

Bench Mark: BM 29C Monument at NW corner of Wolf Road and Fullerton Avenue and 48 feet west of Wolf Road. Elev. 656.28

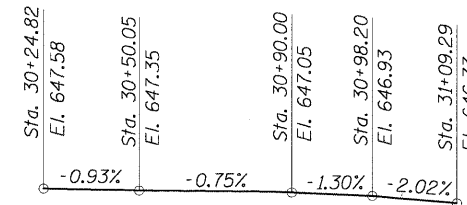
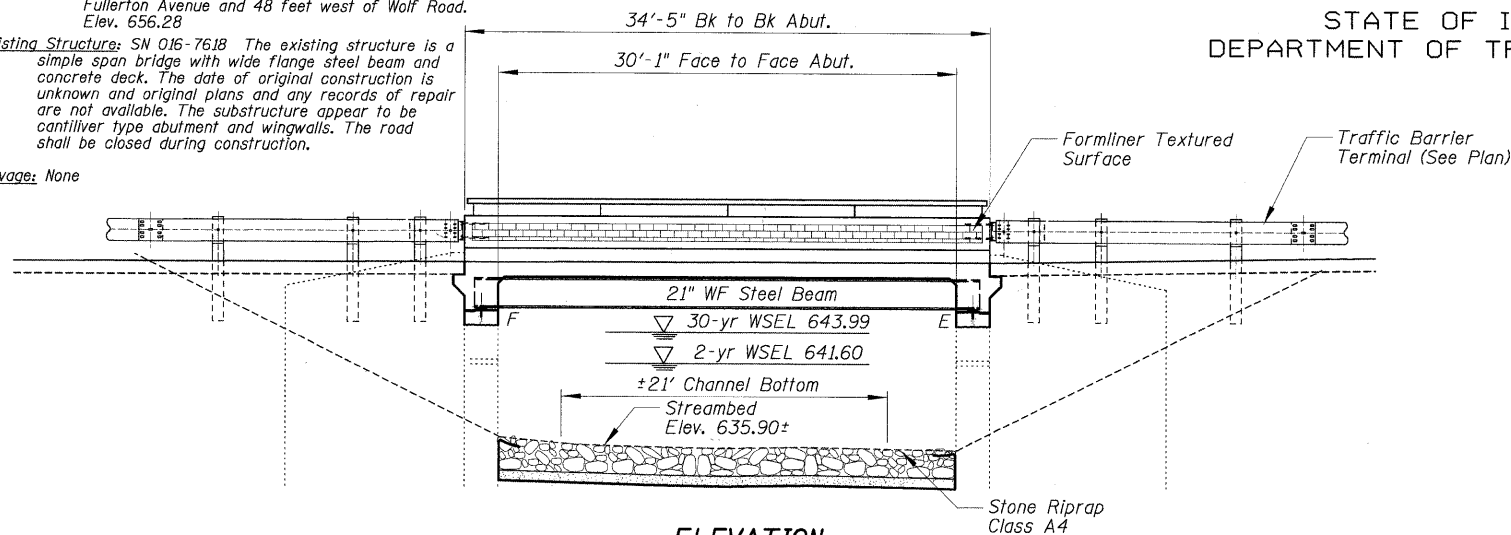
Existing Structure: SN 016-761B The existing structure is a simple span bridge with wide flange steel beam and concrete deck. The date of original construction is unknown and original plans and any records of repair are not available. The substructure appear to be cantilever type abutment and wingwalls. The road shall be closed during construction.

Salvage: None

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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ELEVATION

PROFILE GRADE

ADDISON CREEK  
BUILT BY  
COOK COUNTY  
SEC. 09-00071-00-BR  
F.A. RT. 4025 STA. 30+67.04  
STR. NO. 016-761B LOADING HS-20

NAME PLATE

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".



12/16/2009

Majid Mobasseri

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

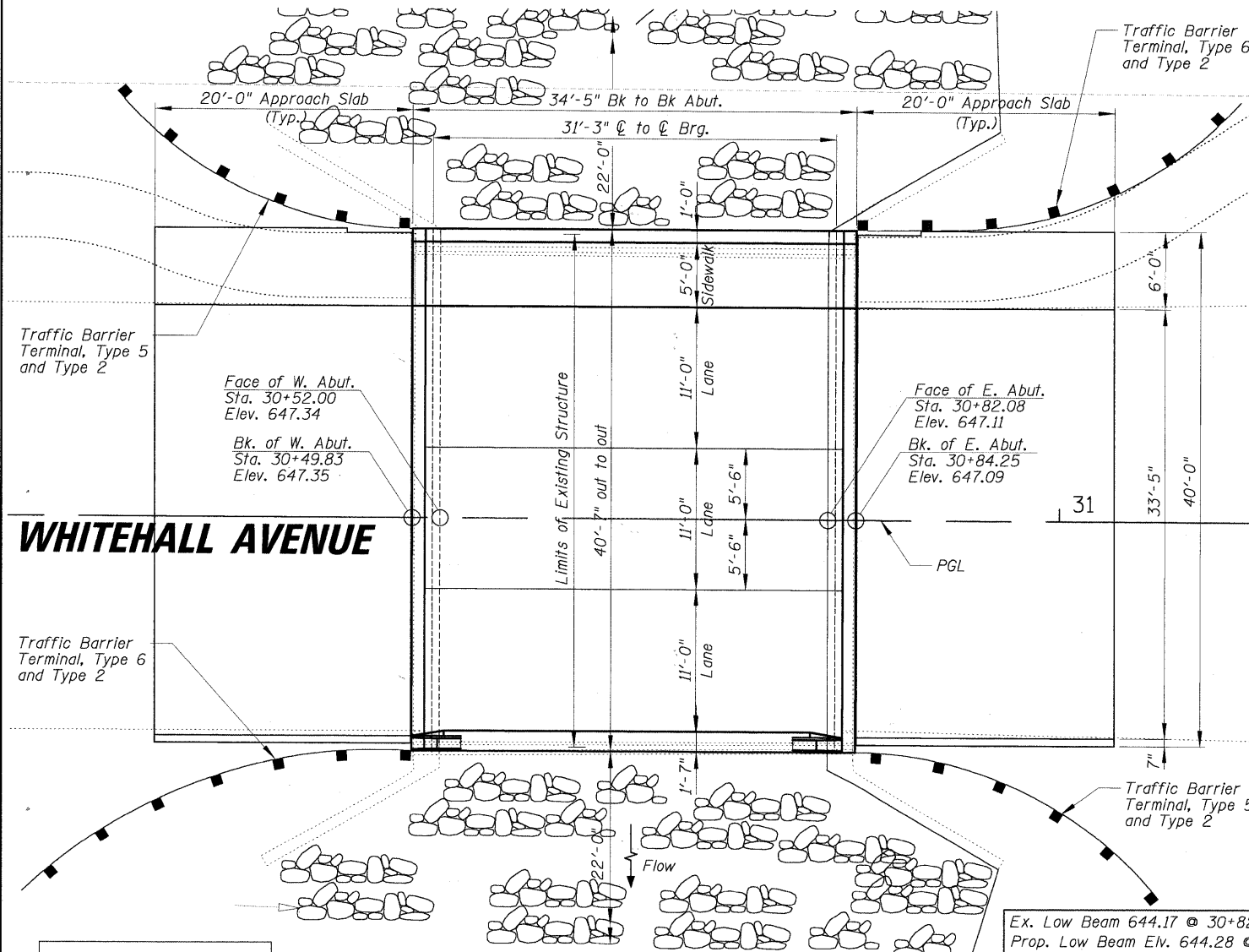
DESIGN SCOUR ELEVATION TABLE

Flood Frequency/ Depth	West Abut.	East Abut.
100 year/ Scour Depth Elevation (ft.)	625.5	622.9
500 year/ Scour Depth Elevation (ft.)	623.7	621.0

WATERWAY INFORMATION

Ex. Low Beam 644.17 @ 30+82.08 Ex. Low Grade 647.23 @ 30+82.08 Drainage Area = 8.1 mi<sup>2</sup>  
Prop. Low Beam Elev. 644.28 @ 30+82.08 Prop. Low Grade Elev. 647.11 @ 30+82.08

Flood	Freq. Yr.	Q cfs	Opening ft <sup>2</sup>		Nat. H.W.E.	Head - ft		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	215	252	252	643.33	0.01	0.01	643.34	643.34
	30	335	273	273	643.99	0.02	0.02	644.00	644.00
	50	353	280	280	644.19	0.02	0.02	644.21	644.21
Base	100	481	298	298	644.77	0.03	0.03	644.80	644.80
Max. Calc.	500	840	342	342	646.05	0.18	0.18	646.23	646.23



PLAN

DESIGNED -	200	EXAMINED	ENGINEER OF BRIDGE DESIGN
CHECKED -		PASSED	ENGINEER OF BRIDGES AND STRUCTURES
DRAWN -			
CHECKED -			

LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Bridge Design Specifications

DESIGN STRESSES

FIELD UNITS

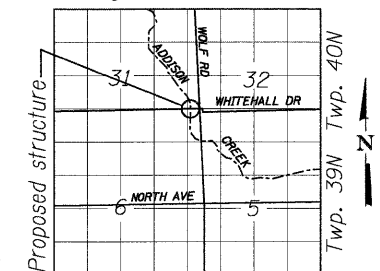
Reinforced Concrete:  
f'c = 3,000 psi (Existing)  
f'c = 3,500 psi (New)

Reinforcement:  
fy = 40 ksi (Existing)  
fy = 60 ksi (New)  
fy = 50 ksi (Structural Steel, M270 Gr50) (New)

SEISMIC DATA

Seismic Performance Zone (SPZ) = A  
Horizontal Bedrock Acceleration Coefficient (A) = 0.036g  
Site Coefficient (S) = 1.2

Range 12E - 3rd PM



LOCATION SKETCH

GENERAL PLAN AND ELEVATION  
WHITEHALL AVENUE OVER  
ADDISON CREEK  
F.A. RTE. 4025  
SECTION 09-00071-00-BR  
COOK COUNTY  
STATION 30+67.04  
STRUCTURE No. 016-7618

SHEET NO. S-1 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	4025	09-00071-00-BR	COOK	31	13
CONTRACT NO. 63437					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					