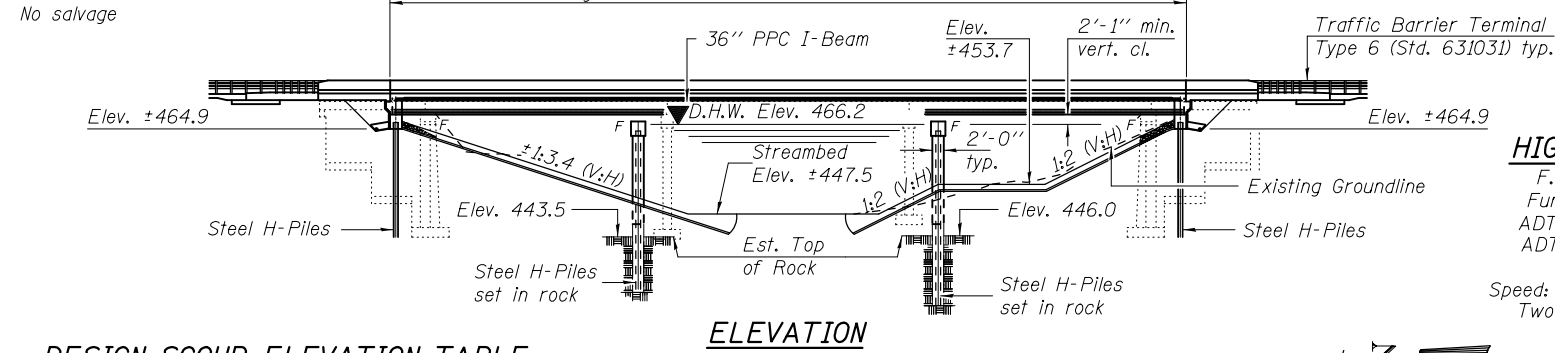


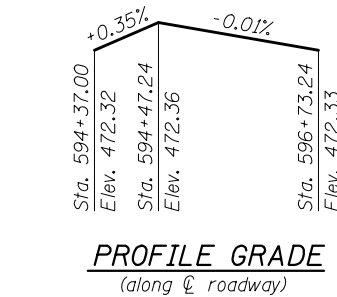
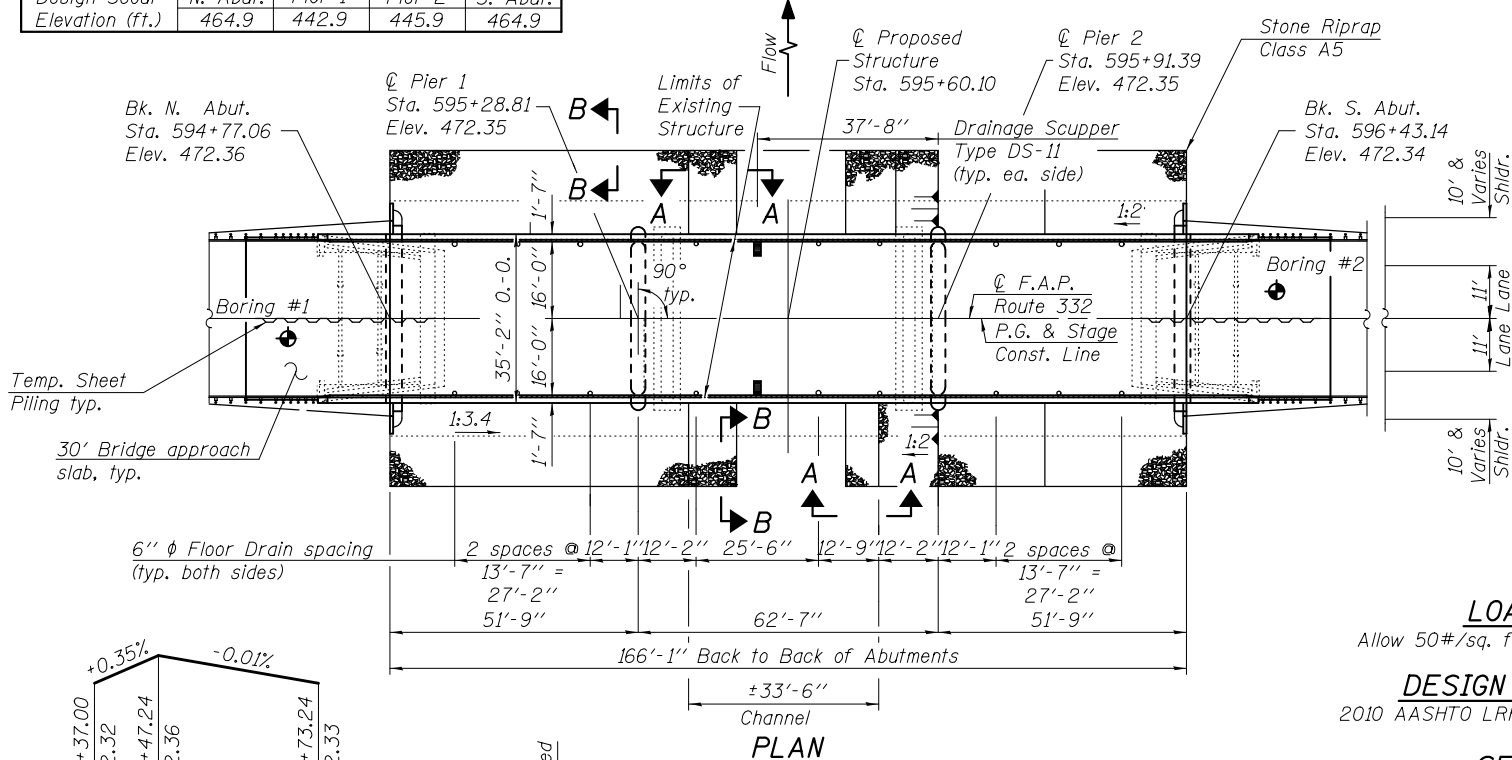
Bench Mark: 4628-43 Chiseled Square on the Northwest wingwall S.N. 012-0016. Station 594+84.40 Rt. 16.7' Elevation = 468.75'.

Existing Structure: S.N. 012-0016 was built in 1924 under S.B.I. Rte. 1, Section 24 B & C-1 at Sta. 595+94. In 1971 the bridge was widened, the superstructure was replaced with 3 simple span PPC deck beams and 2 new piers were added under S.B.I. Rte. 1, Section 24BR at Sta. 595+94. The substructure consists of closed abutments founded on timber piles and solid piers on spread footings. The Bk. to Bk. dimension measures 153'-4" while the 0-0. width measures 33'-0". The structure is to be replaced using stage construction.

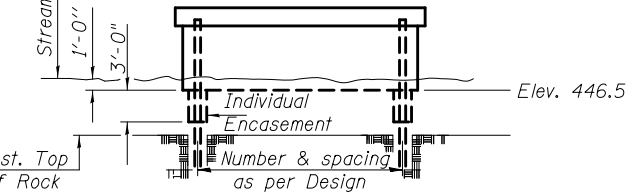


DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	N. Abut.	Pier 1	Pier 2	S. Abut.
	464.9	442.9	445.9	464.9



PROFILE GRADE (along Q roadway)



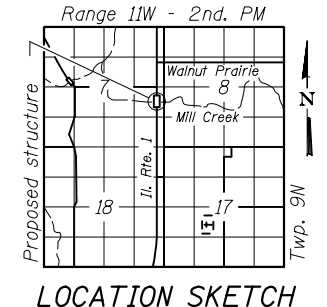
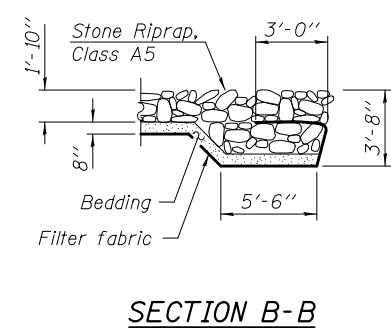
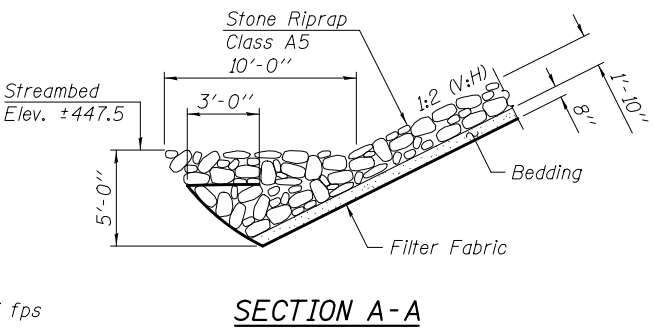
WATERWAY INFORMATION

Exist. Low Grade Elev. 470.8 ft. @ Sta. 599+00

Prop. Low Grade Elev. 470.8 ft. @ Sta. 599+00

Flood	Freq. Yr.	Q	Opening Sq. Ft.			Head - Ft.		Headwater El.	
			Exist.	Prop.	Nat.	Exist.	Prop.	Exist.	Prop.
Design	10	6352	1097	1113	461.5	0.4	0.4	461.9	461.9
Base	50	9417	1737	1777	466.2	0.5	0.5	466.7	466.7
Max. Calc.	100	10688	1895	1949	467.3	0.5	0.5	467.8	467.8
	500	13671	2115	2035	469.1	0.7	1.1	469.8	470.2

10 Year Velocity through Existing Bridge = 5.8 fps 10 Year Velocity through Prop. Bridge 5.7 fps



GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 1 OVER MILL CREEK
F.A.P. RTE. 332 - SEC. (24BR-1)BR
CLARK COUNTY
STATION 595+60.10
STRUCTURE NO. 012-0071

HIGHWAY CLASSIFICATION

F.A.P. Rte. 332 - Il. Rte. 1
Functional Class: Other Principal Arterial
ADT: 2,500 (2003); 2,700 (2023)
ADTT: 468 (2003) 505 (2023)
DHW: 250
Speed: 55 m.p.h. (posted); 55 m.p.h. (design)
Two-way traffic Directional Dist. 50:50

DESIGN STRESSES

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

PRECAST PRESTRESSED UNITS
 $f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $f_{pu} = 270,000$ psi (1/2" φ low lax. strands)
 $f_{pbt} = 201,960$ psi (1/2" φ low lax. strands)

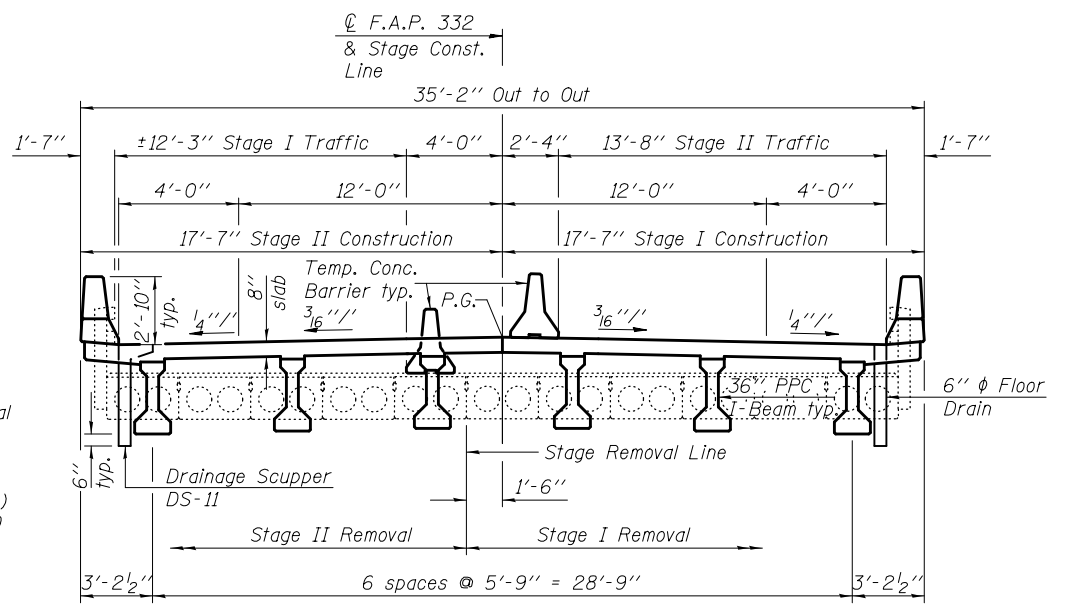
LOADING HL 93

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

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.18g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.35g
Soil Site Class = D



CROSS SECTION (Looking South)

