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|---------------------|----------------|-----------|
| FAU ROUTE | IDOT SECTION | COUNTY |
| 9380 | 02-00016-01-PV | ST. CLAIR |
| FEDERAL AID PROJECT | ILLINOIS | |
| IDOT JOB NO. | C-98-318-08 | |
| IDOT CONTRACT NO. | 97345 | |

THOUVENOT, WADE & MOERCHEN, INC.
ENGINEERS • SURVEYORS • PLANNERS



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| 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 |

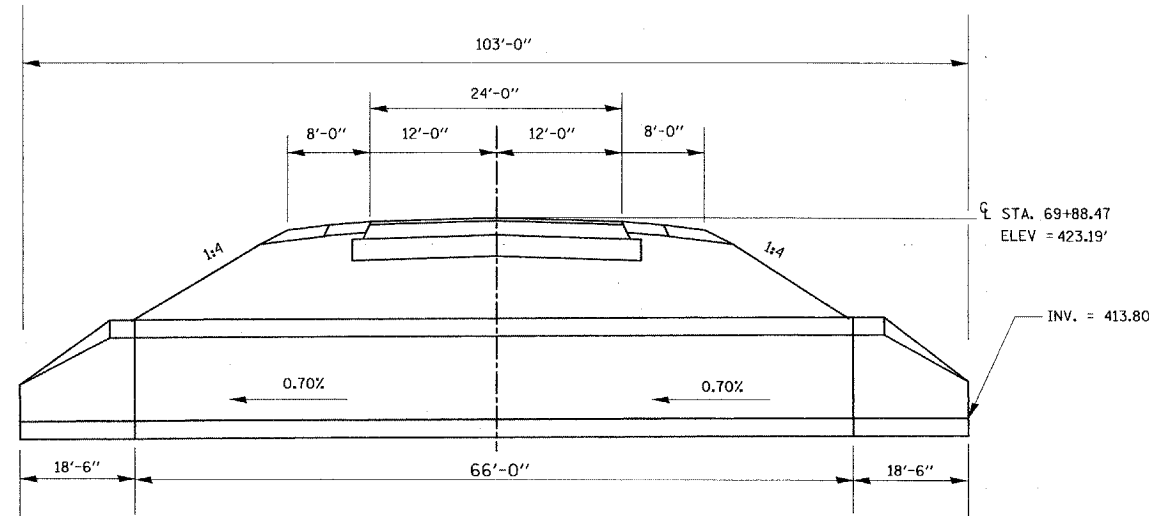
SEAL

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.

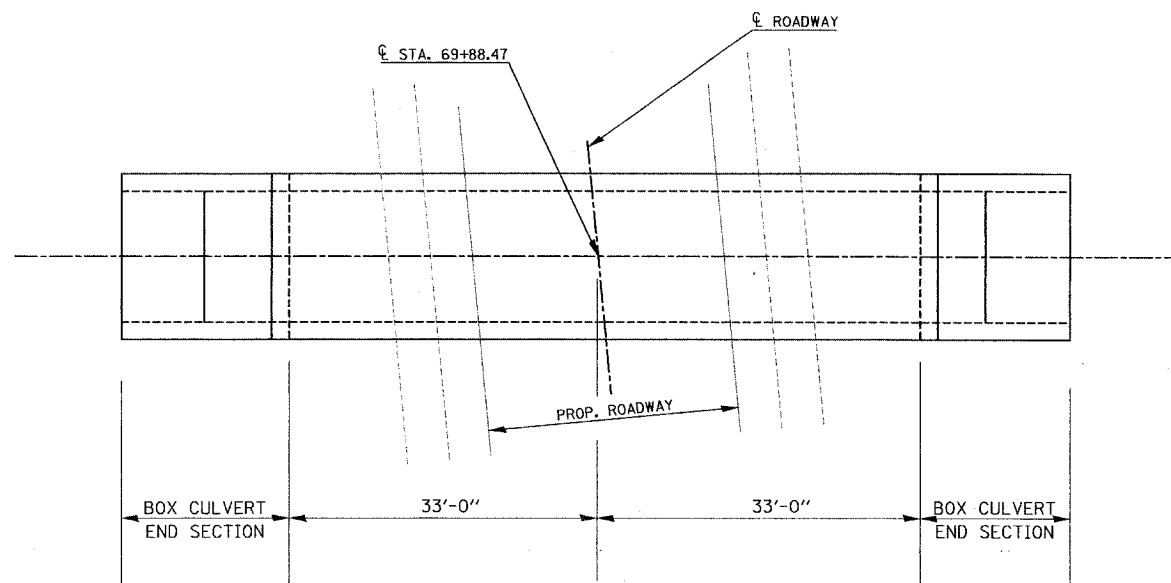
BOX CULVERT DETAIL
STA. 69+88.47
COUNTY ROAD RECONSTRUCTION - PHASE II
CITY OF MASCOUTAH
ST. CLAIR COUNTY, ILLINOIS

GENERAL NOTES

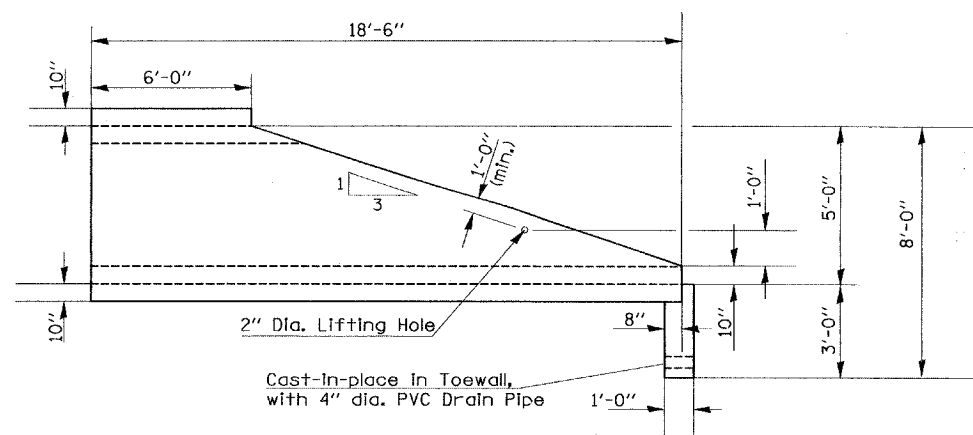
1. All dimensions are in feet except as noted. All elevations are in feet.
2. Exposed edges shall have a 3/4" chamfer unless otherwise noted.
3. Provide a light broom finish to the floor of the Precast Concrete Box Culvert and Box Culvert End Sections. Cost included with "Precast Concrete Box Culverts 10 ft. x 5 ft." and "Box Culvert End Section, Culvert No. 1".
4. The Cast-In-Place toewall will not be paid for separately, but shall be included in the cost for "Box Culvert End Section, Culvert No. 1". Approximately 2.0 cu. yd. of concrete will be required.
5. This box culvert has an approximate fill height of 4 feet 0 inches. The Precast Concrete Box Culvert shall be designed in accordance with AASHTO M259 except that the aggregate shall conform to the requirements of Article 1003.02 and 1004.02 of the Standard Specifications with the exception of gradation.
6. The contractor shall submit shop drawings and calculations for the Precast Concrete Box Culvert and Box Culvert End Sections. Shop drawings and calculations shall be sealed by a Structural Engineer registered in the State of Illinois.
7. Structure Excavation (Special), Porous Granular Embankment (Special), and Trench Backfill shall be included in the contract unit price of the "Precast Concrete Box Culvert 10 ft. x 5 ft." and "Box Culvert End Section, Culvert No. 1".
8. Should unstable soils be encountered upon Structure Excavation, the ENGINEER shall determine the necessary depth of excavation required to reach stable soils



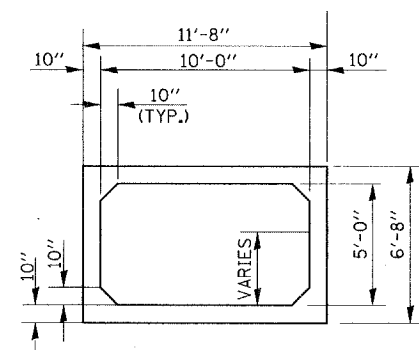
ELEVATION



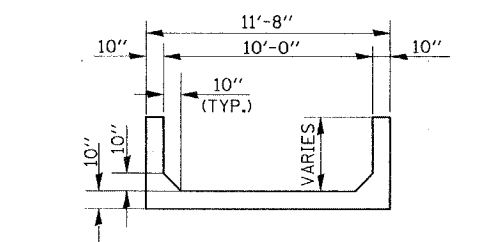
PLAN



END SECTION ELEVATION



SECTION THRU BARREL



SECTION THROUGH END SECTION

DESIGN STRESSES

PRECAST UNITS

$f'_c = 5 \text{ ksi}$
 $f_y = 65 \text{ ksi (welded wire fabric)}$

LOADING HS20-44

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|---|------|-------|
| Precast Concrete Box Culverts 10 ft. x 5 ft | Ft. | 66 |
| Box Culvert End Section, Culvert No. 1 | Each | 2 |

| REV. | DATE | DESCRIPTION |
|------|------|-------------|
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| △ | | |
| △ | | |

DRAWN BY: JWS
DESIGNED BY: JWS
CHECKED BY: SJK
APPROVED BY:
PROJECT NUMBER: T20-010154
PROJECT DESCRIPTION: COUNTY ROAD REALIGNMENT
SHEET **52** OF 113 SHEETS
 ISSUED FOR REVIEW ISSUED FOR BIDDING
 ISSUED FOR CONSTR. RECORD DRAWING