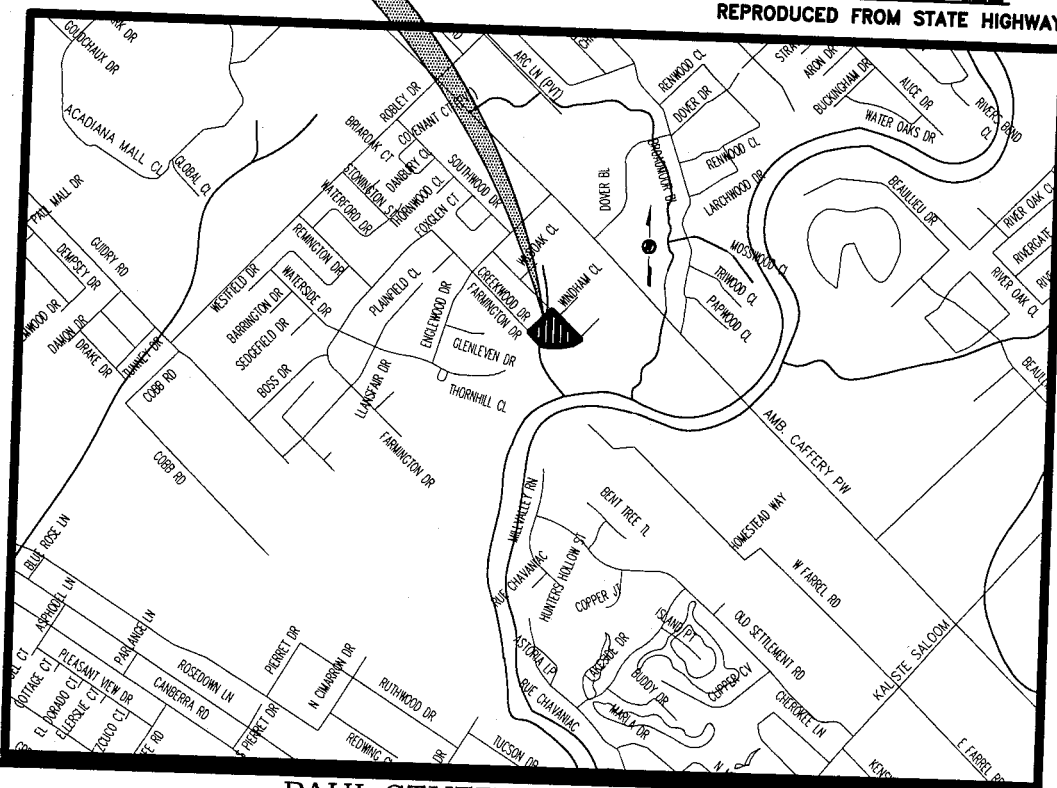


**VICINITY MAP**  
REPRODUCED FROM STATE HIGHWAY MAP



PAUL STUTES 208 FARMINGTON  
LAFAYETTE, LA  
OTHER WATERS PERMIT  
VICINITY MAPS

DATE: JULY 6, 2011

SHEET 1 OF 4



PAUL L. MIERS ENGINEERING, LLC

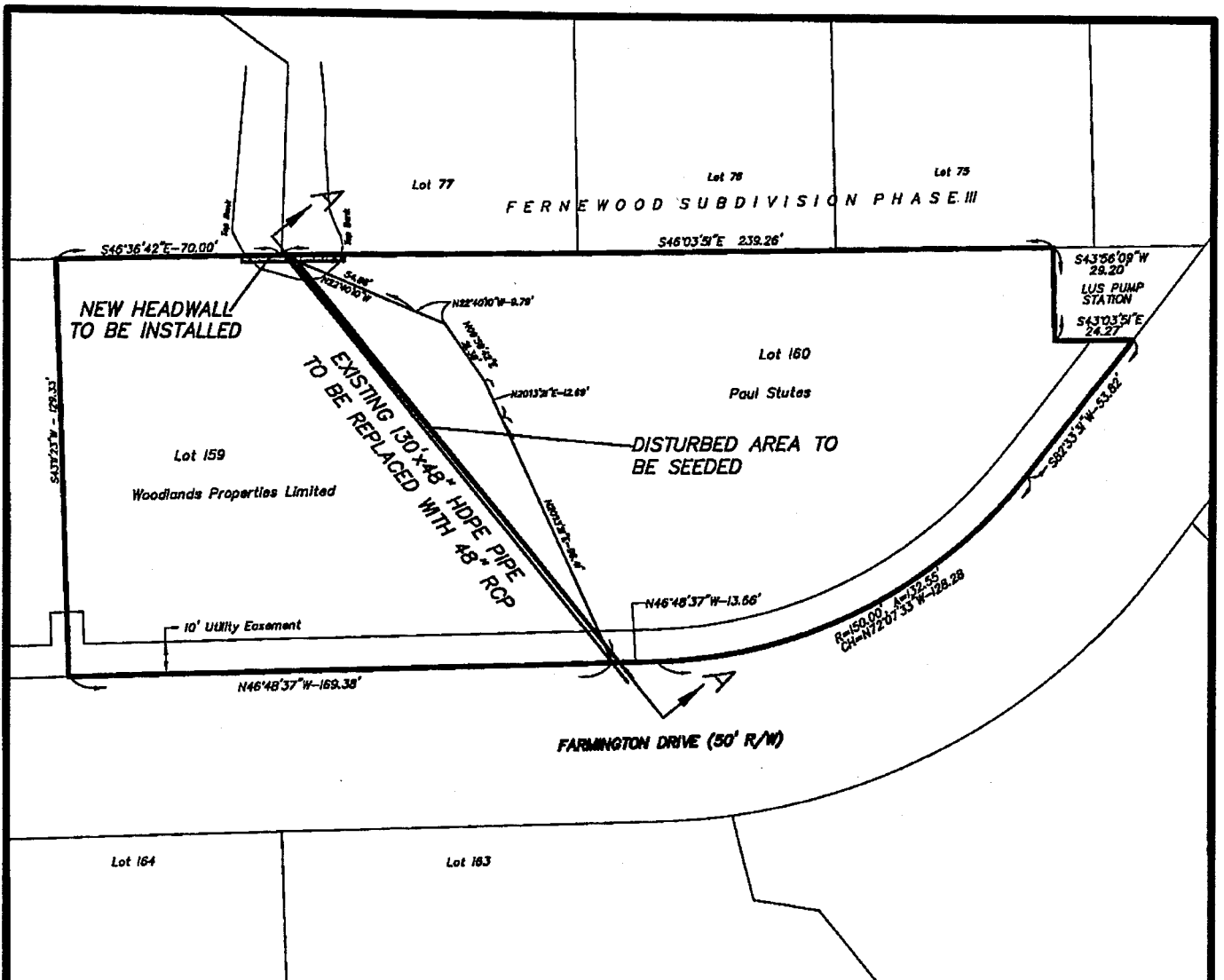
CIVIL ENGINEERS

LAND SURVEYORS

104 WESTMARK BLVD, SUITE 2A  
PHONE (337) 981-7792

LAFAYETTE, LOUISIANA 70506  
FAX (337) 981-7797

BPN 3827 SPN 02 FILE A DWG



IMPACT SUMMARY PIPE REPLACEMENT

EXCAVATION OVER EXISTING  
PIPE = 462 CU. YD.

VOLUME OF BACK FILL FOR PIPE  
REPLACEMENT = 462 CU.YDS.

IMPACT SUMMARY HEADWALL

LENGTH OF CHANNEL IMPACTED  
= 10 LN.FT.

VOLUME OF FILL WITHIN CHANNEL  
= 135 CU.YDS.

PAUL STUTES 208 FARMINGTON  
LAFAYETTE, LA  
OTHER WATERS PERMIT  
PLAN VIEW

DATE: JULY 25, 2011

SHEET 2 OF 5



PAUL L. MIERS ENGINEERING, LLC

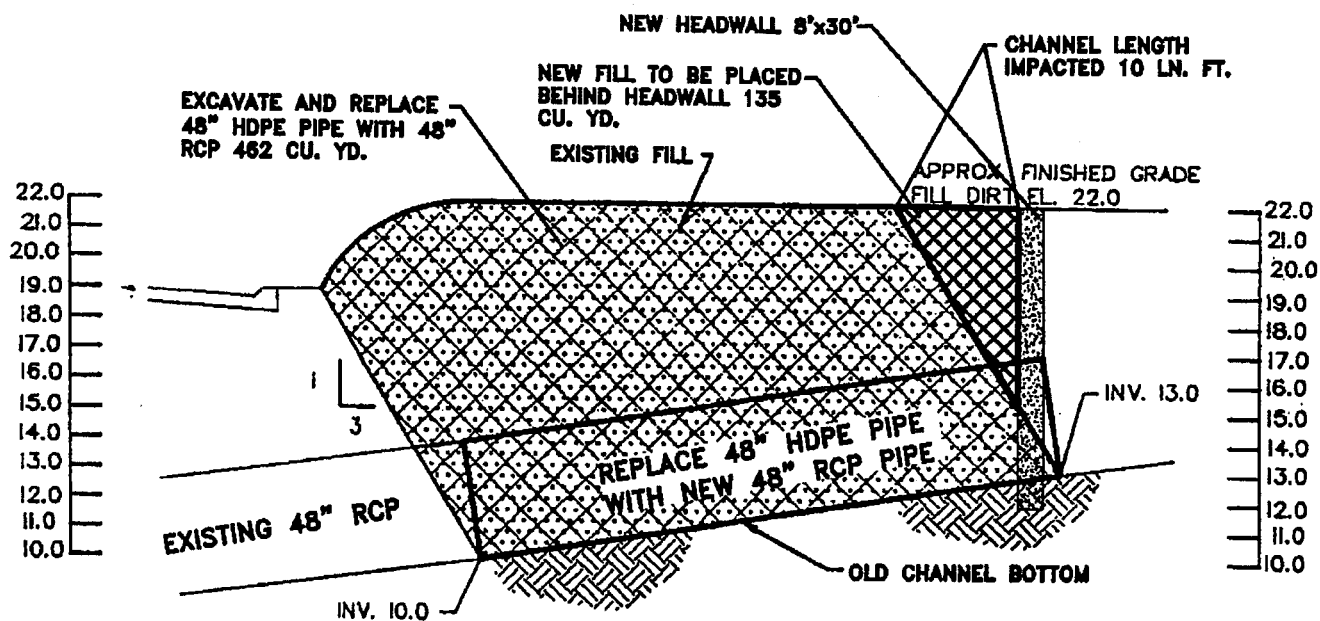
CIVIL ENGINEERS

LAND SURVEYORS

104 WESTMARK BLVD, SUITE 2A  
PHONE (337) 981-7792

LAFAYETTE, LOUISIANA 70506  
FAX(337) 981-7797

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## SECTION A - A

PAUL STUTES 208 FARMINGTON  
LAFAYETTE, LA  
OTHER WATERS PERMIT  
SECTION VIEW

DATE: JULY 25, 2011

SHEET 3 OF 5



PAUL L. MIERS ENGINEERING, LLC

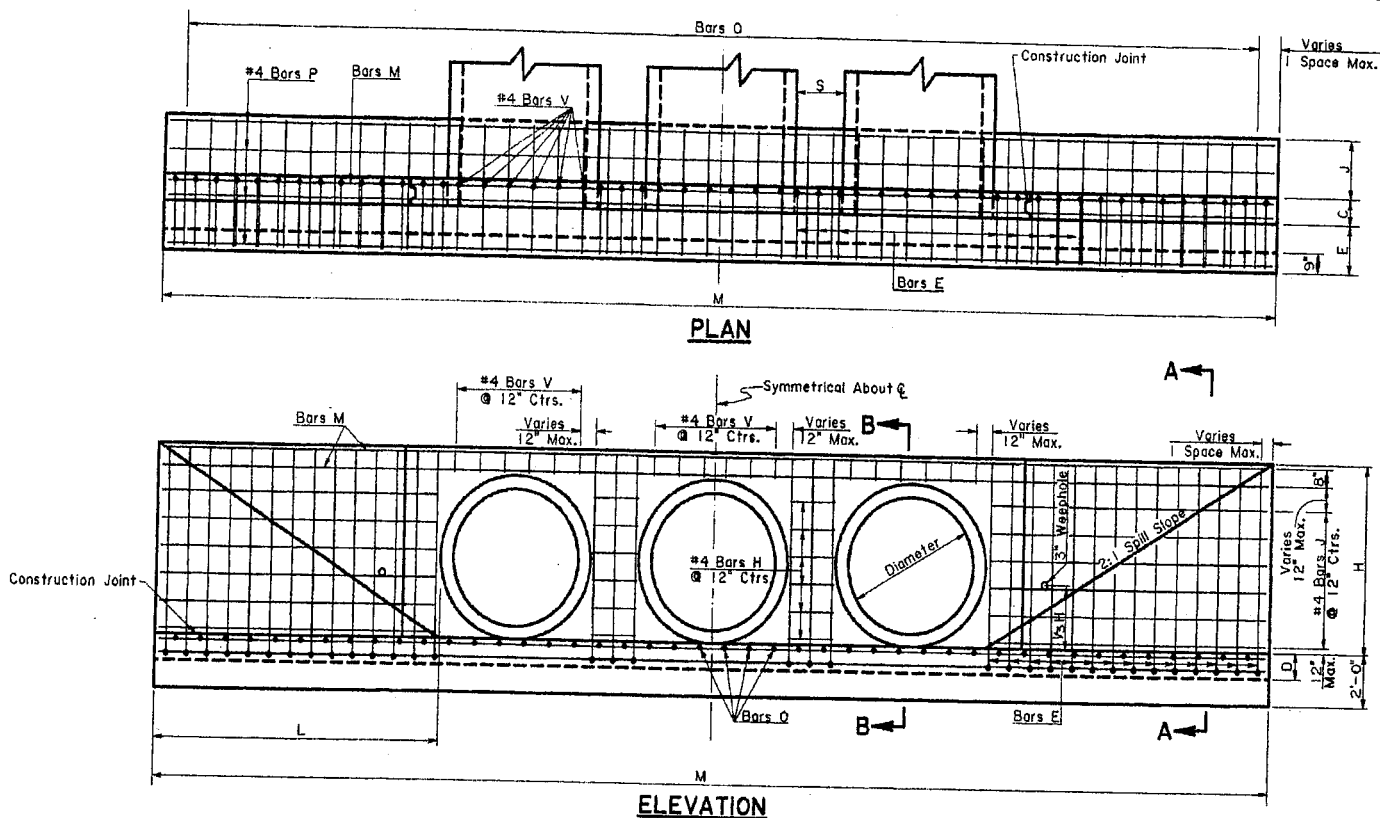
CIVIL ENGINEERS

LAND SURVEYORS

104 WESTMARK BLVD, SUITE 2A  
PHONE (337) 981-7792

LAFAYETTE, LOUISIANA 70506  
FAX (337) 981-7797

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#### GENERAL NOTES

**DESIGN:** Method- Headwalls are designed as retaining walls according to current AASHTO working stress procedures. Walls are designed for a lateral earth pressure of 40 psf with 2.0 feet of surcharge. Overturning- A minimum safety factor of 2.0 is provided against overturning. The resultant of loads is within the middle third of the footing. Sliding - A minimum safety factor of 1.5 is provided against sliding. The coefficient of friction between the footing and soil is 0.5. Foundation - The design soil bearing pressure is 1800 psf. When strength of the soil at the site is less than 1800 psf, bedding material shall be added under the footing as directed.

**MATERIALS:** Concrete- All concrete shall be class A. All exposed edges shall be 3/4 inch chamfered. Reinforcing Steel- Reinforcement shall be Grade 60. Bar spacing dimensions are to bar centers. Steel required for lap splices not detailed shall not be measured for payment. Reinforcing steel shall have 2" cover unless otherwise specified. Steel and concrete quantities shown in table are for one headwall.

A 1'-6" square of geotextile fabric (see Section 1019 of the LA DOTD Standard Specifications) shall be placed in contact with concrete behind each weep hole in addition to approximately 2 cu.ft. of concrete sand (see Section 1003.02 of the LA DOTD Standard Specifications).

**CONSTRUCTION JOINTS:** All construction joints shown are optional. For details of keyed construction joints see Standard Plan CM-49. For construction joints without key, the joint surface shall be roughened. Hardened surface shall be cleaned. Immediately before new concrete is placed, joint surface shall be saturated with water.

PAUL STUTES 208 FARMINGTON  
LAFAYETTE, LA  
OTHER WATERS PERMIT  
DETAILS

DATE: JULY 6, 2011

SHEET 4 OF 5



PAUL L. MIERS ENGINEERING, LLC

CIVIL ENGINEERS

LAND SURVEYORS

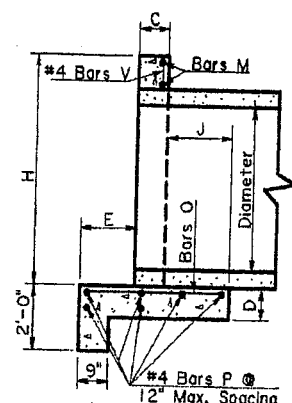
104 WESTMARK BLVD, SUITE 2A  
PHONE (337) 981-7792

LAFAYETTE, LOUISIANA 70506  
FAX (337) 981-7797

BPN 3650 SPN 08 FILE A DWG

A diagram of a 90-degree bend in a pipe. The horizontal section has length  $X$ , the vertical section has length  $Z$ , and the radius of the bend is  $Y$ .

SECTION A-A



SECTION B-B

**SHEET 5 OF 5**



LAND SURVEYORS

LAFAYETTE, LOUISIANA 70506 +  
FAX(337) 981-7797

BPN 3650 SPN 08 FILE A DWG