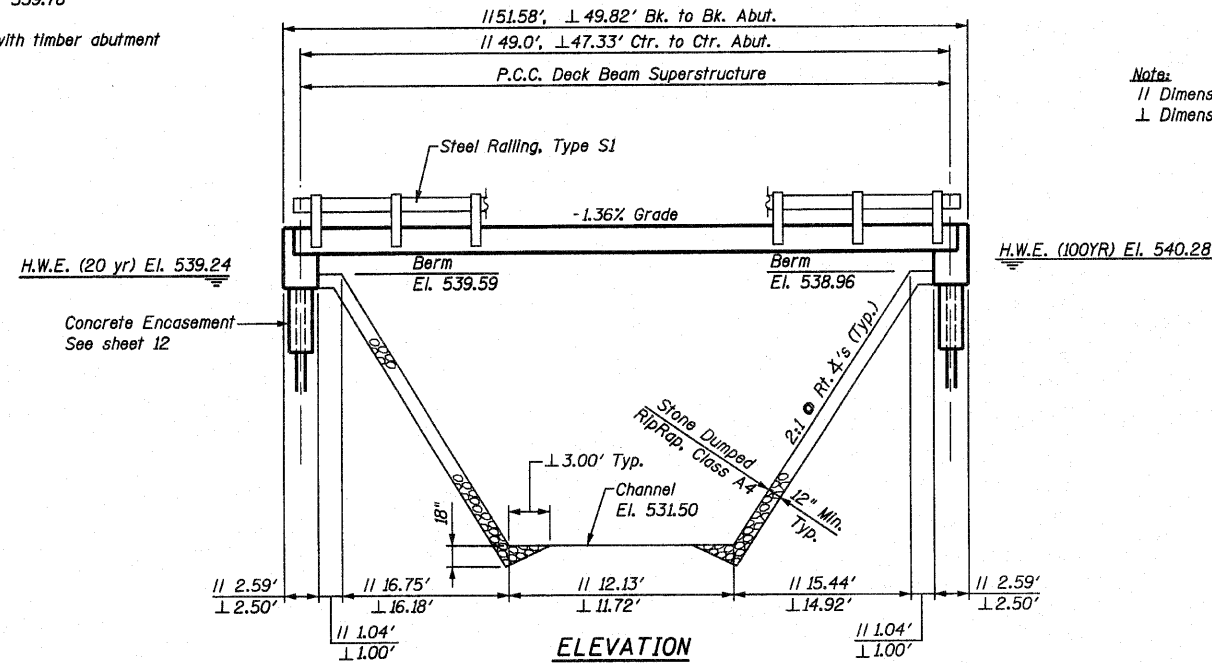


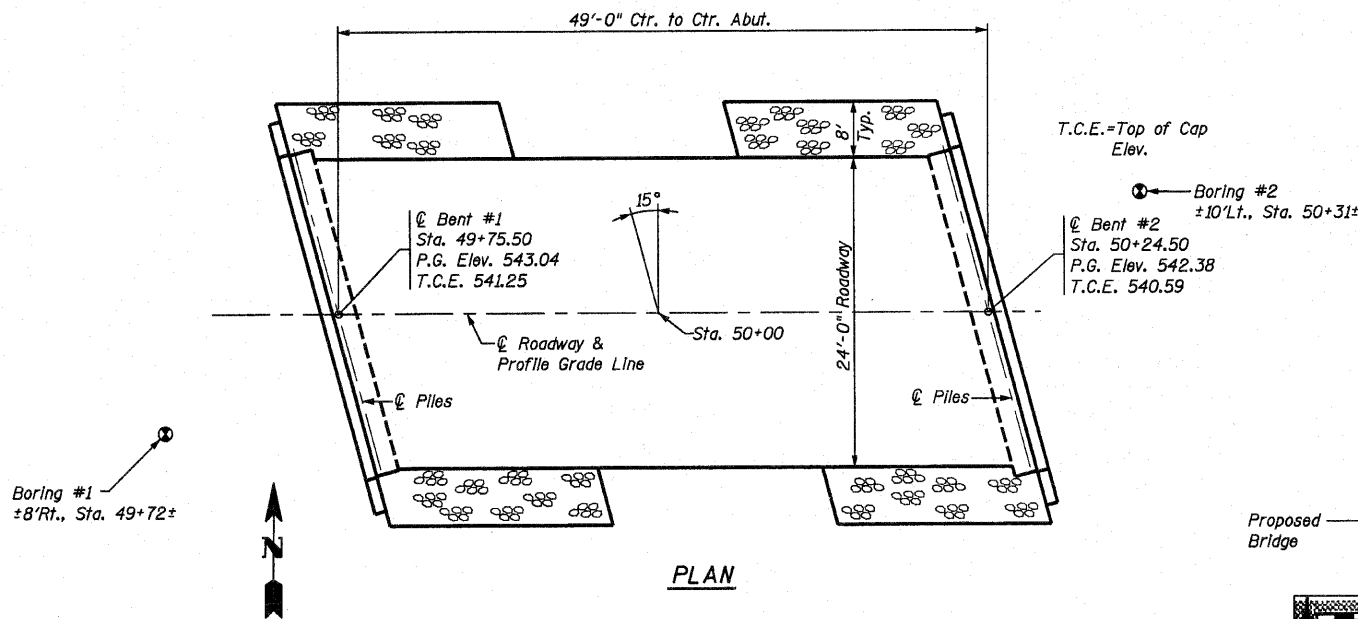
B.M. - B.M. #1, R.R. Spike in 12" Tree, 30.16' RT., STA. 49+10.44, EL. 541.63  
 B.M. #2, R.R. Spike in Power Pole, 21.20' LT., STA. 51+58.47, EL. 539.78

Existing Structure - Single span timber deck on steel & timber stringers with timber abutment caps, piling, backwall and retaining walls

Salvage - None



Note:  
 // Dimensions are parallel to roadway  
 ⊥ Dimensions are perpendicular to channel

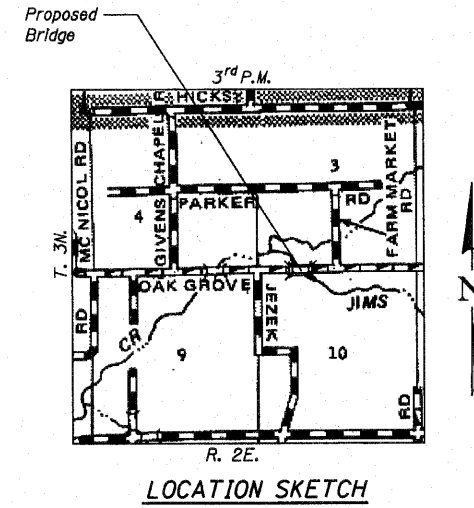


Boring #1  
 ±8'Rt., Sta. 49+72±

T.C.E. = Top of Cap Elev.  
 Boring #2  
 ±10'Lt., Sta. 50+31±  
 Bent #2  
 Sta. 50+24.50  
 P.G. Elev. 542.38  
 T.C.E. 540.59

STATION 50+00  
 JIMS CREEK  
 SEC. 07-17119-00-BR BUILT 201-  
 PROJECT NO. BROS-0121 (055)  
 MARION COUNTY  
 LOADING HL93  
 STR. NO. 061-3311

LETTERING FOR NAME PLATE  
 Locate Name Plate at Northwest  
 Corner of Bridge (See sheet 12)



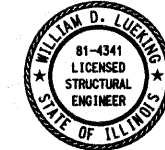
| ROUTE NO.           | SECTION        | COUNTY   | TOTAL SHEETS | SHEET NO. |
|---------------------|----------------|----------|--------------|-----------|
| TR 119              | 07-17119-00-BR | MARION   | 14           | 4         |
| FED. ROAD DIST. NO. |                | ILLINOIS | PROJECT      |           |
| CONTRACT NO. 97452  |                |          |              |           |

**GENERAL NOTES**

- The contractor shall drive 1 test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See Special Provisions for boring logs.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

**TOTAL BILL OF MATERIAL**

| Item  | Unit    | Super | Sub.  |        | Total |
|---|---------|-------|-------|--------|-------|
|   |         |       | Piers | Abuts. |       |
| Removal of Existing Structures                      | Each    |       |       |        | 1     |
| Concrete Structures                                 | Cu. Yd. |       | 18.4  |        | 18.4  |
| Precast Prestressed Concrete Deck Beams (21" Depth) | Sq. Ft. | 1200  |       |        | 1200  |
| Steel Railing, Type S-1                             | Foot    | 100   |       |        | 100   |
| Reinforcement Bars                                  | Pound   |       | 2380  |        | 2380  |
| Furnishing Steel Piles HP 10x42                     | Foot    |       | 291   |        | 291   |
| Driving Piles                                       | Foot    |       | 291   |        | 291   |
| Test Pile Steel HP 10x42                            | Each    |       | 1     |        | 1     |
| Name Plates   | Each    |       | 1     |        | 1     |
| Concrete Encasement                                 | Cu. Yd. |       | 2.1   |        | 2.1   |



Date: Oct. 27, 2010

Date of License Expiration: 11-30-2010

Signature: William D. Lucking

I certify that to the best of knowledge, information and belief, this bridge/box culvert 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 Specifications for Highway Bridges.

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

**LOADING HL-93**

Allow 50# / Sq. Ft. for Future Wearing Surface.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
 Design Spectral Acceleration at 1.0 sec. (S<sub>1</sub>) = 18  
 Design Spectral Acceleration at 0.2 sec. (S<sub>s</sub>) = 48  
 Soil Site Class = C

**PILE DATA (2-ABUTS.)**

Pile Type and Size: Steel Piles, HP10x42  
 Nominal Required Bearing: 252 kips  
 Allowable Resistance Available: 84 kips  
 Estimated Pile Length: 45 Feet Bent #1, 39 Feet Bent #2  
 Number of Production Piles: 7  
 Number of Test Piles: 1 (located in Bent #1)

**WATERWAY INFORMATION**

| Drainage Area = 2.44 Sq. Mi. |           | Low Grade Elev. 541.0 @ Sta. 51+60 |                 |       |                 |       |            |       |                       |       |
|------------------------------|-----------|------------------------------------|-----------------|-------|-----------------|-------|------------|-------|-----------------------|-------|
| Flood                        | Freq. Yr. | Q C.F.S.                           | Opening Sq. Ft. |       | Nat. H.W.E. Ft. |       | Head - Ft. |       | Headwater Elev. - Ft. |       |
|                              |           |                                    | Exlst.          | Prop. | Exlst.          | Prop. | Exlst.     | Prop. | Exlst.                | Prop. |
| Design                       | 20        | 1300                               | 110             | 212   | 539.24          | 2.8   | 1.7        | 542.0 | 540.9                 |       |
| Base                         | 100       | 1970                               | 123             | 257   | 540.28          | 2.1   | 1.6        | 542.4 | 541.9                 |       |
| Overtopping                  |           |                                    |                 |       |                 |       |            |       |                       |       |
| Max. Calc.                   | 500       | 2730                               | 140             | 280   | 540.5           | 2.2   | 1.7        | 542.7 | 542.2                 |       |

**GENERAL PLAN AND ELEVATION**

TR 119  
 OVER JIMS CREEK

SECTION 07-17119-00-BR  
 MARION COUNTY  
 STATION 50+00

RHUTASEL and ASSOCIATES, INC.  
 CONSULTING ENGINEERS & LAND SURVEYORS  
 CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

PREPARED FOR  
**AECOM**  
 200705604

Date: 10/28/2010  
 Design: MRQ  
 Drawn: BLT  
 Job No.: 50910