

Benchmark: Chiseled "□" on NW wingwall of S.N. 099-0183 (Southbound bridge). Elev. 728.94.

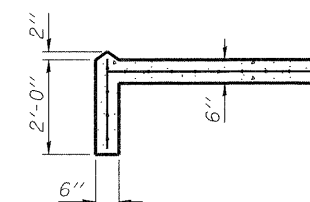
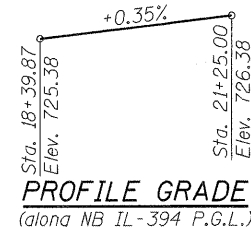
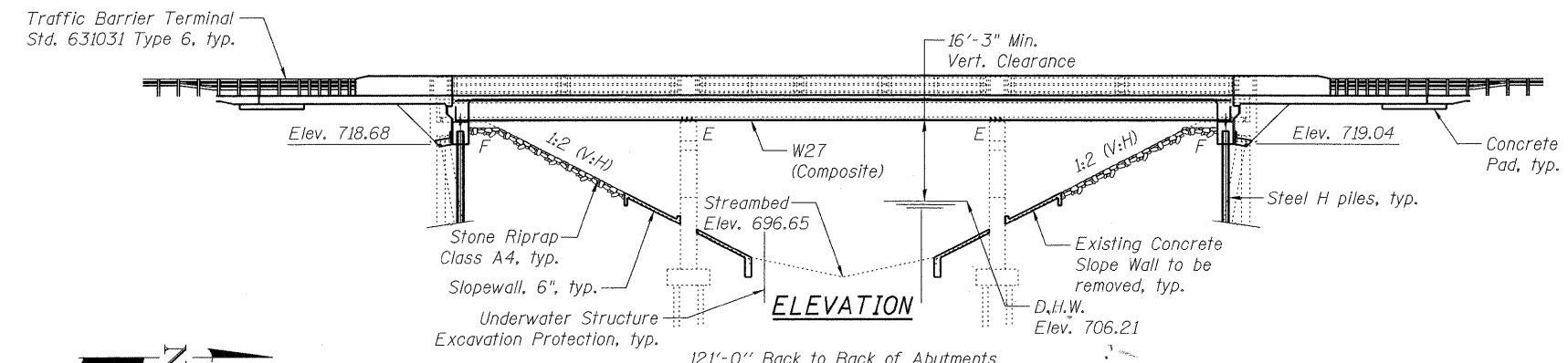
Existing Structure: The existing structure, number 099-0147, originally built in 1949 as F.A. Route 122, section 9-B. The structure was rehabilitated in 1974 as F.A. Route 122, section 0910-B. The existing structure consists of three span bridge, with reinforced concrete deck on continuous wide flange steel beams supported by pile bent abutments and multi-column piers. The existing structure is 128 ft back-to-back of abutments and 34.25 ft out-to-out of deck. Traffic will be crossed over to the southbound bridge (S.N. 099-0183) during construction.

Salvage: No salvage

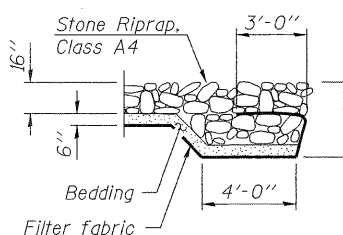
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

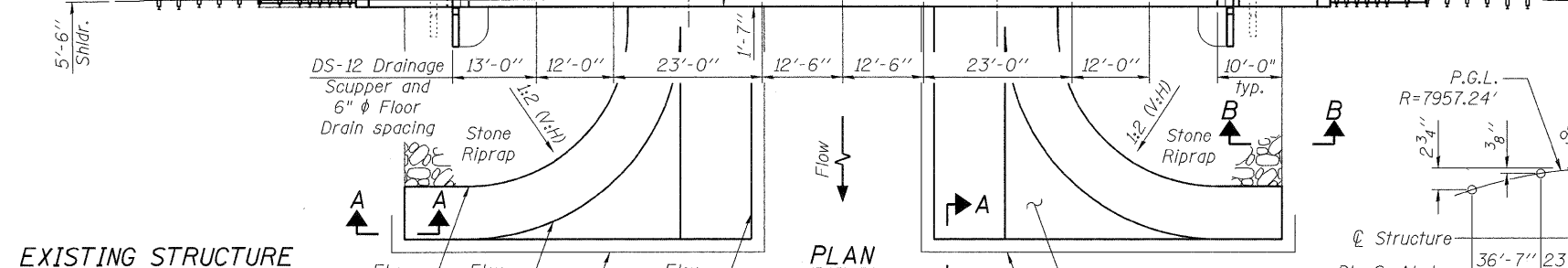
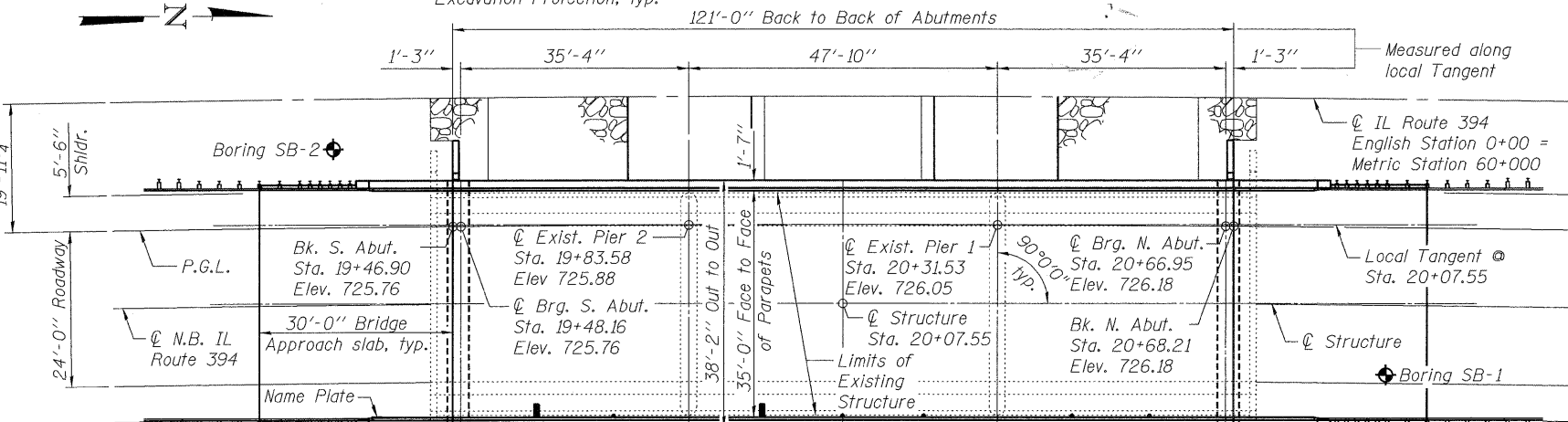
1. General Plan & Elevation
2. General Notes, Total Bill of Material and Section thru Abutment
3. Footing Layout
4. Top of Slab Elevations-1
5. Top of Slab Elevations-2
6. Top of Slab Elevations-3
7. Top of South Approach Slab Elevations
8. Top of North Approach Slab Elevations
9. Superstructure
10. Superstructure Details
11. Integral Abutment Diaphragm Details
12. Drainage Scupper Details
13. Framing Plan
14. Structural Steel Details
15. Bearing Details
16. South Abutment
17. North Abutment
18. Pier 2 Repairs
19. Pier 1 Repairs
20. HP Pile Details
21. Bar Splicer Assembly Details
22. Cantilever Forming Brackets
23. Bridge Approach Slab Details-1
24. Bridge Approach Slab Details-2
25. Soil Boring Logs-1
26. Soil Boring Logs-2



SECTION A-A



SECTION B-B



EXISTING STRUCTURE INFORMATION

Inventory: HS 20.6  
Operating: HS 32.2  
Live Load Restrictions: No

Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

LOADING HL-93  
Allow 25#/sq. Ft. For future wearing surface.

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (M270 Grade 50)  
 $f_y = 36,000$  psi (M270 Grade 36)

EXISTING

$f_c = 1,200$  psi (Concrete, Superstructure)  
 $f_c = 800$  psi (Concrete, Substructure)  
 $f_s = 20,000$  psi (Reinforcement)  
 $n = 10$

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.095  
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.157  
Soil Site Class = D

WATERWAY INFORMATION

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	350	129	129	705.60	0.20	0.20	705.80	705.80	705.80
Base	50	500	153	153	706.21	0.26	0.26	706.47	706.47	706.47
Overtopping	100	540	161	161	706.41	0.28	0.28	706.69	706.69	706.69
Max. Calc.	>500	-	-	-	-	-	-	-	-	-
		500	720	183	183	706.92	0.36	0.36	707.28	707.28

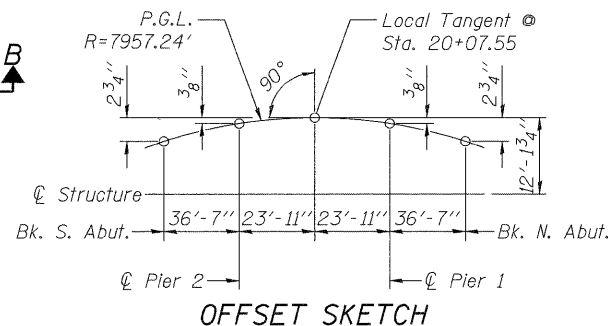
Max. H.W.E.: 709.0 (ft.) Date: 10/1954 Low Chord Elev.: 723.43

DESIGN SCOUR ELEVATION TABLE

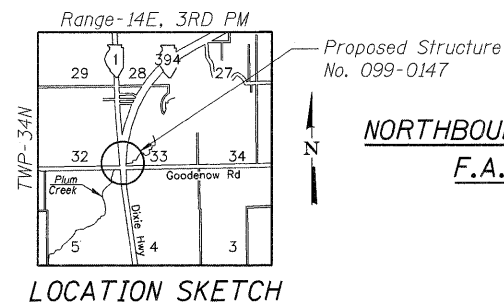
Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	718.68	695.50	695.50	719.04

CURVE DATA

(@ IL Route 394)  
 $\Delta = 39^\circ 01' 56''$  (RT)  
 $D = 0.718^\circ$   
 $T = 2827.40'$   
 $L = 5434.40'$   
 $E = 486.25'$   
 $R = 7977.22'$   
 $S.E. = 1.56\%$   
 $P.C. = Sta. 2+74.87$   
 $P.T. = Sta. 57+09.27$   
 $P.I. = Sta. 31+02.27$



OFFSET SKETCH



LOCATION SKETCH

APPROVED FOR STRUCTURAL ADEQUACY ONLY  
Ghulam M. Kamal  
Licensed Structural Engineer  
9/23/09

Ghulam M. Kamal  
Licensed Structural Engineer  
State of Illinois  
Lic. No. 081-006522  
Expires: 11-30-2010

STATION 20+07.55  
RE-BUILT 20 BY  
STATE OF ILLINOIS  
F.A. RTE. 332 SEC. 9B-1  
LOADING HL-93  
STR. NO. 099-0147

NAME PLATE

Locate Name Plate at Southeast Corner of Bridge (See Std. 515001)

Note:  
Existing name plate shall be cleaned and relocated next to the new name plate. Cost included with name plates.

GENERAL PLAN  
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK  
F.A.P. ROUTE 332 - SECTION 2002-113R

WILL COUNTY  
STATION 20+07.55  
STRUCTURE NO. 099-0147

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26 SHEETS	332	2002-113R	WILL	146	146
		SN-099-0147	CONTRACT NO. 62542		
		FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	

Delta Engineering, Inc.  
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS  
111 N. Jackson Blvd., Suite 810 Chicago, IL 60604-2002