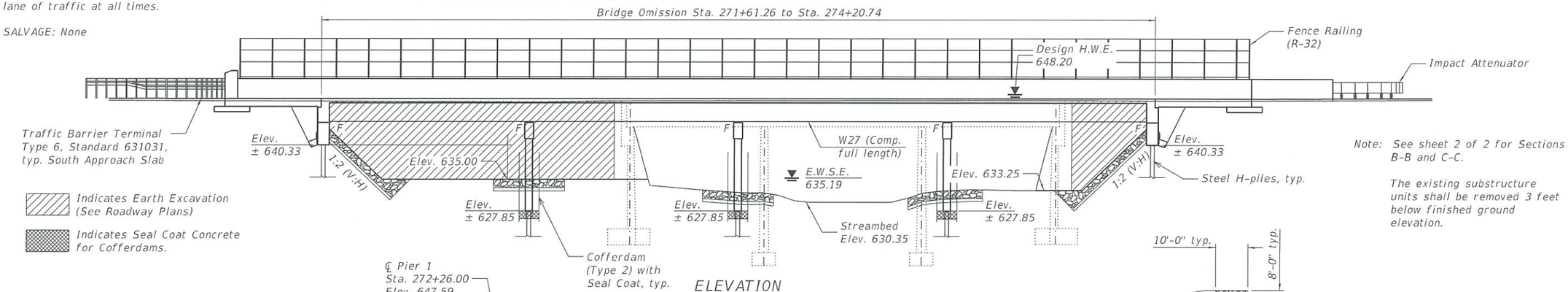
BENCHMARK: Top of southwest wing wall at southwest corner of existing bridge, S.N. 021-0028; Station 272+60.18, 21.00 ft (LT) , Elevation 648.40.

EXISTING STRUCTURE: SN 021-0028 was originally built in 1955 as SA Route 2, Section 12B-15D. The bridge was repaired in 1981 as FAP 808, Section (10,12)(W,RS),12B-J&(H,L)(W,RS) at Station 273+23.19. The existing structure is a 3-span wide flange steel beam bridge. The bridge length is 136'-10" from back to back of abutments and the width is 39'-8" out to out of deck on a 25-degree skew. The structure is to be removed and replaced using stage construction to maintain one lane of traffic at all times.

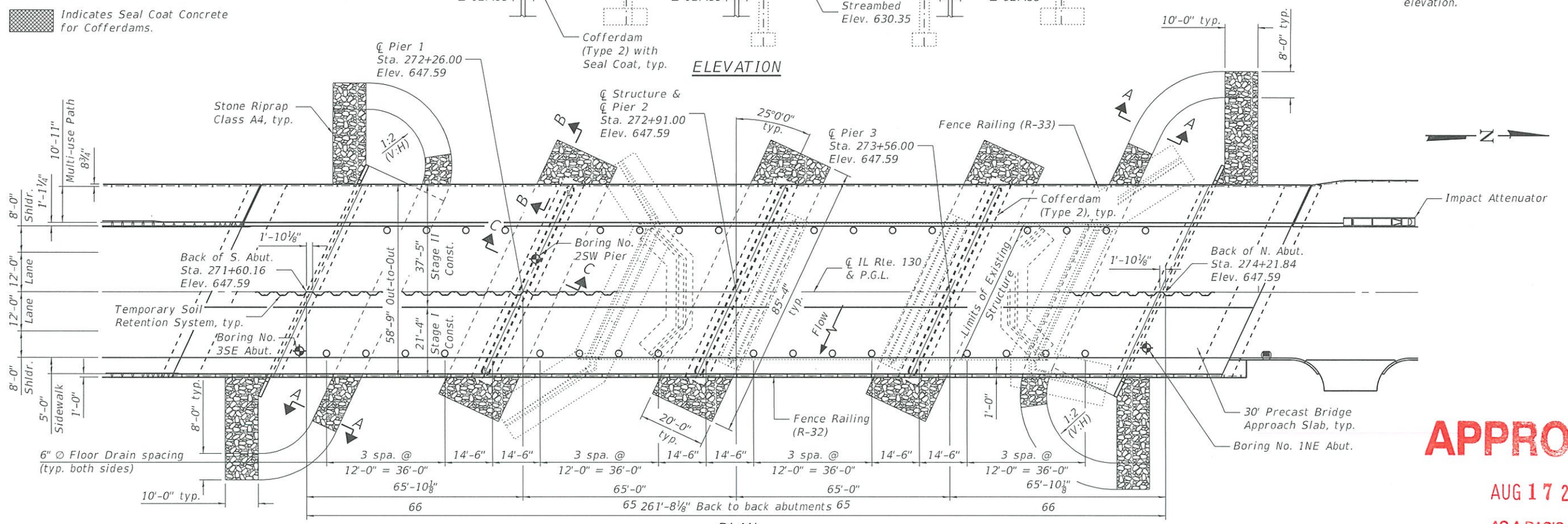
SALVAGE: None



ELEVATION

Note: See sheet 2 of 2 for Sections A-A, B-B and C-C.

The existing substructure units shall be removed 3 feet below finished ground elevation.



PLAN

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Superstructure Concrete)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)
(Hot-dip Galvanized)

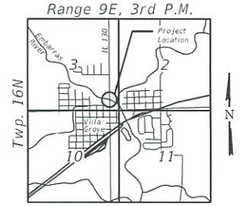
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.106g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.207g
Soil Site Class = C

HIGHWAY CLASSIFICATION

IL Rte. 130 - FAP Rte. 808
Functional Class: Minor Arterial
ADT: 4700 (2015); 5640 (2035)
ADTT: 300 (2015); 360 (2035)
DHV: 516 (2035)
Design Speed: 40 m.p.h.
Posted Speed: 35 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

PROFILE GRADE
(Along ℄ IL 130)



LOCATION SKETCH

APPROVED
AUG 17 2018
AS A BASIS FOR PREPARATION OF DETAILED PLANS

GENERAL PLAN AND ELEVATION
IL ROUTE 130
OVER EMBARRAS RIVER
FAP ROUTE 808 - SECTION (12B-15D)BR
DOUGLAS COUNTY
STATION 272+91.00
STRUCTURE NO. 021-0063

Kaskaskia Engineering Group, LLC
PROFESSIONAL REGISTRATIONS: Illinois Professional Design Firm 184.006722; Professional Engineering Group 20-56855K

USER NAME =		DESIGNED - M.C.	REVISED -
		CHECKED - B.B.	REVISED -
PLOT SCALE =		DRAWN - B.B.	REVISED -
PLOT DATE =		CHECKED - M.C.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	(12B-15D)BR	DOUGLAS	__	__
		CONTRACT NO. 70545		
	ILLINOIS	FED. AID PROJECT		

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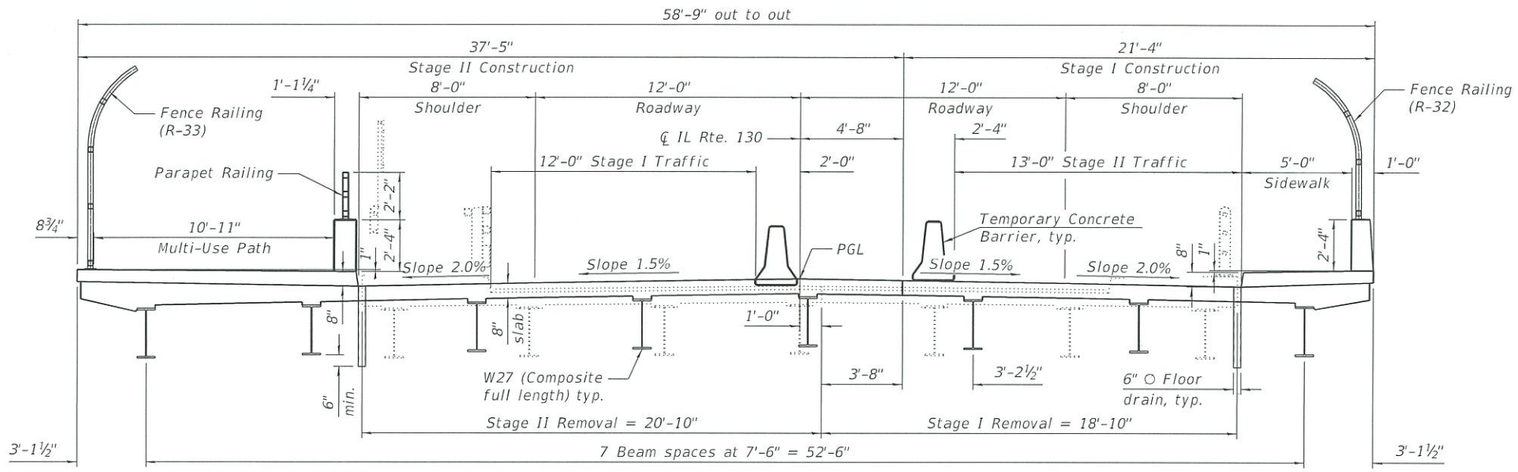
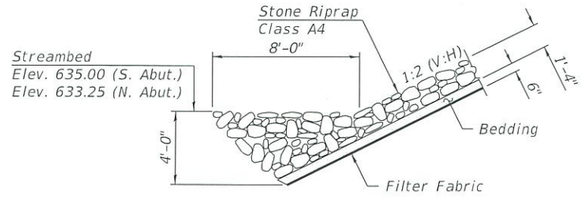
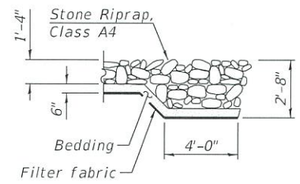


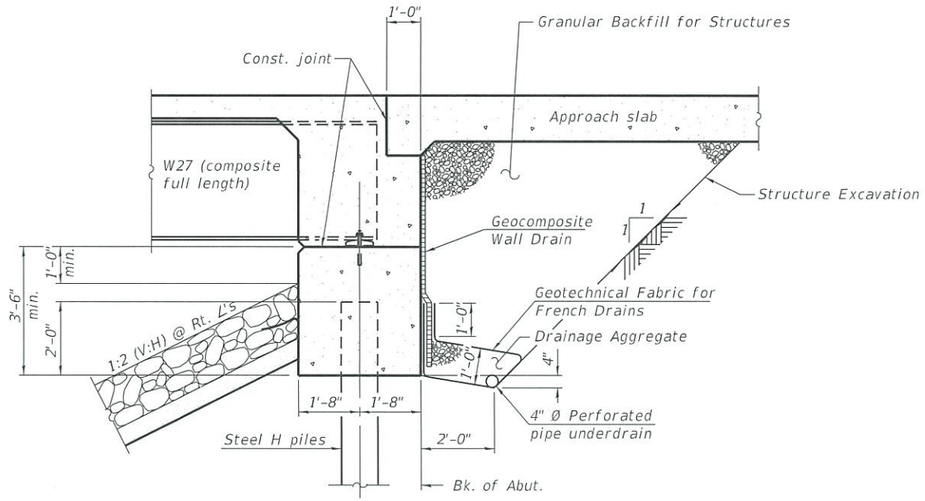
CROSS SECTION
(Looking North)



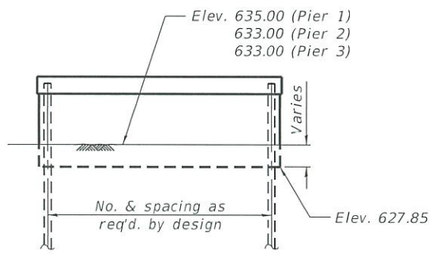
SECTION A-A



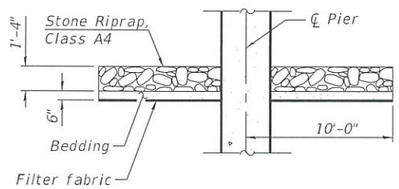
SECTION B-B



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



PIER SKETCH



SECTION C-C

WATERWAY INFORMATION

Drainage Area = 121 Sq. Mi.			Low Grade Elev. 647.59 @ Sta. 273+00						
Flood	Freq. Yr.	Q C.F.S.	Opening Ft² Exist.	Opening Ft² Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	3898	1269	2145	646.2	0.2	0.1	646.4	646.3
Design	50	5934	1269	2145	648.2	0.2	0.1	648.4	648.3
Base	100	6749	1269	2145	649.3	0.1	0.1	649.4	649.4
Overtopping Existing	20	4832	1269	-	646.9	0.3	-	647.2	-
Overtopping Proposed	30	5322	-	2145	647.3	-	0.1	-	647.4

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.) S. Abut.	Pier 1	Pier 2	Pier 3	N. Abut.	Item 113
Q50 (max)	640.33	611.40	611.40	612.40	640.33	5
Design	640.33	611.40	611.40	612.40	640.33	
Check	640.33	611.40	611.40	612.40	640.33	

APPROVED
AUG 17 2018
AS A BASIS FOR
PREPARATION OF DETAILED PLANS

DETAILS
IL ROUTE 130
OVER EMBARRAS RIVER
FAP ROUTE 808 - SECTION (12B-15D)BR
DOUGLAS COUNTY
STATION 272+91.00
STRUCTURE NO. 021-0063

Kaskaskia Engineering Group, LLC
PROFESSIONAL REGISTRATIONS: Illinois Professional Design Firm; Professional Engineering Group
LICENSE NO.: 184.008733; 20-5610586

USER NAME =	DESIGNED - M.C.	REVISED -
	CHECKED - B.B.	REVISED -
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PLOT DATE =	CHECKED - M.C.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	(12B-15D)BR	DOUGLAS		
		CONTRACT NO. 70545		
	ILLINOIS	FED. AID PROJECT		

FILE NAME: P:\16-1119.04 IL 130 Bridge\10_CAD\CADD Sheets\0210063-70545-TSL-002.dgn
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