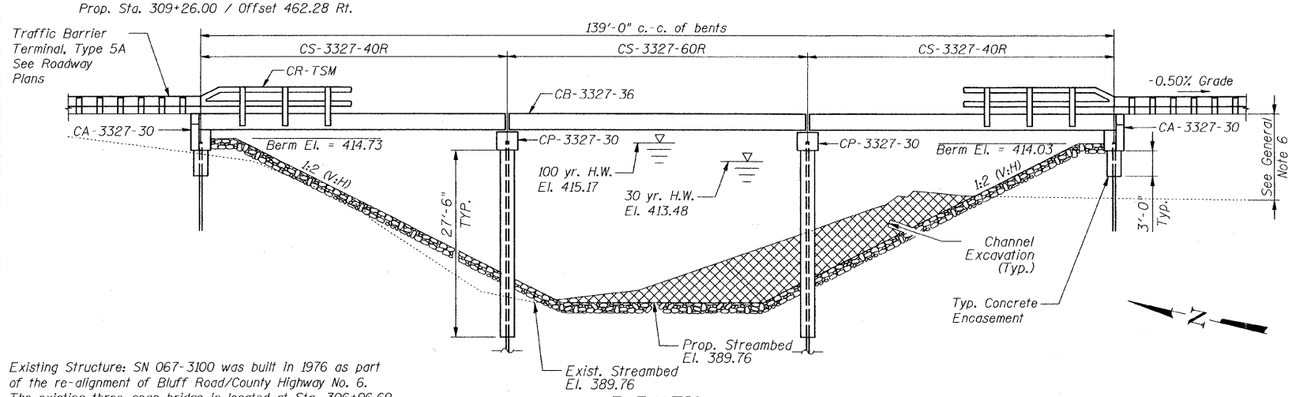
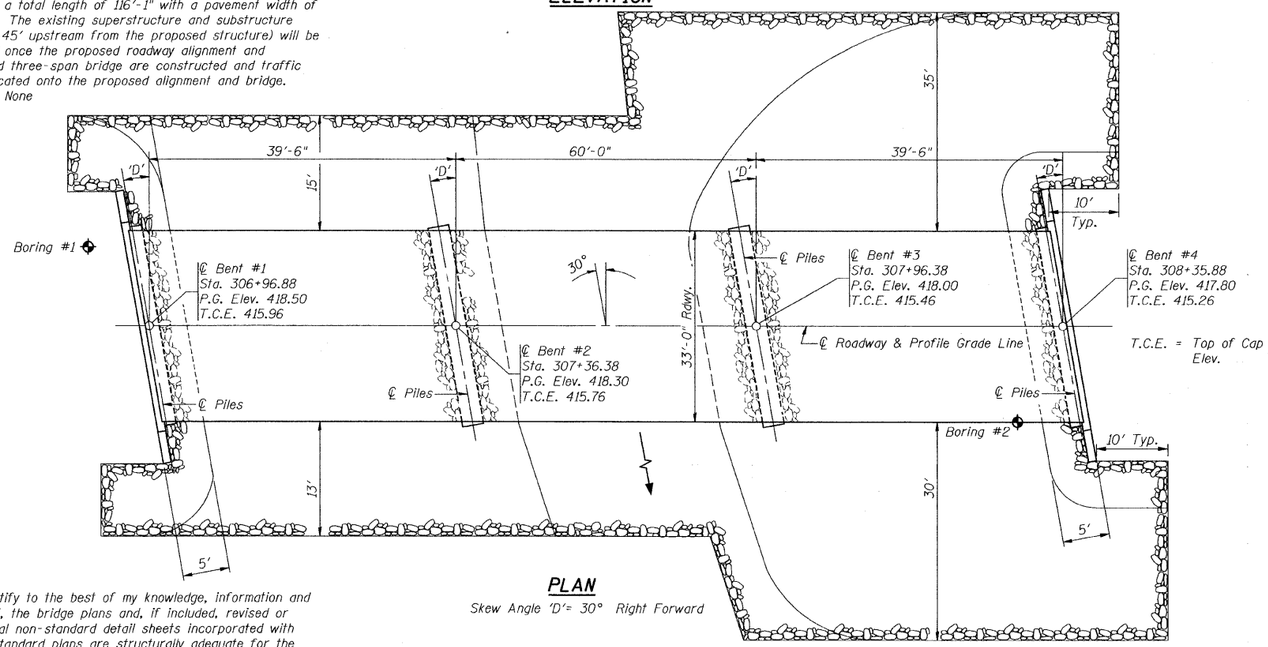
B.M. #1 - Iron Rod in Shoulder of Bluff Rd./B Rd. Intersection - El. 415.28
Exist. Sta. 306+18.47 / Offset 32.74 Rt.
Prop. Sta. 306+64.10 / Offset 9.60 Lt.
B.M. #2 - Iron rod in Shoulder of Levee Rd. - El. 419.29
Exist. Sta. 308+59.89 / Offset 512.17 Rt.
Prop. Sta. 309+26.00 / Offset 462.28 Rt.



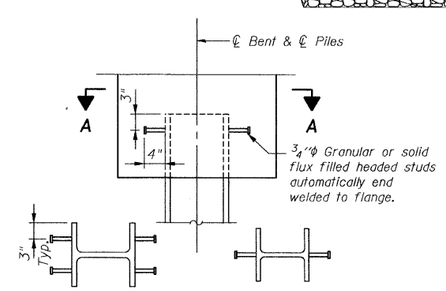
ELEVATION

Existing Structure: SN 067-3100 was built in 1976 as part of the re-alignment of Bluff Road/County Highway No. 6. The existing three-span bridge is located at Sta. 306+96.69 and has a total length of 116'-1" with a pavement width of 24'-3". The existing superstructure and substructure (located 45' upstream from the proposed structure) will be removed once the proposed roadway alignment and proposed three-span bridge are constructed and traffic is re-located onto the proposed alignment and bridge.
Salvage: None



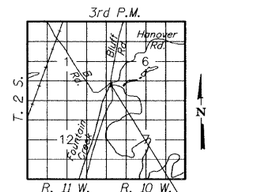
PLAN

Skew Angle 'D'= 30° Right Forward



SECTION A-A
(at Bents #2 and #3)

SECTION A-A
(at Bents #1 and #4)



LOCATION SKETCH

I certify to the best of my knowledge, information and belief, the bridge plans and, if included, revised or special non-standard detail sheets incorporated with the standard plans are structurally adequate for the seismic design loadings shown on the plans and specified by the current "AASHTO Standard Specifications for Highway Bridges."

KERMIT P. CHRISTMAN 081-005202 LICENSED STRUCTURAL ENGINEER OF ILLINOIS

Kermit P. Christman 10/30/07
KERMIT P. CHRISTMAN, P.E., S.E. — DATE
LICENSE NO. 081-005202 — EXPIRES 11-30-2008

PREPARED BY:
THOUVENOT, WADE & MOERCHEN, INC.

P:\040125\Roadway Plans\DGN\BridgePlans.dgn 10/30/07 2:30:00 PM CDT

Sheet 1 of 2.

FAS ROUTE	IDOT SECTION	COUNTY
1857	04-00071-00-BR	MONROE
FEDERAL AID PROJECT		ILLINOIS
IDOT JOB NO.	BR-RS-1857(121)	
IDOT CONTRACT NO.	97323	

GENERAL NOTES

1. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the piles.
2. See Special Provisions for boring logs.
3. A Corrosion inhibitor shall be used in the concrete for the precast, prestressed concrete deck beams, according to Article 1020.05(b) of the Standard Specifications.
4. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See special provisions. This note supersedes notes on Abutment and Pier Sheets.
5. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
6. South abutment may not be poured until fill at south abutment has been in place for a minimum of 60 days to allow for settlement. If all south abutment piles are driven to refusal in rock, the 60 day waiting period would not be necessary.
7. The pre-existing and existing north bridge abutments shall remain in place after construction. The removal of all other pre-existing and existing bridge elements shall be included in the REMOVAL OF EXISTING STRUCTURES pay item.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Piers	Sub. Abuts.	Total
Removal of Existing Structures	Each	——	——	——	1
Channel Excavation	Cu. Yd.	——	——	——	720
Furnished Excavation	Cu. Yd.	——	——	——	166
Stone Dumped Riprap, Class A4	Sq. Yd.	——	——	——	1600
Hot Mix Asphalt Surface Course, Mix D, N70	Ton	74.3	——	——	74.3
Waterproofing Membrane System	Sq. Yd.	513.4	——	——	513.4
Concrete Structures	Cu. Yd.	——	23.8	28.2	52.0
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	4620	——	——	4620
Steel Railing, Type SM	Foot	280	——	——	280
Reinforcement Bars	Pound	——	2340	3360	5700
Furnishing Steel Piles HP10X42	Foot	——	——	785	785
Furnishing Steel Piles HP12X53	Foot	——	1260	——	1260
Driving Piles	Foot	——	1260	785	2045
Test Pile Steel HP10X42	Each	——	——	2	2
Test Pile Steel HP12X53	Each	——	2	——	2
Name Plates	Each	——	——	——	1
Concrete Encasement	Cu. Yd.	——	48.7	3.1	51.8
Portland Cement Mortar Fairing Course	Foot	1400	——	——	1400
Stud Shear Connectors	Each	——	64	24	88

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications - 17th ed.

LOADING HS20-44

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

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.11g
Site Coefficient (S) = 1.5

PILE DATA (2-PIERS)

Pile Type & Size:	Steel HP12X53
Nominal Required Bearing:	264 kips
Allowable Resistance Available:	88 kips
Estimated Pile Length:	90 ft.
Number of Production Piles:	7 - Bent #2, 7 - Bent #3
Number of Test Piles:	1 - Bent #2, 1 - Bent #3

PILE DATA (2-ABUTS.)

Pile Type & Size:	Steel HP10X42
Nominal Required Bearing:	334 kips - Bent #1, 192 kips - Bent #4
Allowable Resistance Available:	111 kips - Bent #1, 64 kips - Bent #4
Estimated Pile Length:	67 ft - Bent #1, 90 ft - Bent #4
Number of Production Piles:	5 - Bent #1, 5 - Bent #4
Number of Test Piles:	1 - Bent #1, 1 - Bent #4

WATERWAY INFORMATION

Drainage Area = 57.38 Sq. Mi. Low Grade Elev. = 410.89 @ Sta. 313+13.50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	30	10856	1222	1211	413.48	0.30	0.49	413.78	413.97
Base	100	14390			415.17	0.21	0.53	415.38	415.70
Overtopping									
Max. Calc.	500	19034			415.69	0.31	0.91	416.00	416.60

STATION 307+66.38
FOUNTAIN CREEK
SEC. 04-00071-00-BR BUILT 20
MONROE COUNTY HIGHWAY DEPT.
MONROE COUNTY
LOADING HS20
STR. NO. 067-3175

LETTERING FOR NAME PLATE

Locate Name Plate at Southwest Corner of Bridge (See Std. CN)

STANDARDS

Standard CS-3327-40R
Standard CS-3327-60R
Standard CB-3327-36
Standard CA-3327-30
Standard CP-3327-30
* Standard CR-TSM
Standard CN
Standard CX-1

* Standard to be utilized except as modified on Sheet 2 of 2.

THOUVENOT, WADE & MOERCHEN, INC.
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waterloo@twm-inc.com

PROFESSIONAL REGISTRATIONS	LICENSE NO.
ILLINOIS PROFESSIONAL DESIGN FIRM	184-001220
PROFESSIONAL ENGINEERING CORP.	62-035370
PROFESSIONAL STRUCTURAL ENGR. CORP.	81-005202
ILLINOIS PROF. LAND SURVEYING CORP.	048-000029
MISSOURI PROFESSIONAL ENGR. CORP.	NC 001528
MISSOURI LAND SURVEYING CORP.	NC 000346

SEAL

FINAL

Signature:
Signature Date:
Expiration Date:

STATEMENT OF RESPONSIBILITY
I hereby confirm that the document herein to be authenticated by my seal is restricted to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be utilized for any other part of the architectural, engineering or survey project.

TITLE: GENERAL PLAN AND ELEVATION F.A.S. 1857 (BLUFF RD./CTY. HWY. #6) OVER FOUNTAIN CRK. (STA. 307+66.38)

PROJECT: BLUFF ROAD (CTY. HWY. 6) BRIDGE REPLACEMENT OVER FOUNTAIN CREEK MONROE COUNTY, IL

REV.	DATE	DESCRIPTION

DRAWN BY:	KBF	SHEET 29 OF 67 SHEETS
DESIGNED BY:	ALN	
CHECKED BY:	KPC	
APPROVED BY:	KPC	PROJECT DESCRIPTION: BLUFF RD. BRIDGE OVER FOUNTAIN CRK.
PROJECT NUMBER	T16-040125	

☐ ISSUED FOR REVIEW ☐ ISSUED FOR BIDDING
☒ ISSUED FOR CONSTR. ☐ RECORD DRAWING