

B.M.: Chisled box on top of S.E. wingwall of bridge. Elevation 669.64

Existing Structure: SN 049-0027 built as SBI Route 172, Section 128 in 1928 and rehabilitated in 1976. The structure is a simple span with precast concrete channel beams and closed type abutments. Skewed 24 degrees right hand forward 32'-10" Bk.-Bk. abutments and 41'-3" O.-O. deck.

Scope of Work: Existing superstructure is to be removed. Existing substructure is to be removed to 1 ft. below the existing groundline. A wider and longer new substructure is to be built. Traffic to be maintained using stage construction.

No Salvage.

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 and 2009 Interims

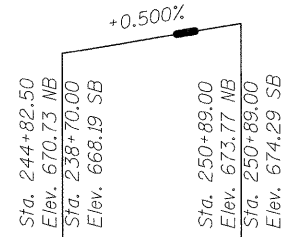
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50W)

SEISMIC DATA

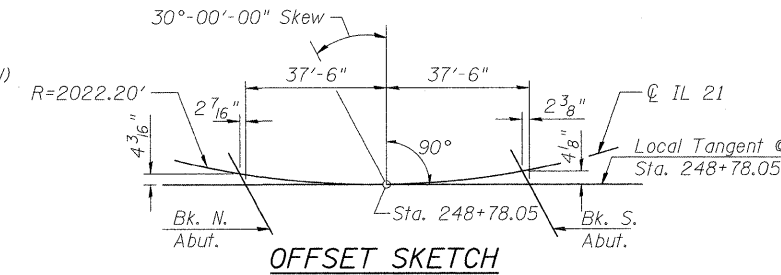
Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.077g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.128g
 Soil Site Class = D



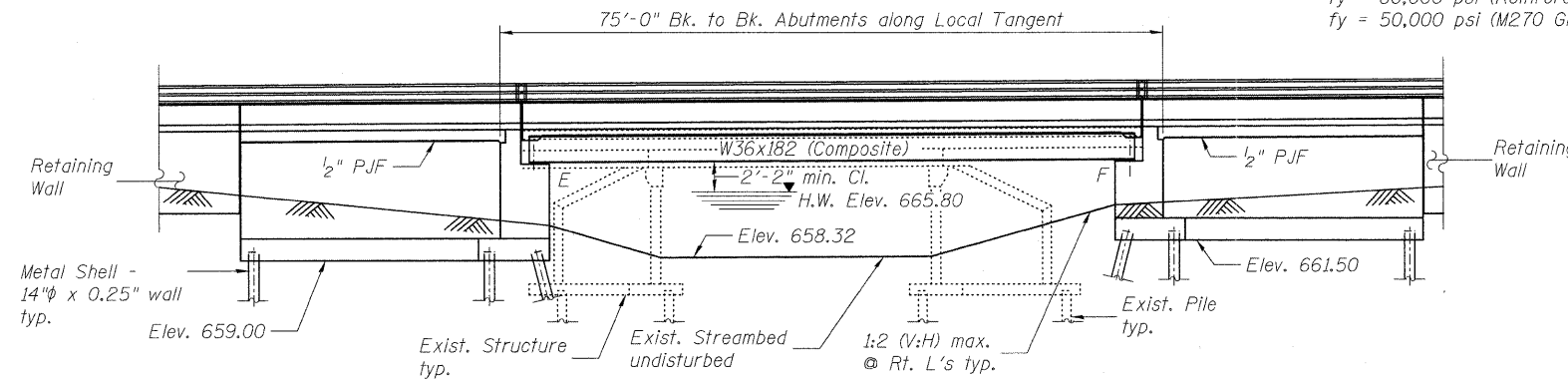
PROFILE GRADE

CURVE DATA

CL IL 21
 $\Delta = 46^\circ-11'-38"$
 $D = 2^\circ-50'-00"$
 $L = 862.41'$
 $T = 1,630.37'$
 $E = 176.22'$
 $R = 2,022.20'$
 $S.E. = 2.90\%$
 P.C. Sta. = 243+66.70
 P.T. Sta. = 259+97.07
 P.I. Sta. = 252+29.11



OFFSET SKETCH



ELEVATION

STATION 248+80
 BUILT BY
 STATE OF ILLINOIS
 F.A.P. 330 SEC. 128R-3
 LOADING HL-93
 STRUCTURE NO. 049-0199

NAME PLATE

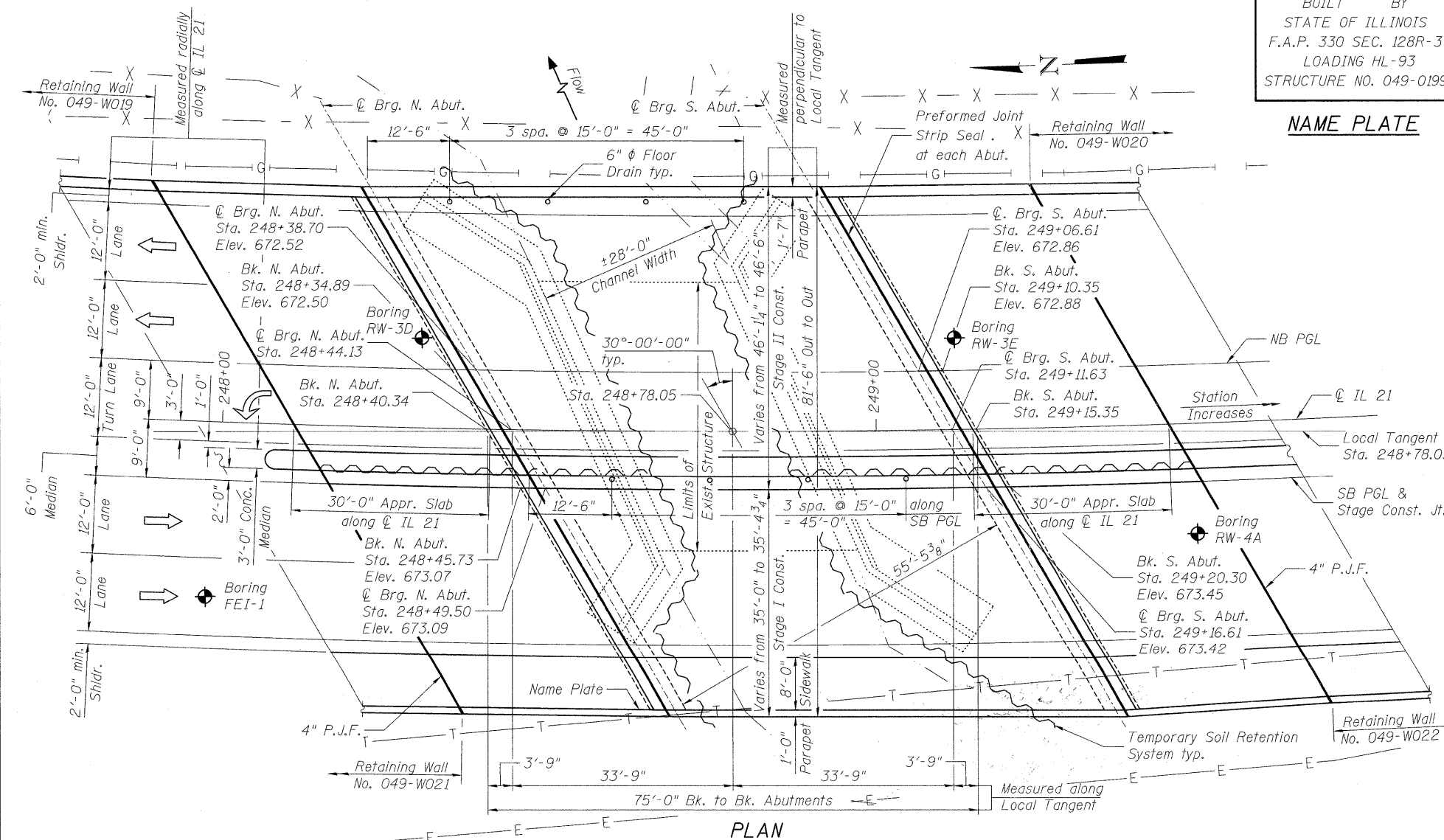
Drainage Area = 12.1 Sq. Mi. Low Grade Elev. 668.50 @ Sta. 238+25.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	535	134	213	664.2	0.4	0.0	664.6	664.2
Base	50	1087	177	301	665.8	1.3	0.3	667.1	666.1
Overtopping	100	1408	228	336	666.4	1.7	0.4	668.1	666.8
Max. Calc.	>500	2400	228	432	667.7	2.1	0.7	669.8	668.5

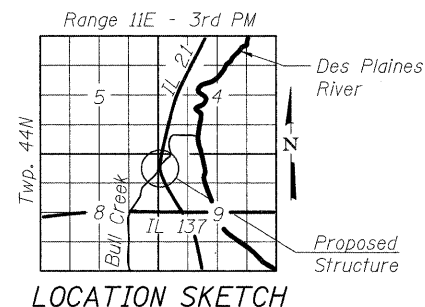
WATERWAY INFORMATION

DESIGN SCOUR ELEVATION

N. Abut.	S. Abut.
Elev. 654.00	Elev. 656.00



PLAN



LOCATION SKETCH



JIE YANG
 EXPIRATION DATE: 11/30/2012
 DATE: 12/20/2010
 DRAWING NO. SHEETS 1 TO 43

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
 J. Carl King
 ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN AND ELEVATION
ILLINOIS ROUTE 21 OVER BULL CREEK
 F.A.P. 330 SEC. 128R-3
 LAKE COUNTY
 STATION 248+78.05
 STRUCTURE NO. 049-0199



FILE NAME = 0490199-60953-001.LGP.dgn	USER NAME =	DESIGNED - JY	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 049-0199	F.A.P. RTE. = 330	SECTION = 128R-3	COUNTY = LAKE	TOTAL SHEETS = 518	SHEET NO. = 243
PLOT SCALE =	DRAWN - JY	REVISD -	CONTRACT NO. = 60953							
PLOT DATE = 12/20/2010	CHECKED - WPM	REVISD -	ILLINOIS FED. AID PROJECT							