

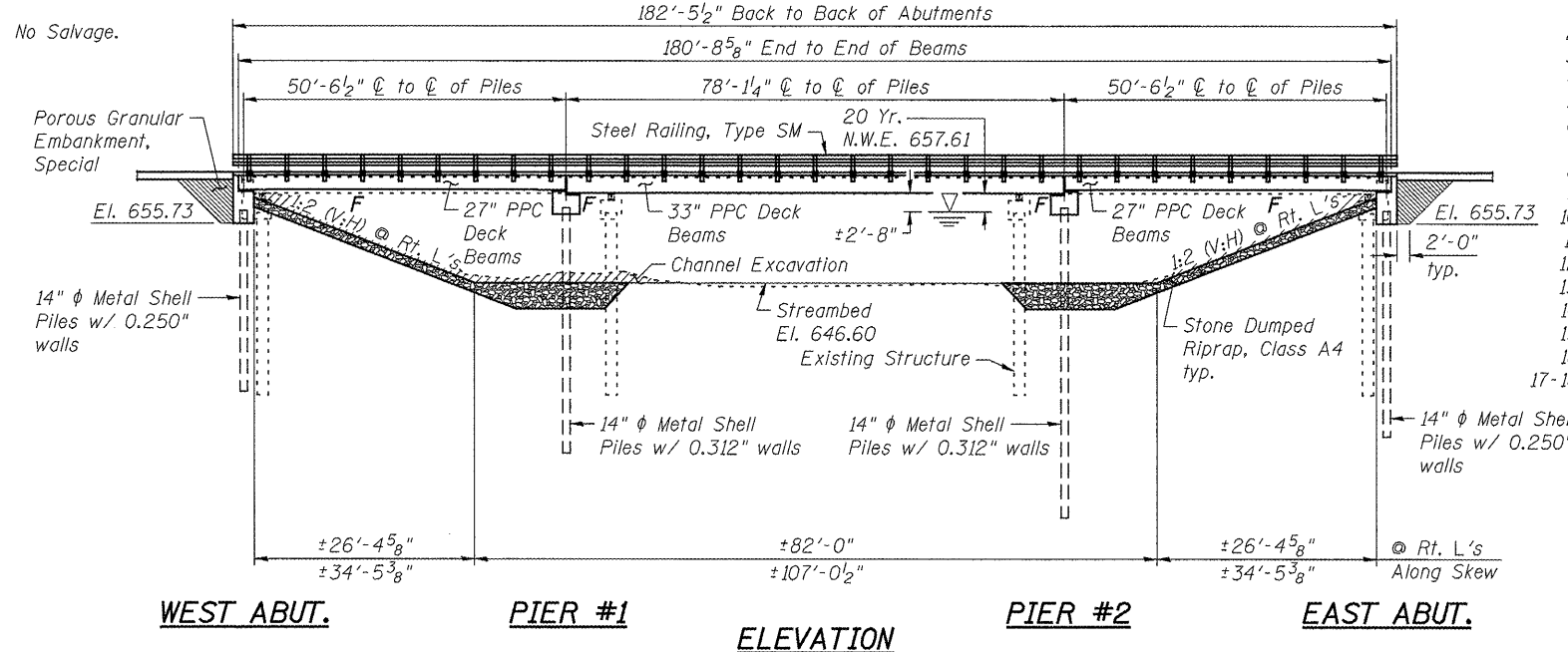
EXISTING STRUCTURE: S.N. 052-3410
Originally built in 1964 under Section 129B-MFT. A three span (54'-8", 64'-0", 54'-8") continuous steel beam bridge on spill-thru abutments & concrete pile bent piers at Station 20+00. Skewed 40° Left Ahead. To be removed.

BENCH MARK: Chis. "□" on the NE Corner of the South Headwall, 13' Rt. of Sta. 11+98, El. 654.18

BENCH MARK: Chis. "□" on the SE Wingwall of Existing Bridge, 16' Rt. of Sta. 20+77, El. 664.24

BENCH MARK: Chis. "□" on the NW Corner of the North Headwall, 16' Lt. of Sta. 25+95, El. 656.05

85557



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GREEN RIVER
BUILT 2012 BY
LEE COUNTY
SECTION 11-00318-00-BR
F.A.S. RTE. 1180 STATION 20+00
STR. NO. 052-3416 LOADING HL-93

NAME PLATE LETTERING
Refer to Std. 515001-03

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
** Channel Excavation	Cu. Yd.	—	405	405
Stone Dumped Riprap, Class A4	Ton	—	1,129	1,129
* Removal of Existing Structures	Each	—	—	1
Structure Excavation	Cu. Yd.	—	206	206
Concrete Structures	Cu. Yd.	—	87.0	87.0
Bridge Deck Grooving	Sq. Yd.	527	—	527
Protective Coat	Sq. Yd.	568	—	568
* Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	2,870	—	2,870
* Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2,184	—	2,184
Reinforcement Bars, Epoxy Coated	Pound	8,600	9,640	18,240
Steel Railing, Type SM	Foot	365	—	365
Furnishing Metal Shell Piles 14" x 0.250"	Foot	—	315	315
Furnishing Metal Shell Piles 14" x 0.312"	Foot	—	470	470
Driving Piles	Foot	—	785	785
Test Pile Metal Shells	Each	—	4	4
Name Plates	Each	1	—	1
* Porous Granular Embankment, Special	Ton	—	310	310
* Concrete Wearing Surface, 5"	Sq. Yd.	568	—	568

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

* See Special Provisions.

** Channel to be transitioned to fit proposed structure inside proposed riprap limits.

WATERWAY INFORMATION

Drainage Area = 288 sq. mi. Low Grade El. 660.31 @ Sta. 19+51.32

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	20	6,000	998	1,101	657.61	0.07	0.08	657.68	657.69
Base	100	7,865	1,189	1,311	659.32	0.10	0.11	659.42	659.43

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications, 5th. Edition and 2011 Interim

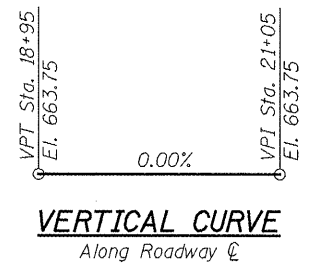
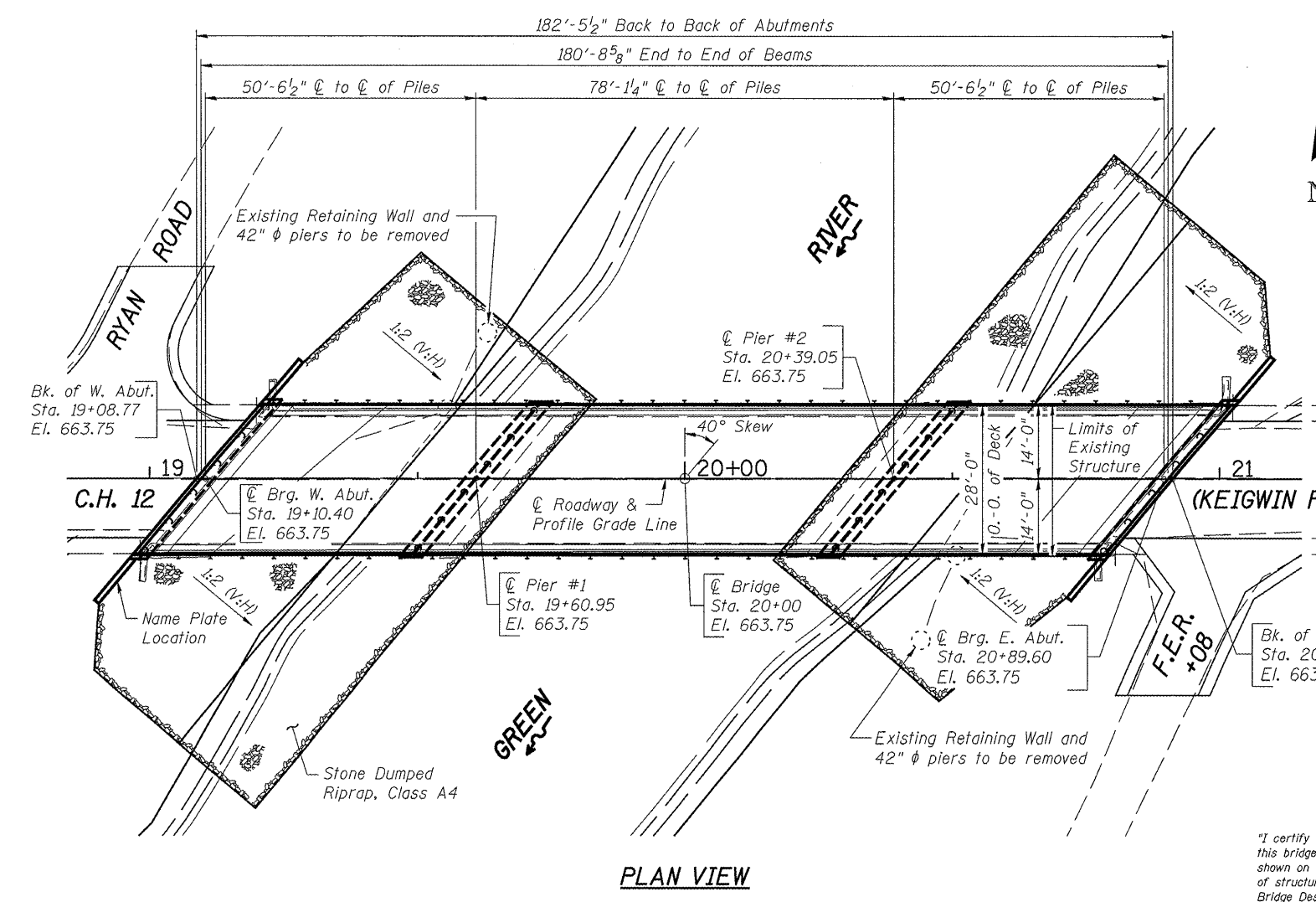
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.090g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.149g
Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier #1	Pier #2	E. Abut.
	656.73	642.60	642.60	656.73

GENERAL PLAN & ELEVATION
C.H. 12 (KEIGWIN ROAD) OVER GREEN RIVER
F.A.S. RTE. 1180 - SEC. 11-00318-00-BR
LEE COUNTY
STATION 20+00
STRUCTURE NO. 052-3416



DESIGN STRESSES

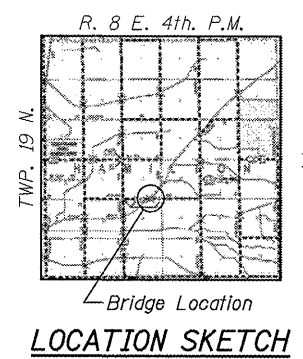
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" φ Low Lax Strands)
fpbt = 201,960 psi (1/2" φ Low Lax Strands)



Brian K. Converse
DATE: 2/6/2012
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 requirements of the current AASHTO Bridge Design Specifications."



WILLETT HOFMANN & ASSOCIATES INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED - BRADLEY KLEINMAIER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - MEGAN CACKLEY	REVISED -

LEE COUNTY
C.H. 12 (KEIGWIN ROAD) OVER GREEN RIVER
STATION 20+00

STRUCTURAL SHEET NO. 1 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1180	11-00318-00-BR	LEE	29	8
WHA# 1224D11			CONTRACT NO. 85557	
ILLINOIS FED. AID PROJECT BRS-11801003				