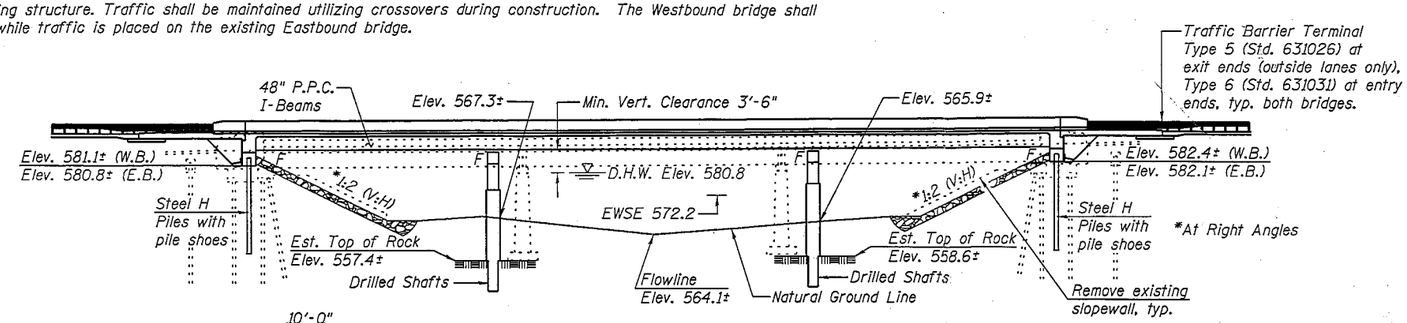
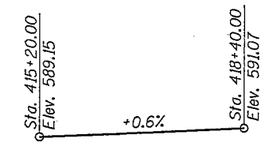
Bench Mark: Chiseled square on southeast parapet wall of SN 037-0025. Elev. 589.855

Existing Structures: S.N. 037-0025 (E.B.) & S.N. 037-0026 (W.B.) built in 1965 as F.A.I Route 80, Section 37-1B-1 at Station 416+78.30. The existing dual structures are 3-span with PPC I-Beams on open abutments on steel piles and concrete piers on spread footing, 211'-10" bk. to bk. abutments, 36'-0" out to out deck with 14°-41' left ahead skew. The Contractor shall remove and replace the existing structure. Traffic shall be maintained utilizing crossovers during construction. The Westbound bridge shall be constructed first while traffic is placed on the existing Eastbound bridge.

No Salvage.

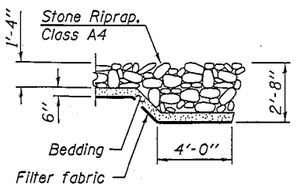


ELEVATION

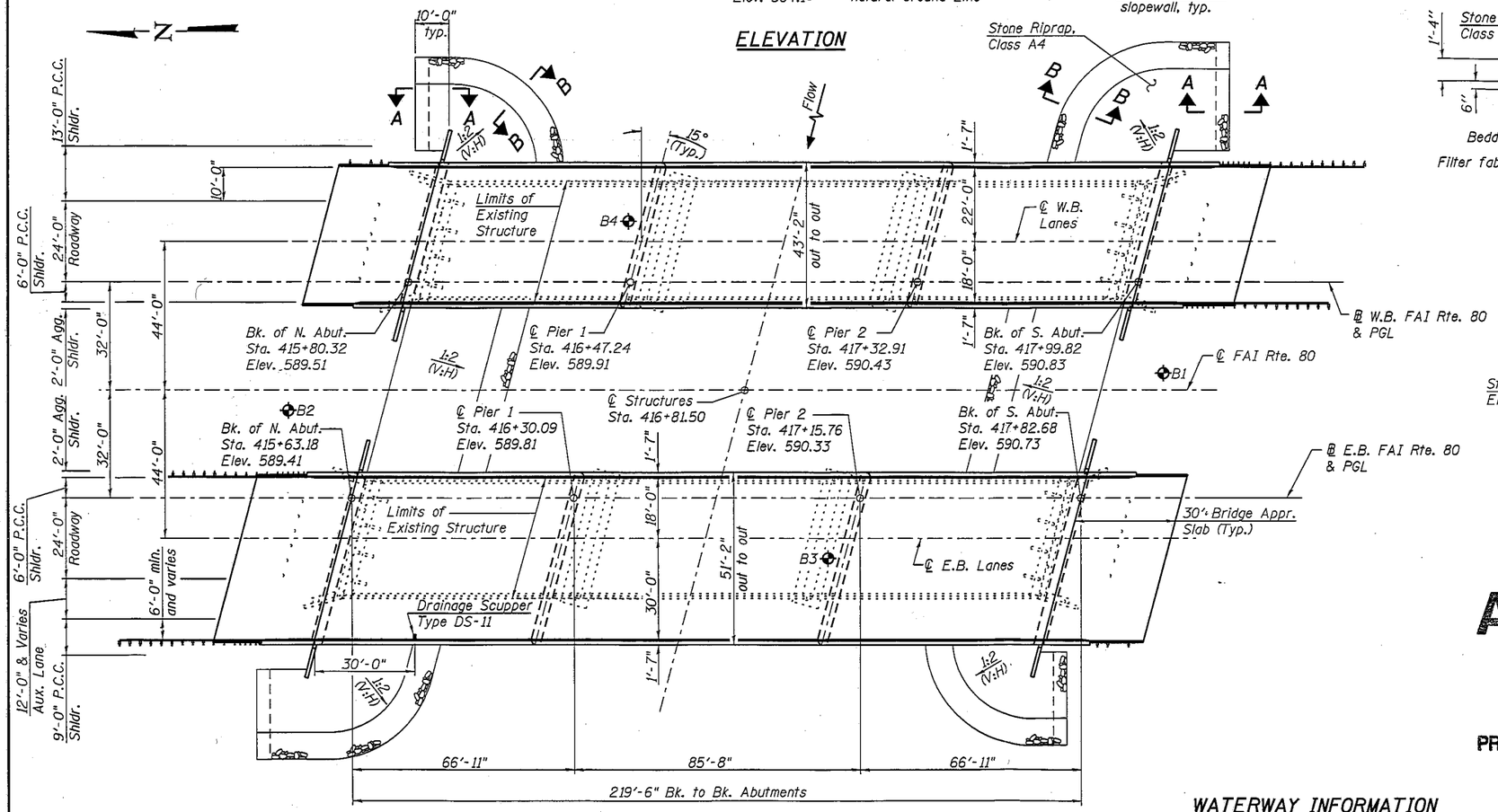


PROFILE GRADE

(along inside E.O.P. FAI Rte. 80)



SECTION A-A



PLAN

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

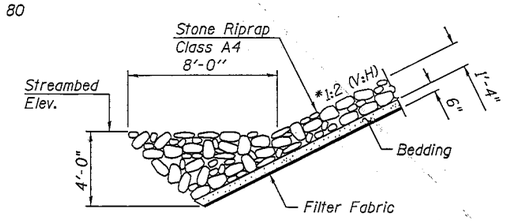
f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" ϕ low lax. strands)
fpbt = 201,960 psi (1/2" ϕ low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.062 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.099 g
Soil Site Class = C

HIGHWAY CLASSIFICATION

F.A.I. Rte. 80 - Interstate 80
Functional Class: Interstate
ADT: 10700 (2007); 16500 (2022)
ADTT: 4060 (2007); 5940 (2022)
DHV: 1220
Design Speed: 70 m.p.h.
Posted Speed: 65 m.p.h.
Two-Way Traffic
Directional Distribution: 50/50

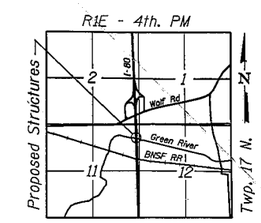


SECTION B-B

APPROVED

APR 22 2013

AS A BASIS FOR PREPARATION OF DETAILED PLANS



LOCATION SKETCH

DESIGN SCOUR ELEVATION TABLE

	Design Scour Elevation (ft.)					
	N. Abut. (E.B.)	N. Abut. (W.B.)	Pier 1	Pier 2	S. Abut. (E.B.)	S. Abut. (W.B.)
Q_{100}	580.8	581.1	560.2	560.0	582.1	582.4
Q_{500}	580.8	581.1	560.4	560.2	582.1	582.4

WATERWAY INFORMATION

Drainage Area = 1060 sq. mi. Existing Low Grade Elev. 586.67 @ Sta. 415+46 Proposed Low Grade Elev. 591.14 @ Sta. 415+50

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	10508	2109	2215	580.1	0.8	0.8	580.9	580.9
Design	50	13368	2237	2350	580.8	0.7	0.7	581.5	581.5
Base	100	14524	2292	2408	581.1	0.7	0.7	581.8	581.8
Max. Calc.	500	16732	2366	2486	581.5	0.7	0.6	582.2	582.1

10 Year Velocity through Exist. Bridge = 3.26 fps 10 Year Velocity through Prop. Bridge = 3.10 fps

GENERAL PLAN & ELEVATION
I-80 OVER GREEN RIVER
FAI RTE 80 SECTION 37-1BR-1
HENRY COUNTY
STATION 416+81.50
S.N. 037-0179 (E.B.) S.N. 037-0180 (W.B.)

LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois

USER NAME =	DESIGNED - TBP	REVISED
FILE NAME =	CHECKED - MTH	REVISED
PLOT SCALE =	DRAWN - AJF	REVISED
PLOT DATE =	CHECKED - MTH	REVISED

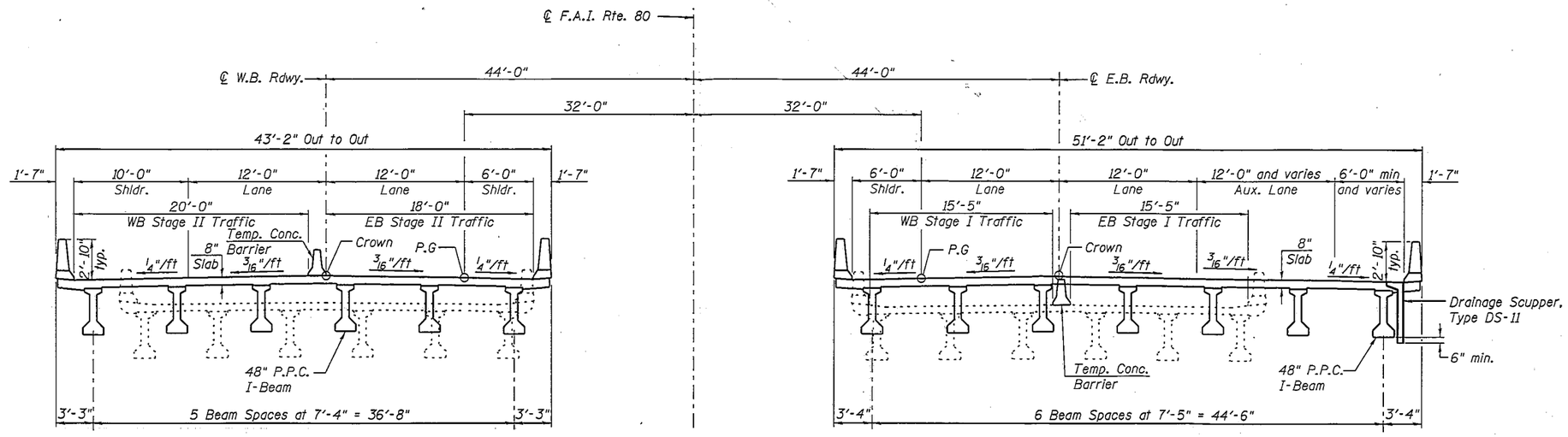
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

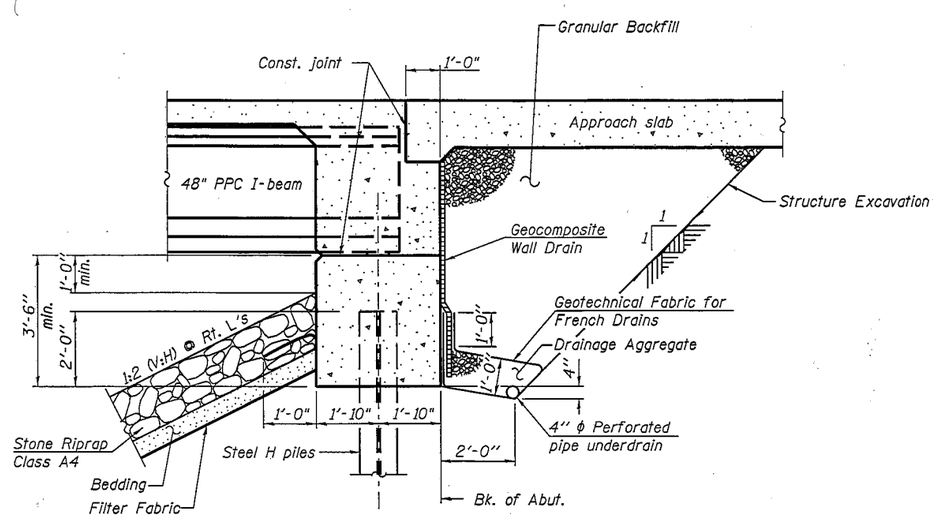
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY		

CONTRACT NO. 64B78

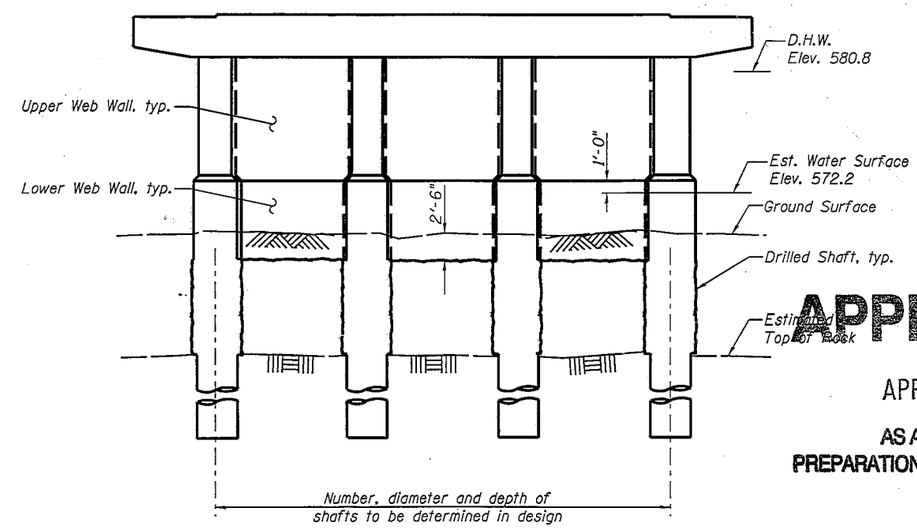
ILLINOIS FED. AID PROJECT



CROSS SECTION
(Looking South)



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



PIER SKETCH
Cofferdam (Type 2) required for construction of piers.

APPROVED

APR 22 2013

AS A BASIS FOR PREPARATION OF DETAILED PLANS

DETAILS
I-80 OVER GREEN RIVER
FAI RTE 80 SECTION 37-1BR-1
HENRY COUNTY
STATION 416+81.50
S.N. 037-0179 (E.B.) S.N. 037-0180 (W.B.)

LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - TBP	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	FILE NAME =	CHECKED - MTH	REVISED			80	37-1BR-1	HENRY		
	PLOT SCALE =	DRAWN - AJF	REVISED					CONTRACT NO. 64B78		
	PLOT DATE =	CHECKED - MTH	REVISED		SHEET NO. 2 OF 2 SHEETS			ILLINOIS FED. AID PROJECT		