

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 549	*	MACON	52	11
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	

*03-00184-00-BR

Bench Mark:
4901-3 RR spike in power pole on N side of CH 20
approx 400' west of Rife Bridge Elev 658.03
4901-4 RR spike in power pole on N side of CH 20
approx 200' west of Weigle Bridge Elev 657.05

Existing Structure:
Single span precast deck beams at 45° skew
on timber pile bent closed abutments.
Road to be closed during construction.

WEIGLE BRIDGE OVER STREAM
BUILT 20 BY
MACON COUNTY
SECTION 03-00184-00-BR
STA 17+18.00
STR. NO. 058-3370 LOADING HL93

LOADING HL93
Allow 50 lb/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2007 LRFD Bridge Design Specifications
with 2008 Interims

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

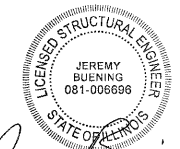
$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ low relaxation strands)
 $f'_{sl} = 202,000$ psi ($\frac{1}{2}$ " ϕ low relaxation strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.15 g
Design Spectral Acceleration at 0.2 sec. (S_{ps}) = 0.26 g
Soil Site Class = D

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 Details and Bill Of Material
- 3 17"x36" PPC Deck Beam Details
- 4 17"x36" PPC Deck Beam Details
- 5 Steel Railing, Type SM With HMA Wearing Surface
- 6 West Abutment Details
- 7 East Abutment Details
- 8 Pier Details
- 9 Metal Shell Pile Details
- 10 Soil Boring Logs



Jeremy Bluening
DATE: 11/02/09
EXP: 11/30/10

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 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES."

CH 20 OVER TRIBUTARY TO STEVENS CREEK

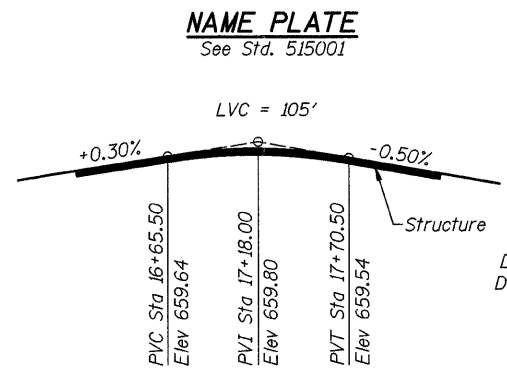
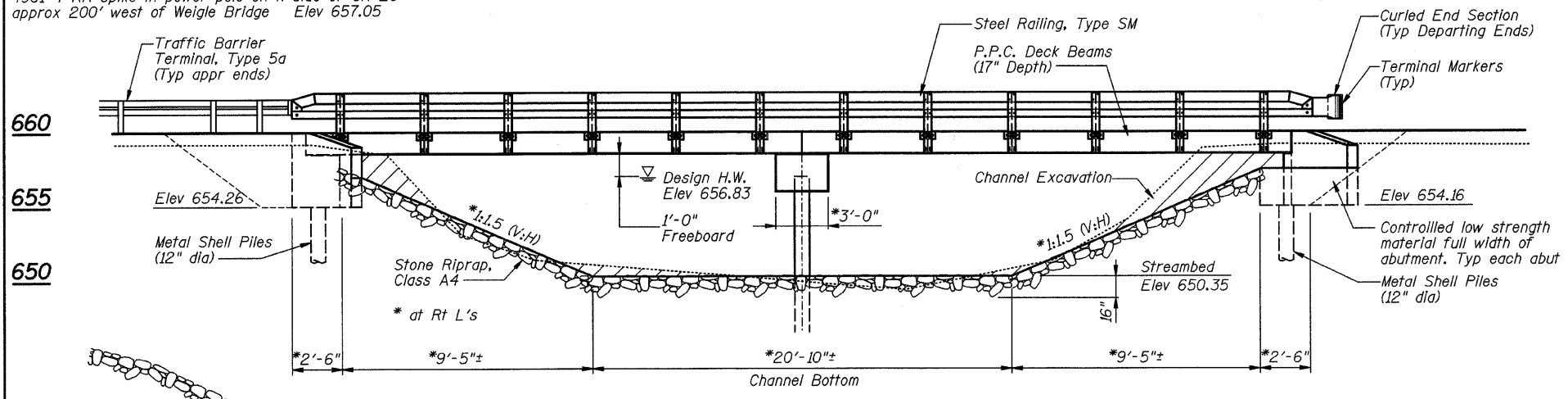
GENERAL PLAN AND ELEVATION

REVISIONS		CH 20	SECTION 03-00184-00-BR	DRAWN BY DATE
No.	DATE	INITIALS	SN 058-3370	R KING 6/09
1				CHECKED BY DATE
2				JMB 6/09
3				BOOK NUMBER
4				
5				
6				
7				
8				
9				
10				

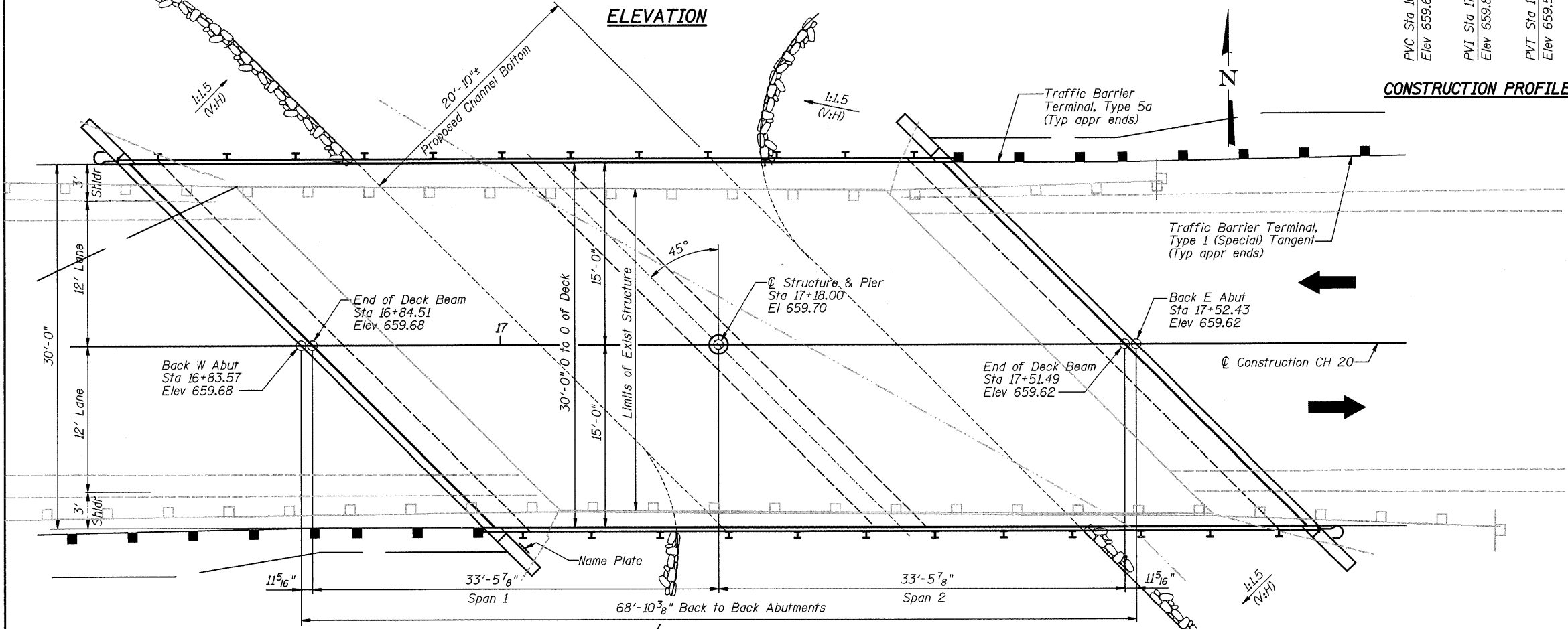
HOMER L. CHASTAIN & ASSOCIATES, LLP
CONSULTING ENGINEERS
184-00197

DECATUR CHICAGO
317-422-8544 770-714-0650
ROCKFORD
(815) 489-0060

PROJECT NO.
4901
SHEET NO.



CONSTRUCTION PROFILE



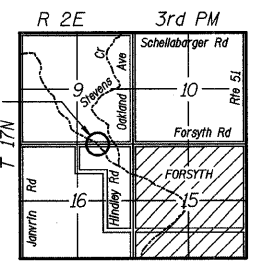
PLAN

TRIBUTARY WATERWAY INFORMATION

Drainage Area = 5.87 sq mi		Low Grade Elev. 657.04 @ Sta. 26+50							
Flood Yr.	Freq.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	30	1355	211	224	656.83	0.62	0.56	647.45	657.39
Base	42	1481	-	226	656.83	-	0.63	-	657.46
Overtopping	56	1589	217	-	656.94	0.82	-	657.76	-
Max. Calc.	100	1790	230	242	657.13	1.59	0.94	658.72	658.07

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W Abut.	Pier	E Abut.
	651.26	647.35	651.16



LOCATION SKETCH