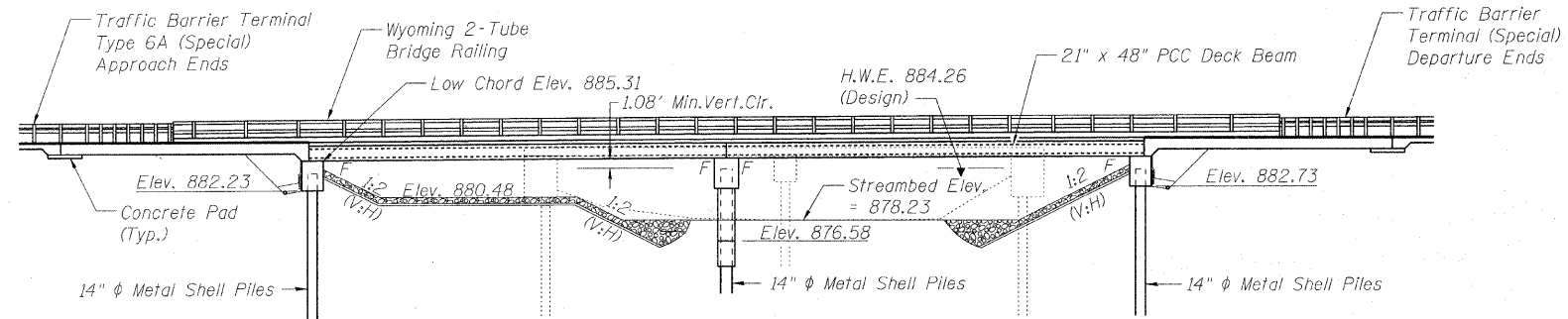
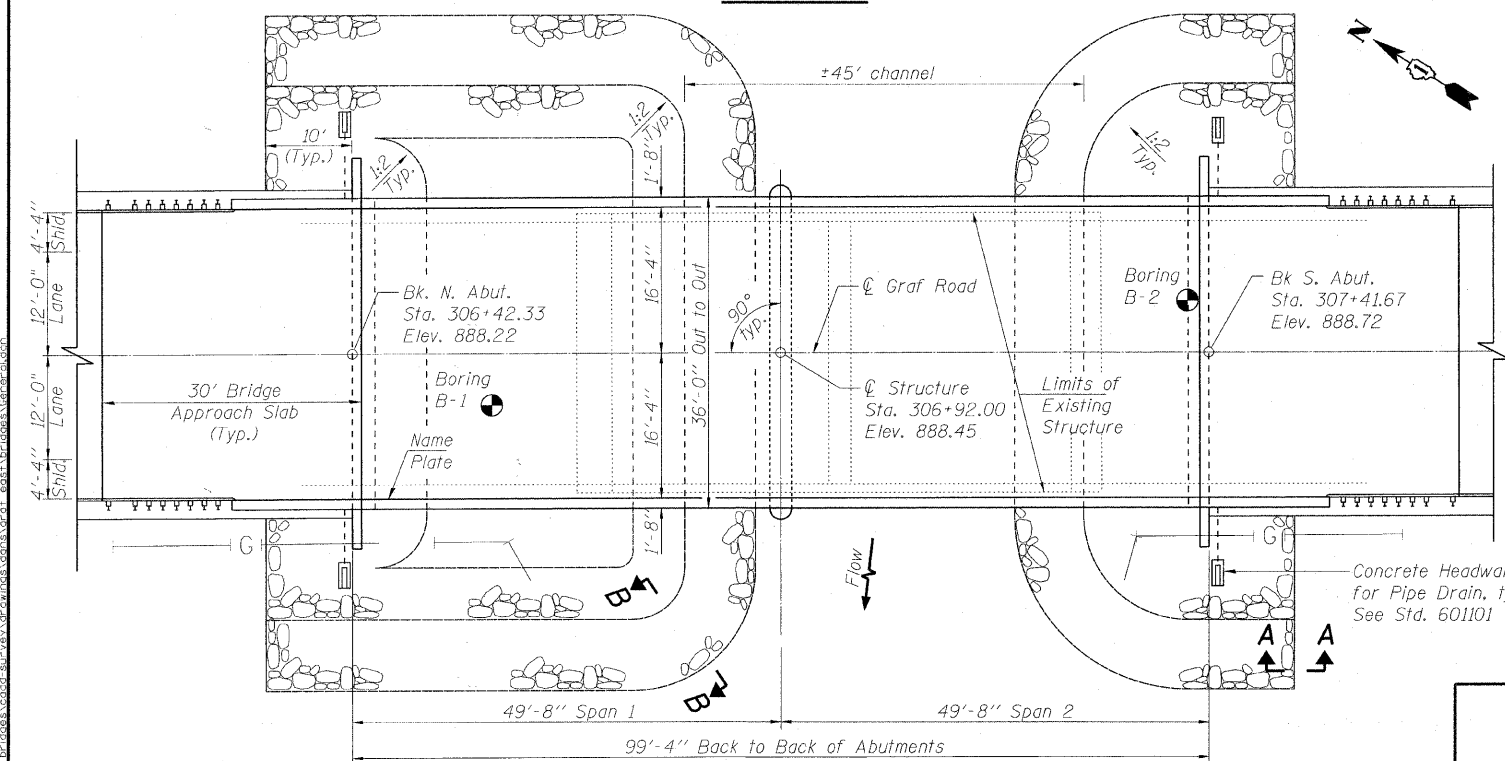


Benchmark: Spike in power pole on northerly side of Graf Road (on curve) approx. 200 ft. east of the south bridge abutment over Lawrence Creek. Elev. 885.79
 Existing Structure: S.N. 056-3111 was built in 1970. (Bridge 105)
 The structure is 30'-4" wide with 1'-0" curbs. The two-span bridge length measures 62'-7" back-to-back of abutments. The superstructure is made up of 11" precast, prestressed concrete deck beams. The substructure consists of 12" metal shell piles at the pier and the abutments. Existing structure to be removed and replaced with proposed structure. Traffic will be detoured during construction.
 Existing Name Plate to be salvaged. See Roadway General Notes.



ELEVATION



PLAN

WATERWAY INFORMATION

Drainage Area = 17.21 sq. mi. Ex. Low Grade Elev. = 884.97 @ Sta. 304+42
 Pr. Low Grade Elev. = 885.18 @ Sta. 304+42

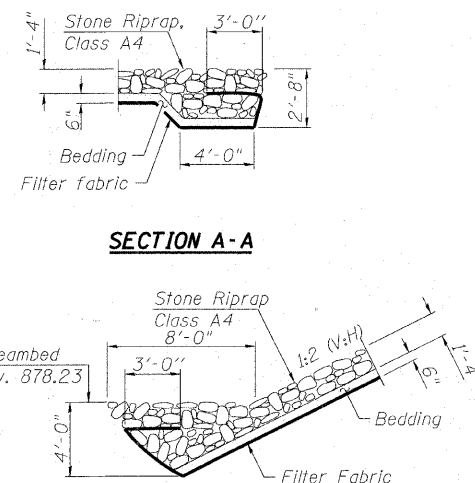
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	1446	260	404	884.01	0.98	0.65	884.99	884.66	
	20	1764	282	428	884.26	1.43	0.72	885.69	884.98	
	50	2195	322	458	884.55	1.43	1.10	885.98	885.65	
Base	100	2498	322	475	884.74	1.47	1.29	886.21	886.03	
Max. Calc.	500	3239	322	494	885.13	1.54	1.27	886.67	886.40	

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	N Abut.	Pier	S Abut.
	882.23	873.58	882.73

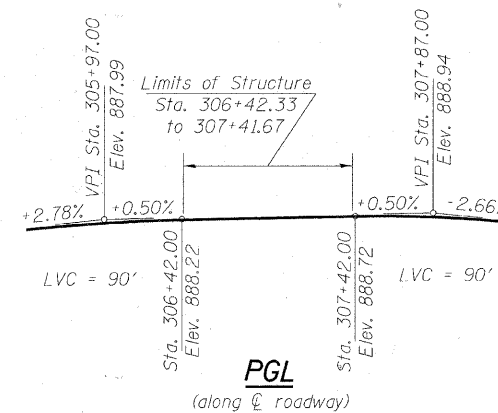
LAWRENCE CREEK
 BUILT 20__ BY
 McHENRY COUNTY
 DIVISION OF TRANSPORTATION
 SEC. 06-00322-00-BR
 TWP. RT. 37 STA. 306+92.00
 STR. NO. 056-3182 LOADING HL-93

NAME PLATE
 See Std. 515001



SECTION A-A

SECTION B-B



LOADING LRFD 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)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi

f'ci = 5,000 psi

f_{pu} = 270,000 psi (1/2" dia. low lax strands)

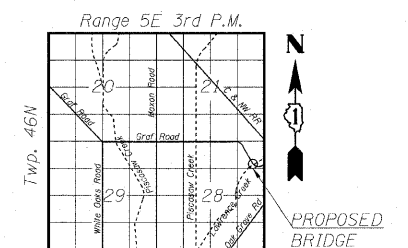
f_{pbi} = 201,960 psi (1/2" dia. low lax strands)

SEISMIC DATA

LRFD Seismic Performance Zone (LRFD SPZ) = 1
 Design Spectral Acceleration @ 1.0 sec. (SD1) = 0.15g
 Design Spectral Acceleration @ 2.0 sec. (SDS) = 0.05g
 Soil Site Class - D

CURVE DATA

Δ = 81° 40' 43"
 D = 36° 57' 54"
 R = 155.00'
 T = 133.98'
 L = 220.96'
 E = 49.88'
 S.E. = 7.5% (WB) 2.0% (EB)
 P.C. STA = 308+25.90
 P.T. STA = 310+46.86



LOCATION SKETCH

GENERAL PLAN & ELEVATION
GRAF ROAD OVER LAWRENCE CREEK
SEC. 06-00322-00-BR
McHENRY COUNTY
STATION 306+92.00
STRUCTURE NO. 056-3182

DATE: 2/7/11
 LICENSE EXPIRES 11/30/12

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.

COPYRIGHT © 2010 BY BAYFISHER & WOODMAN, INC.
 ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPERTY OF BAYFISHER & WOODMAN, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM BAYFISHER & WOODMAN, INC.
 LICENSE NO. 081-006358 EXPIRES 11/30/12
 2/4/2011 10:50 AM

FILE NAME =	USER NAME =	DESIGNED - BLB	REVISED - PER MCDOT 12/31/10	McHENRY COUNTY DIVISION OF TRANSPORTATION GRAF ROAD BRIDGE OVER LAWRENCE CREEK	GENERAL PLAN STRUCTURE NO. 056-3182 SHEET NO. 1 OF 19 SHEETS	TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - BAB	REVISED -			0037	06-00322-00-BR	McHENRY	54	24
		DRAWN - BCD	REVISED -			C-91-358-06		CONTRACT NO. 63569		
		CHECKED - BLB	REVISED -			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		BROS-0001(683)		