

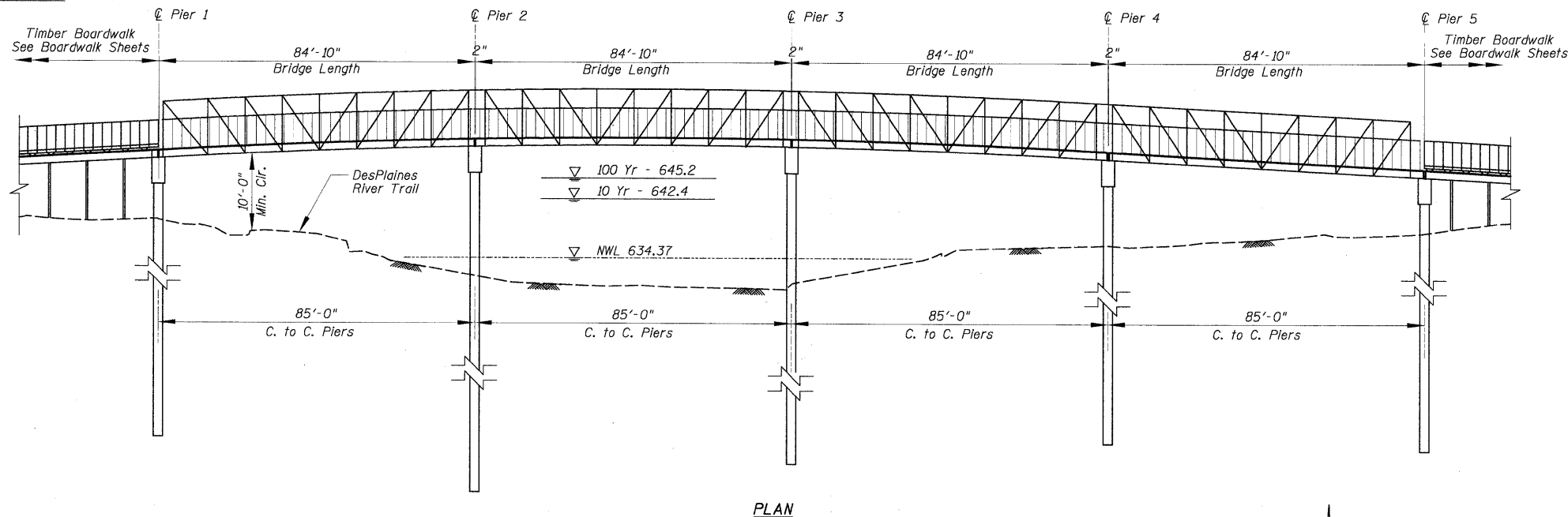
Bench Mark: LC5-45BR - Square Cut on NW Corner of Parapet Wall at NW Corner of Bridge Approach of Deerfield Road Over Des Plaines River. (Lake County D.O.T. Bench Mark) Elev. 649.72

Existing Structure: None

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL

DESCRIPTION	UNIT	QUANTITY
Concrete Structures	Cu. Yd.	47.6
Protective Coat	Sq. Yd.	200
Reinforcement Bars	Lbs.	12950
Reinforcement Bars, Epoxy Coated	Lbs.	7300
Drilled Shaft In Soil	Cu. Yd.	109
Pedestrian Truss Superstructure	Sq. Ft.	4084



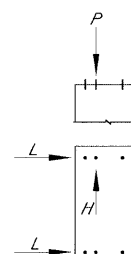
PLAN

INDEX OF SHEETS

- S1 General Plan And Elevation
- S2 General Notes
- S3 Superstructure Details
- S4 Pier 1 Details
- S5 Pier 2 Details
- S6 Pier 3 Details
- S7 Pier 4 Details
- S8 Pier 5 Details
- S9 Soil Borings
- S10 Soil Borings

BRIDGE REACTION TABLE

ITEM	P (LBS) BRG.	H (LBS) ABUTMENT	L (LBS)
DEAD LOAD	10,600	---	---
UNI. LIVE LOAD	21,700	---	---
VEHICLE LOAD	6,000	---	---
UPLIFT WIND 20 PSF	-8,300	---	---
WIND	±2,410	8,565	---
THERMAL	---	---	3,710



All Footings Have Been Designed Based On The Bridge Reactions Shown
 "P"- Vertical Load Per Base Plate
 "H"- Horizontal Load Per Pier (2 on Piers 2, 3, and 4)
 "L"- Longitudinal Load Per Base Plate

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims
 AASHTO "Guide Specifications For Design of Pedestrian Bridges"

LOADING H6 (12000#)

Distributed Live Load = 85 psf

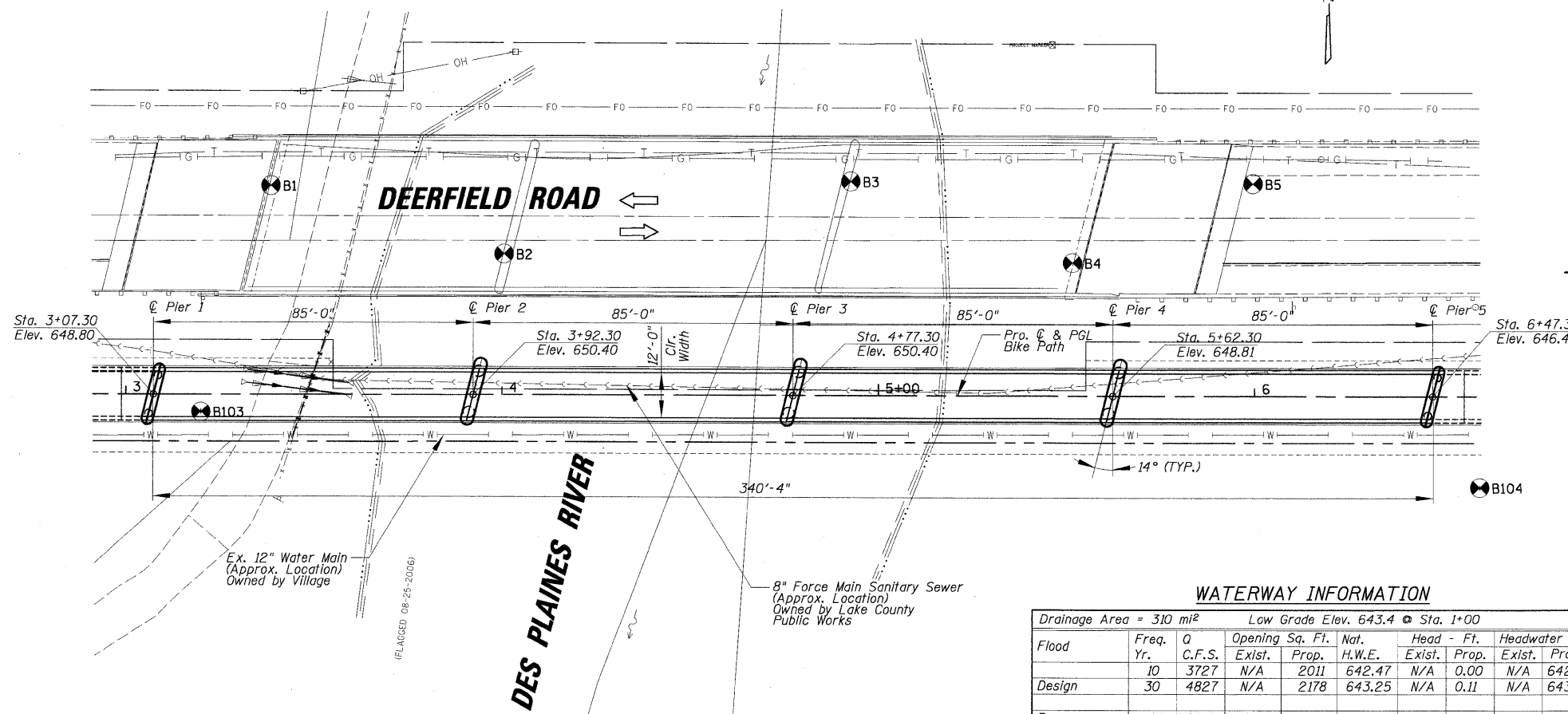
DESIGN STRESSES

FIELD UNITS

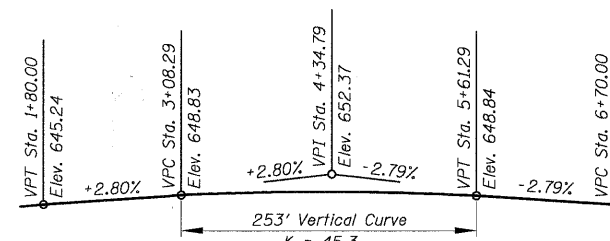
$f'_c = 4,000$ psi (Drilled Shafts)
 $f'_c = 3,500$ psi (Concrete Structures)
 $f_y = 60,000$ psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 Sec. (SD1) = 0.06g
 Design Spectral Acceleration at 0.2 Sec. (SD3) = 0.12g
 Soil Site Class = C



ELEVATION

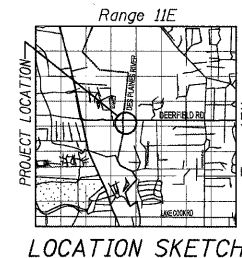


PROPOSED PROFILE

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 Requirements Of The Current "AASHTO Standard Specification For Highway And Bridges".



11-30-09
 MAJID MOBASSERI
 ILLINOIS REGISTRATION No. 081-005058
 STRUCTURAL ENGINEER
 EXPIRATION DATE: 11/30/10



GENERAL PLAN AND ELEVATION
 DEERFIELD ROAD BIKE PATH
 OVER DES PLAINES
 SEC. 04-00038-03-BR
 LAKE COUNTY
 STATION 4+77.30
 STRUCTURE NO.

WATERWAY INFORMATION

Drainage Area = 310 mi² Low Grade Elev. 643.4 @ Sta. 1+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E. Exist.	Prop.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
10	3727	N/A	2011	642.47	N/A	0.00	N/A	642.47		
Design	30	4827	N/A	2178	643.25	N/A	0.11	N/A	643.36	
Base	100	6018	N/A	3751	645.25	N/A	0.11	N/A	645.36	
Overtopping	32									
Max. Calc.	500	7511	N/A	5410	646.90	N/A	0.26	N/A	647.16	

DESIGN SCOUR ELEVATION TABLE

Flood Frequency/ Scour Elevation	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5
100 year Scour Elevation (ft.)	627.2	622.7	621.4	624.3	625.5
500 year Scour Elevation (ft.)	624.3	620.0	618.8	621.5	622.6

SHEET NO.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S-1	1257	04-00038-03-BR	LAKE	44	20
CONTRACT NO. 63408					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

DESIGNED	200
CHECKED	
DRAWN	
CHECKED	

EXAMINED
 PASSED
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES