



May 9, 2016

Mr. Dane Miller  
Green Valley Landfill General Partnership  
1551 Green Valley Drive  
Ashland, KY 41102

**Re: Proposal for Site Characterization**

Mr. Miller:

Pursuant to your request, Auxier and Associates, Inc. (Auxier) has prepared this Proposal to conduct a Site Characterization at the Green Valley Landfill, located at 1551 Green Valley Drive, Ashland Kentucky. It is our understanding that the Kentucky Department of Environmental Protection has alleged that TENORM waste was sent to the landfill between the time periods of May 2015 to January 2016. We understand that information is not currently available regarding the specific radiological content of the waste alleged to have been disposed of at the landfill.

You have identified the relevant landfill Area of Concern (AOC) as Unit 2. Figure 1 reflects the area covered by the gamma walkover conducted March 9, 2016, by the Cabinet for Public Health.

We are proposing a Radiation Survey and Site Investigation for the AOC to evaluate the risk posed to on-site and off-site receptors from current site conditions and to perform the Initial Property Screening for an industrial property as described in 401 KAR 100:030 Section 4(2). All monitoring activities will be conducted by trained and certified Auxier personnel and according to established Auxier procedures. CVs for the Certified Health Physicist and the Project Manager are included with this proposal. All samples will be analyzed by an approved and certified laboratory. A site-specific Sampling and Analysis Plan (SAP) which includes all required elements for a field sampling plan (FSP) and a Quality Assurance Project Plan (QAPP) will define data quality objectives, specify analytical requirements, and guide all investigation activities.

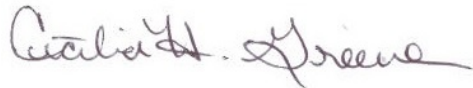
The scope of the investigation will include the identification of areas of soil producing gamma radiation that is above an action level. This action level is a defined factor above background levels (~ two times background). Radiological surveys will be performed using Ludlum 44-10 (2" x 2") Sodium Iodide (NaI) detector coupled to a Ludlum 2221 survey meter modified to integrate and transfer data from the detector at a rate of once per second to a Trimble GeoPositioning Systems (GPS) which stores the gamma reading and the location of that reading. The detector will be hung approximately six-inches above the ground surface and advanced at a rate of 0.5 meters per second. Separation between the scanned transit lines will be approximately 1.5 meters unless influenced by terrain. Stored data will be downloaded and processed using commercially available software applications and plotted on a map of the area. Individual points will be assigned colors based on the magnitude of the instrument's response at that location.

Areas will be identified and marked where gamma surface scan measurements are greater than the action level. Exposure rate measurements will be collected at the surface and at one meter above the surface, and soil samples will be collected from identified locations.

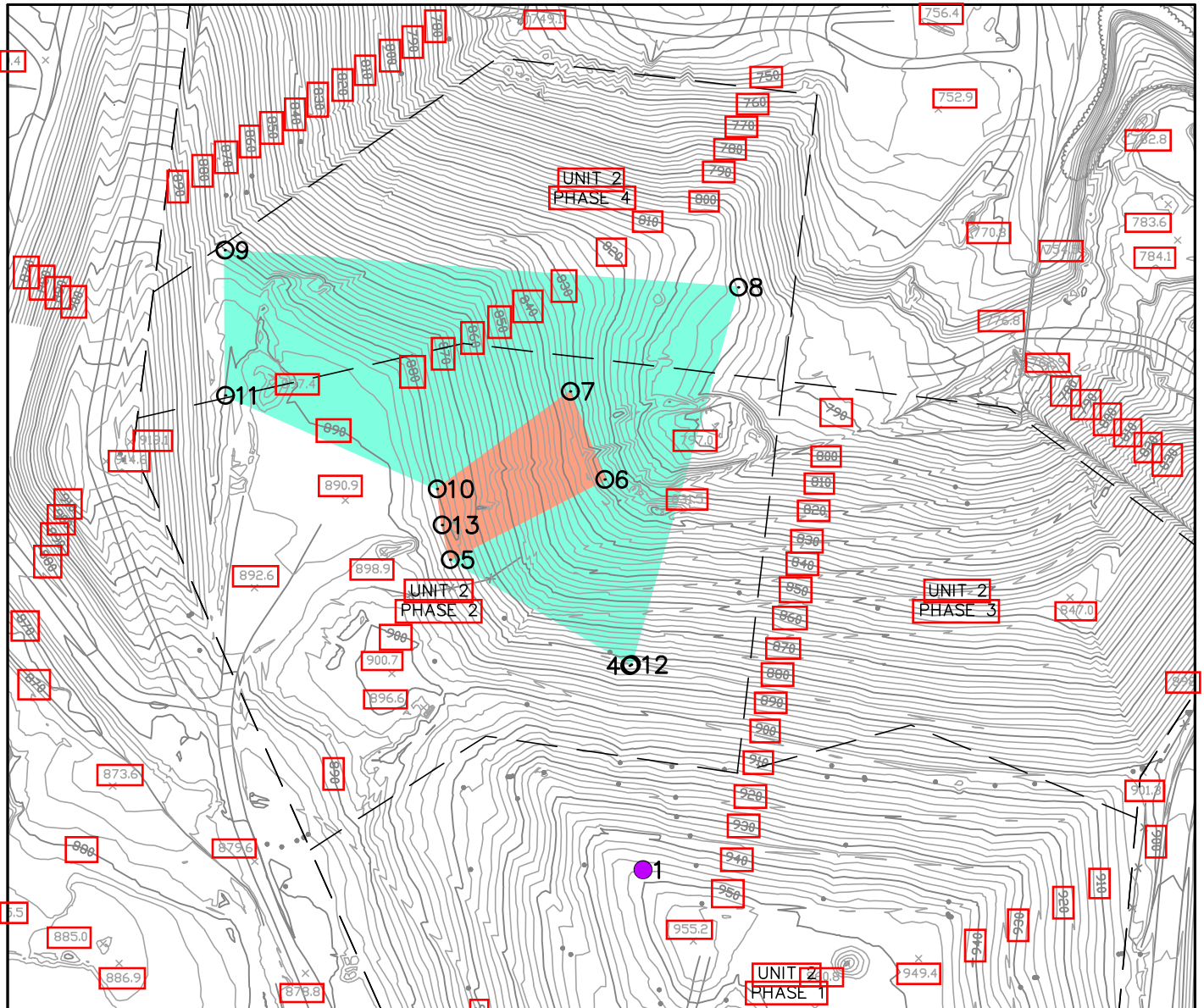
Appropriate areas will be selected for determination of the Site's background gamma radiation levels and soil radionuclide concentrations from one or more of the relatively undisturbed areas as shown in Figure 2. Background gamma radiation and soil concentration information will be collected using the same methodology for the investigation area. Thousands of data points will be collected using the GPS system which will allow for statistically relevant evaluation of the background levels of radiation.

The site characterization will include collecting water samples upstream and downstream of the investigation area to evaluate the concentrations of radioactive materials in storm water runoff. Samples will also be collected from any potentially impacted sedimentation ponds or leachate. These samples will be analyzed for naturally occurring radioactive materials via isotopic analyses and gamma spectroscopy.





A summary report will be submitted at the end of the project and will include all survey, sampling and analytical results. A map will be provided showing sample locations, survey maps generated from portable survey results married with GPS location data, field and analytical data tables, and data validation summaries. Analytical laboratory documentation, case narratives and all supporting documentation for a Level IV package deliverable will also be provided as part of the report.

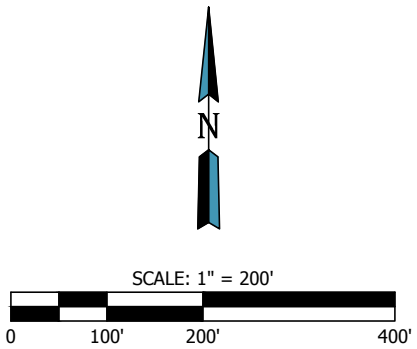


Auxier & Associates  
Senior Health Physicist  
Project Manager






**LEGEND**

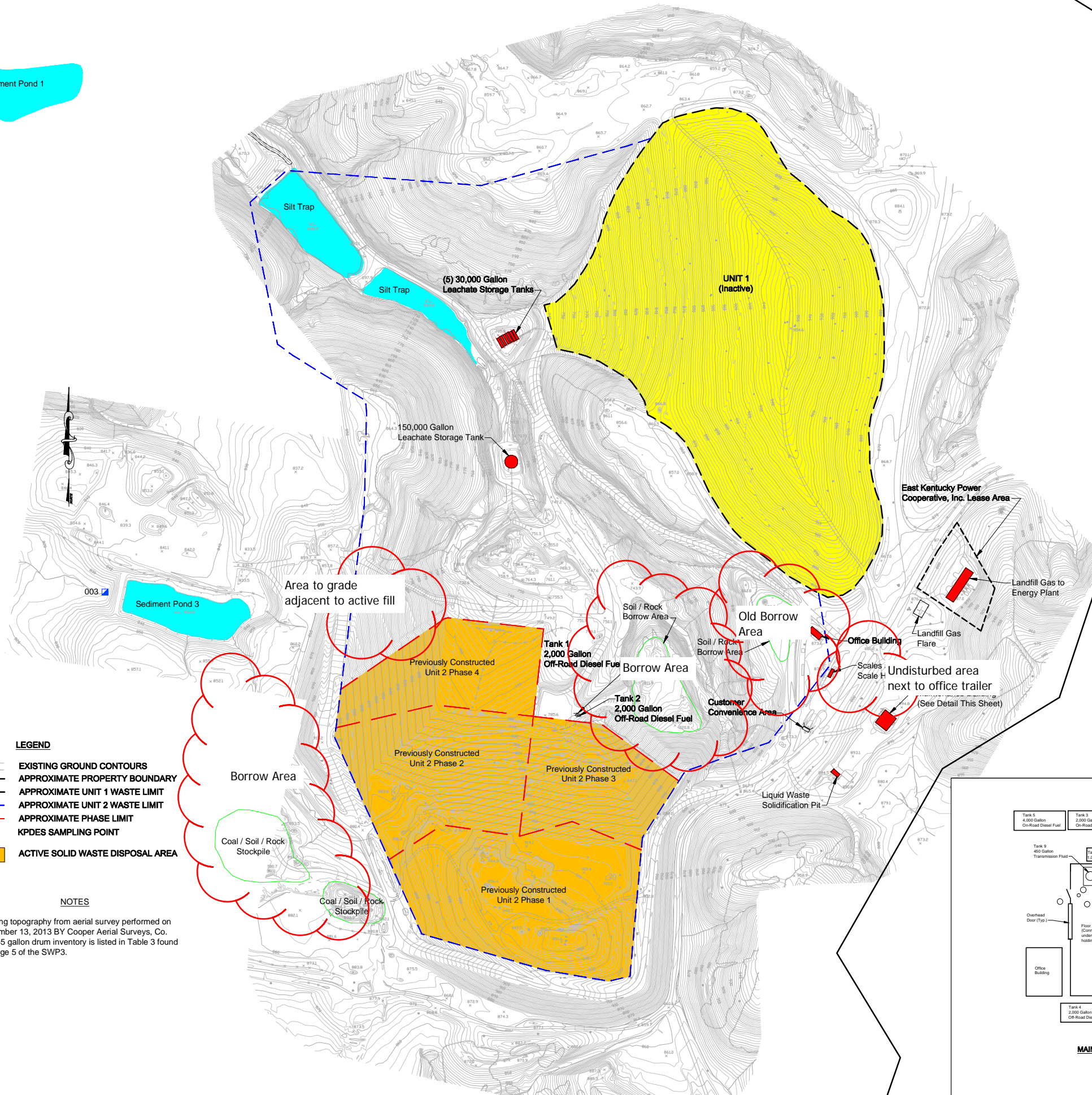
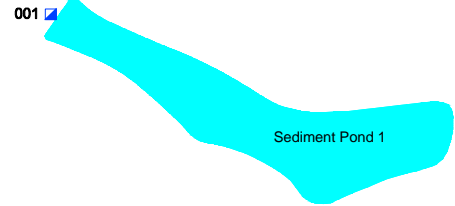
-  GAMMA WALK OVER SURVEY AREA – APPROXIMATE DISPOSAL AREA FROM MAY 2015 TO JANUARY 2016.
-  EXCLUDED AREA (NOT SURVEYED) – ACTIVE WORKING AREA, UNABLE TO SCAN BECAUSE OF HEAVY TRUCK AND EQUIPMENT TRAFFIC
-  APPROXIMATE BACKGROUND POINT
-  AREA BOUNDARY GPS LOCATIONS



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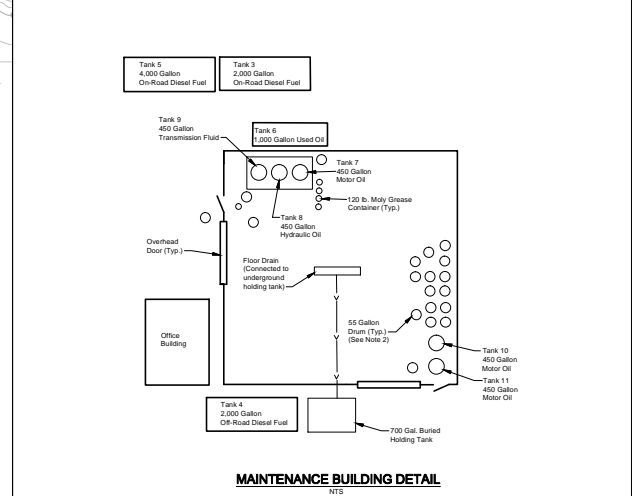
SURVEY CONDUCTED MARCH 9, 2016

<p>PREPARED FOR:</p> 	<p><b>RADIATION HEALTH BRANCH GAMMA WALK OVER SURVEY</b>  <b>GREEN VALLEY LANDFILL</b>   <b>GENERAL PARTNERSHIP</b>  <b>GREENUP COUNTY, KENTUCKY</b>  <b>PERMIT NO. 045-00012</b></p> <p><small>REUSE OF DOCUMENTS</small>          THIS DOCUMENT, AND THE DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF WEAVER CONSULTANTS GROUP, AND IS NOT TO BE USED IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF WEAVER CONSULTANTS GROUP.</p>	 <p><b>FRANKFORT, KENTUCKY</b>          (855) 403-7149 www.wcgrp.com</p>	<p>DRAWN BY: WJL          REVIEWED BY: RMH          DATE: 3/12/2016          FILE: 0120-484-10-09          CAD: Gamma Walk.dwg</p> <p><b>FIGURE 1</b></p>
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- LEGEND**
- EXISTING GROUND CONTOURS
  - APPROXIMATE PROPERTY BOUNDARY
  - APPROXIMATE UNIT 1 WASTE LIMIT
  - APPROXIMATE UNIT 2 WASTE LIMIT
  - APPROXIMATE PHASE LIMIT
  - KPDES SAMPLING POINT
  - ACTIVE SOLID WASTE DISPOSAL AREA

- NOTES**
1. Existing topography from aerial survey performed on December 13, 2013 BY Cooper Aerial Surveys, Co.
  2. The 55 gallon drum inventory is listed in Table 3 found on page 5 of the SWP3.



DRAWN BY: JTB	REVISIONS
CHECKED BY: STO	
DATE: OCT. 2014	
SCALE: 1" = 200'	

**KENVIRONS, INC.**  
FRANKFORT, KENTUCKY



PROJECT NO.  
2014125  
SHEET NO.

FIGURE 2 - SITE LAYOUT

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