

## 1.0 INTRODUCTION

Union Electric doing business as (dba) Ameren Missouri (hereafter referred to as Ameren Missouri) is requesting a State of Missouri Solid Waste Disposal Area Construction Permit for a Utility Waste Landfill (UWL) to be located in northeastern Franklin County. The proposed UWL name will be "Ameren Missouri Labadie Utility Waste Landfill".

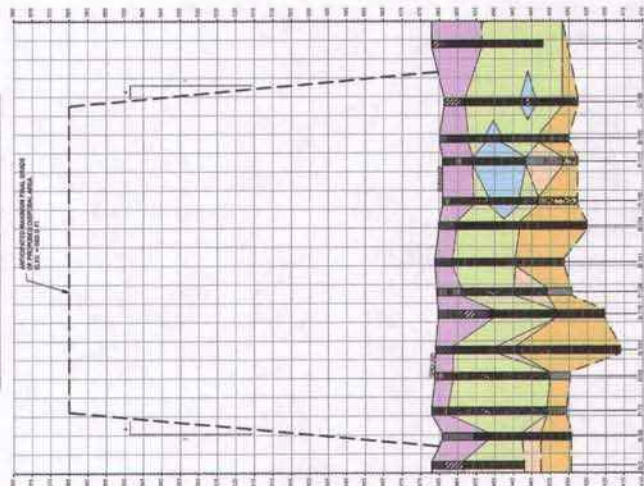
With this report, Ameren Missouri proposes to construct a UWL for disposal of coal combustion products (CCPs) from the Labadie Energy Center that pass the paint filter test (having no free liquids). This engineering report describes the facility and procedures that Ameren Missouri will use to dispose of all current and future CCPs produced by the Labadie Energy Center. This report describes the design, construction and operating techniques required to dispose of CCPs at the Labadie UWL.

The landfill design and operating procedures have been prepared in accordance with the UWL requirements of the Missouri Solid Waste Management Law and Rules and Franklin County ordinances. In addition, the design and operation of the proposed UWL have been developed in accordance with accepted engineering practice. This construction permit application, engineering design, operating manual and supporting appendices and reports are organized in a format consistent with the Missouri Solid Waste Management Rules 10 CSR 80-2 and 10 CSR 80-11 for UWL permitting, design and operation. As a reference guide, a correlation of the applicable Missouri Solid Waste regulatory references to the table of contents of this report is provided in Table 1A and Table 1B at the end of this report. Table 1A is sorted in the order of this report's table of contents. Table 1B is sorted in order of the Missouri regulatory references.

Reitz & Jens, Inc. (Reitz & Jens) and GREDELL Engineering Resources, Inc. (Gredell Engineering) are the team of design professionals retained by Ameren Missouri to develop the UWL design and Construction Permit Application (CPA). Reitz & Jens' scope of services as lead engineer included overall project management, UWL layout and design, characterizing the geotechnical engineering properties of the site, analyzing the site for global stability, settlement, flood protection, and identifying applicable criteria. Gredell Engineering's scope of services, as a subconsultant to Reitz & Jens, included completing the Detailed Site Investigation, UWL layout and design, as well as preparing the engineering reports and plans necessary to complete the solid waste permitting documents for the Missouri Department of Natural Resources (MDNR).

Ameren Missouri acknowledges that one concept proposed for the UWL construction described in this report utilizes an alternative design concept that does not adhere strictly to MDNR's historic interpretation of 10 CSR 80-11.010 for the design of the UWL. Specifically, the site conditions will result in intermittent contact of a small percentage of the constructed bottom liner (primarily at the sumps) with the alluvial groundwater. As allowed by 10 CSR 80-11.010(1), Sections 3.0 and 4.0 of this report, in conjunction with the details provided in the drawings and the appendices to this report, demonstrate that the design concepts proposed for the UWL





- FACES BOUNDARY (DASHED WHERE INTERFERED)  
 - - - - - PROPOSED LANDFILL BOUNDARY (APPROX.)  
 ■ MEAN GRAIN SIZE (mm)  
 □ WATER TABLE ELEVATION

PIEZOMETER DETAIL

TOP OF CASING  
BENTONITE SEAL  
FILTER PACK  
WELL SCREEN

## NOTES

1. SEE FIGURE 8 FOR CROSS-SECTION LOCATION
2. ADDITIONAL BOREHOLE INFORMATION PRESENTED IN APPENDIX 2 AND 6
3. ADDITIONAL, REZOMETER INFORMATION PRESENTED IN APPENDIX 5
4. WATER FILL DATA, REZOMETER MAXIMUM AND MINIMUM READINGS DURING WATER-FILLING PERIOD
5. MEAN GRAIN SIZE DATA PRESENTED IN APPENDIX 2
6. SEE SECTION 1 OF REPORT FOR ADDITIONAL DISCUSSION OF CROSS-SECTIONS

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