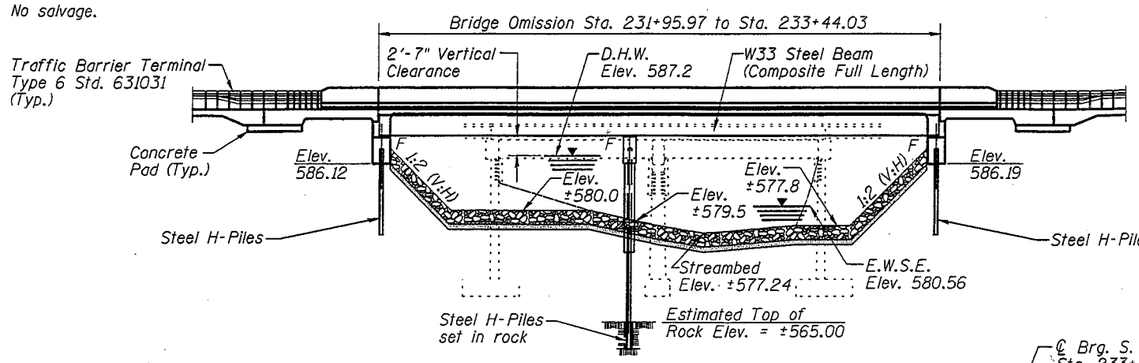
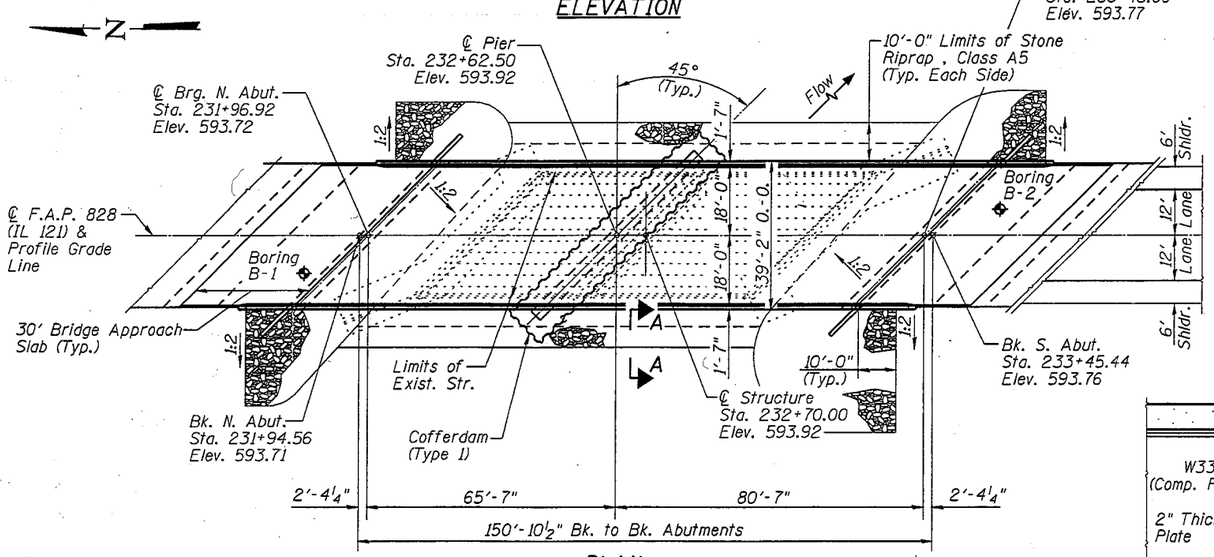
Bench Mark: Chiseled square on N.W. corner of headwall on Structure No. 018-0012. Sta. 232+10. 17' Rt. Elevation 589.69.

Existing Structure: S.N. 018-0012 originally built in 1928 as Rte. 131, Section 108-B at Station 232+70. The structure consisted of two 44'-3" simple spans on closed abutments skewed at 45 degrees with a 22'-0" width. Structure consists of RC closed abutments and RC solid pier setting on spread footings. In 1981 the structure underwent reconstruction and was replaced with 11 three ft wide deck beams, providing a width of 33'-0" and a length of 88'-3" back to back abutments. In 2008 & 2009 temporary support beams were placed under beam 6 in the north span and beam 4 in both spans due to delamination noted in prior inspections. Existing structure is to be removed and replaced. Traffic shall be detoured during construction.

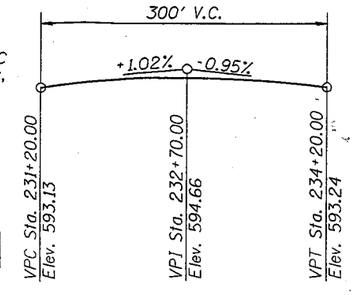
No salvage.



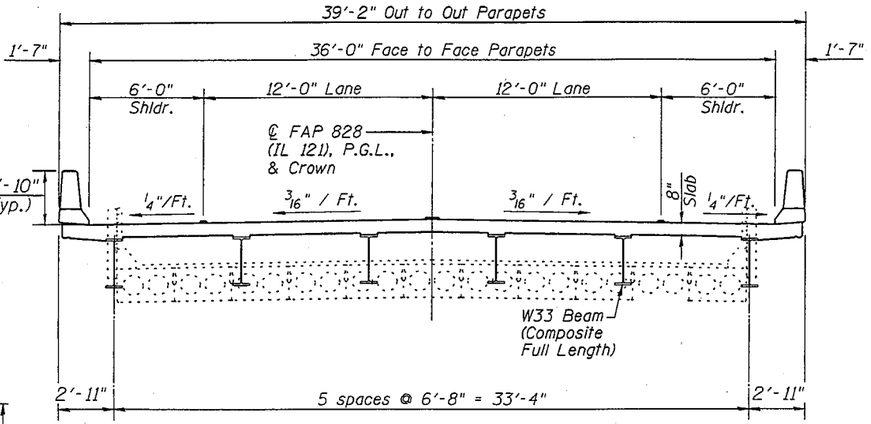
ELEVATION



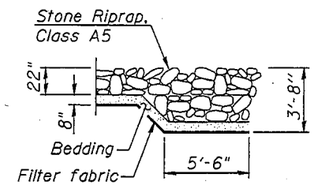
PLAN



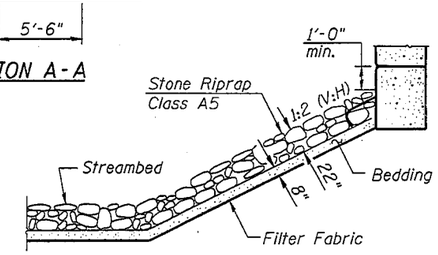
PROFILE GRADE
(Along ℄ Roadway)



CROSS SECTION
(Looking South)



SECTION A-A



STONE RIPRAP DETAIL

HIGHWAY CLASSIFICATION

F.A.P. Rte. 828 - IL 121
Functional Class: Rural Minor Arterial
ADT: 2800 (2009), 3789 (2032)
Directional Split: 50:50
ADTT: 11.6%
DHV: 455 (2032)
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
6th Edition

LOADING HL 93

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

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (Structural Steel AASHTO M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.192g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.416g
Soil Site Class = D

APPROVED

MAY 14 2013

AS A BASIS FOR PREPARATION OF DETAILED PLANS

DESIGN SCOUR ELEVATION TABLE

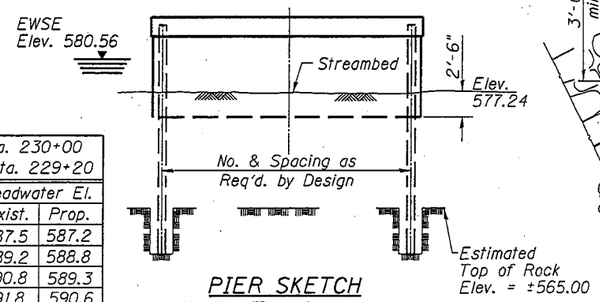
Design Scour Elevation (ft.)	N. Abut.	Pier	S. Abut.
	586.12	566.00	586.19

WATERWAY INFORMATION

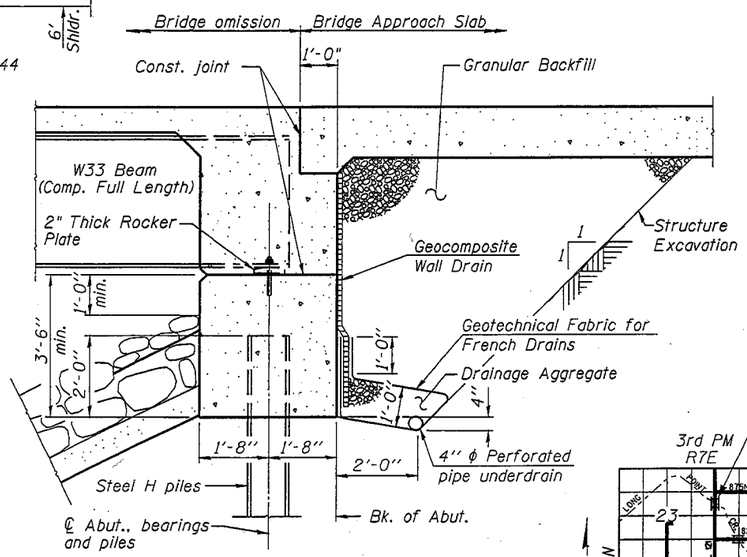
Drainage Area = 8.58 Sq. Mi. Existing Low Grade Elev. 591.92 @ Sta. 230+00
Proposed Low Grade Elev. 592.01 @ Sta. 229+20

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1860	349	552	586.2	1.3	1.0	587.5	587.2
Design	50	3010	403	637	587.2	2.0	1.6	589.2	588.8
Base	100	3520	427	675	587.6	3.2	1.7	590.8	589.3
Max. Calc.	500	4790	482	764	588.5	3.3	2.1	591.8	590.6

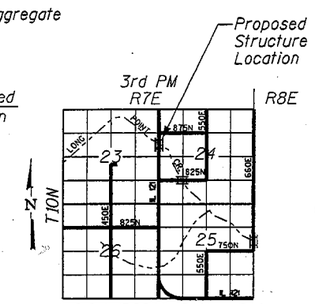
10 Yr. Velocity = 5.33 fps (Existing) and 3.37 fps (Proposed)



PIER SKETCH
Cofferdam (Type 1) as required



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)



LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL 121 OVER LONG POINT CREEK
FAP 828 - SECTION (108BR-1)B
CUMBERLAND COUNTY
STATION 232+70
STRUCTURE NO. 018-0066

URS

USER NAME = Brian K. Nicholson	DESIGNED - MJP	REVISED -	
	CHECKED - KWB	REVISED -	
PLOT SCALE =	DRAWN - BKN	REVISED -	
PLOT DATE = February 20, 2013	CHECKED - KWB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
828	(108BR-1)B	CUMBERLAND		

CONTRACT NO. 74323
ILLINOIS FED. AID PROJECT