, and 2000 Interims  
**LOADING HS 20-44**

Allow 50 lb/sf for Future Wearing Surface.

**SEISMIC DATA**

Seismic Performance Category (SPC) = A  
Acceleration Coefficient (A) = 0.04  
Site Coefficient (S) = 1.0



**GENERAL PLAN & ELEVATION**  
**FAS 1379 (IL RTE 91) OVER**  
**JACK CREEK TRIBUTARY**  
**SECTION (108B)BR**  
**STARK COUNTY STA 61+35.31**