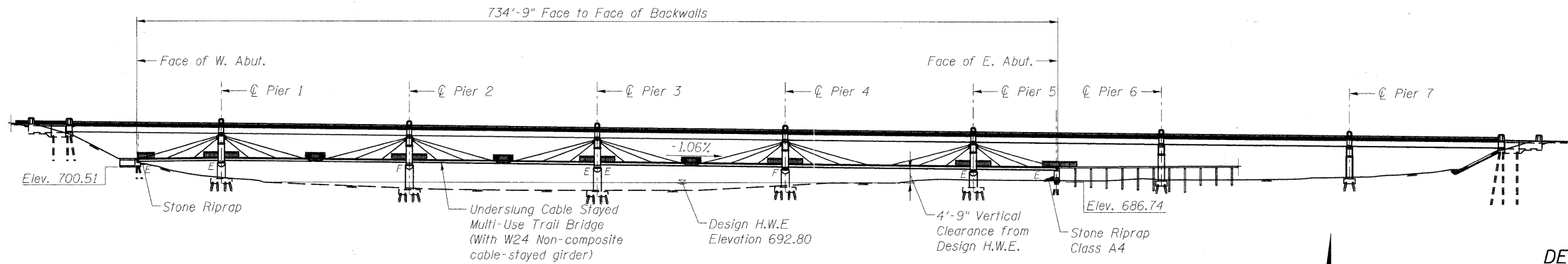
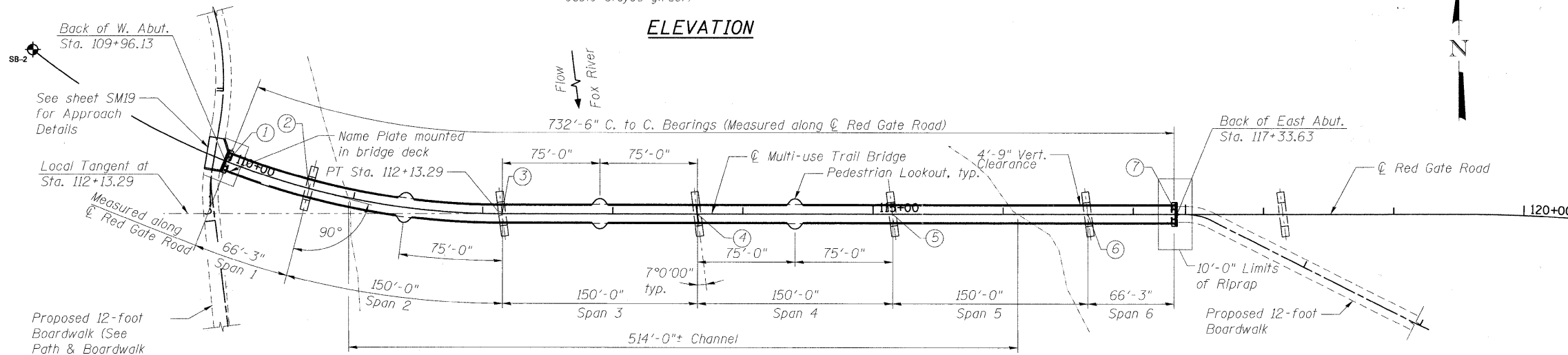


Benchmark: Steel Rod at GPS Monument KAN31 2B (Elev. 754.27)
 Existing Structure: None
 Salvage: None

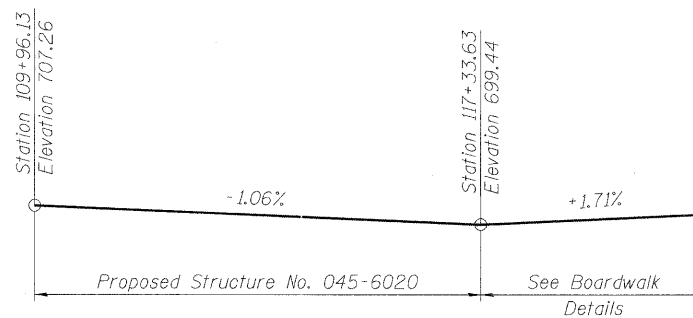


ELEVATION



PLAN

* For soil borings, see Red Gate Road over Fox River (SN 045-6024) plans.



PROFILE GRADE
(Along ϕ of Multi-Use Trail)

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications
 2009 AASHTO Guide Specifications for the Design of Pedestrian Bridges

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
 f_y = 60,000 psi (Reinforcement)
 f_y = 50,000 psi (M270 Grade 50)
 Breaking Strength per ASTM A586 - Galvanized Structural Strand Grade 1, Class C Coating (Bridge Cable)

LOADING H10 & PEDESTRIAN

Vehicle: H-10 Truck (20,000 lb. Vehicle)
 Pedestrian: 90 psf
 FWS = 0 psf

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.089g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.152g
 Soil Site Class = B

DATA POINTS

①	ϕ Brg. W. Abut. Sta. 109+98.75 Elev. 707.23	⑤	ϕ Pier 4 Sta. 115+15.00 Elev. 701.76
②	ϕ Pier 1 Sta. 110+65.00 Elev. 706.53	⑥	ϕ Pier 5 Sta. 116+65.00 Elev. 700.17
③	ϕ Pier 2 Sta. 112+15.00 Elev. 704.94	⑦	ϕ Brg. E. Abut. Sta. 117+31.25 Elev. 699.47
④	ϕ Pier 3 Sta. 113+65.00 Elev. 703.35		

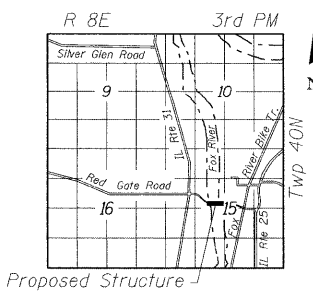
WATERWAY INFORMATION

Drainage Area = 1,540 sq. mi. Low Grade Elev. 724.45 @ Sta. 116+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	7,535	4,932.62	4,582.56	690.91	N/A	0.07	N/A	690.98	
Base	50	11,225	6,614.41	6,145.64	692.72	N/A	0.08	N/A	692.80	
Overtopping	100	12,250	7,026.82	6,536.23	693.15	N/A	0.08	N/A	693.23	
Max. Calc.	500	16,875	8,773.78	8,104.34	694.89	N/A	0.08	N/A	694.97	

CURVE DATA

(RDGTCUR2)
 Δ = 42°06'27" (LT)
 T = 221.34'
 L = 422.58'
 E = 41.13'
 R = 575.00'
 SE RUN = 82.00'
 P.C. = Sta. 107+90.71
 P.T. = Sta. 112+13.29
 P.I. = Sta. 110+12.06



LOCATION SKETCH

STATION 113+65.00
 BUILT 2012 BY
 CITY OF ST. CHARLES
 SEC. 04-00092-00-BR
 LOADING H10
 STR. NO. 045-6020

NAME PLATE
 See Std. 515001

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADINGS SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

EXPIRATION DATE 11-30-12
 DATE OCTOBER 20, 2011
 ALFRED BENESCH & COMPANY

GENERAL PLAN AND ELEVATION
MULTI-USE TRAIL BRIDGE OVER FOX RIVER
"PUBLIC WATER"
SEC. 04-00092-00-BR
KANE COUNTY
STATION 113+65.00
STRUCTURE NO. 045-6020

benesch
 engineers • scientists • planners
 Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10092

FILE NAME = 0456020_01.GP&E.dgn	USER NAME = akeeschall	DESIGNED - ABC	REVISED -
PLOT SCALE =	PLOT DATE = 11/10/2011	CHECKED - AJK	REVISED -
		DRAWN - RMG	REVISED -
		CHECKED - HMA	REVISED -



CITY OF ST. CHARLES

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 045-6020 MULTI-USE TRAIL BRIDGE OVER FOX RIVER

SHEET NO. SMI OF SM19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	04-00092-00-BR	KANE	440	219
			CONTRACT NO. 63650	
ILLINOIS FED. AID PROJECT				

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