

## **Phase I Trimble County Landfill & CCRT Project**

### **Quarterly Report – Update #11**

**October 30, 2018**

#### **Executive Summary**

This report covers LG&E and KU’s (“Companies”) progress on the Phase I Trimble County Landfill and CCRT.<sup>1</sup> Project through the third quarter of 2018.

Safety performance to date remains excellent with a year-to-date OSHA Recordable Incident Rate of 0.60 and an inception-to-date OSHA Recordable Incident Rate of 0.79, compared to the industry average of 3.2.

The Project’s total forecasted cost has been lowered to \$290.6 million (net)<sup>2</sup>, which reflects a reduction from the last forecast of \$301.9 million and a significant reduction from \$321.9 million (net) as provided in Case No. 2015-00194. The forecast reflects all major contracts have been awarded, as well as spend to date and progress on construction. Total spend to date has increased from \$209.8 million (net) to \$225.7 million (net) through September 30, 2018.

As previously reported, all necessary permits to construct the Project have been received. The US Corps of Engineers visited the Landfill construction site on October 22, 2018 with very favorable results. The commissioning activities for the CCRT Fly Ash and Gypsum subprojects has begun with performance testing planned for October through December, 2018. The Project background information (i.e., scope, contract awards, conceptual design layouts, and permitting status) is located in the Appendix.

Construction of the CCRT subproject continues to progress very well to plan with all major equipment being set and the installation of the various mechanical and electrical subsystems nearing completion. Commissioning activities for the gypsum dewatering system of the CCRT subproject has begun. Construction on the CCR Transport subproject scope during the quarter has consisted of erection of pipe conveyor sections onto the foundations, installation of structural steel support frames for the pipe conveyor and truck loading facility, and major earthmoving and civil construction efforts for the landfill sediment pond and roadway corridor from the generating station to the future landfill site. AMEC’s subcontractor, Louisville Paving, a local company, has completed the bridge deck for the bridge over KY 1838, which has allowed the bridge to be utilized for limited construction traffic to reduce impacts to local roads. Construction on the Landfill subproject scope continues by Charah, also a local company. Charah

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<sup>1</sup> The Coal Combustion Residuals Treatment (“CCRT”) subproject scope is described in detail in the Appendix found on page 11.

<sup>2</sup> Co-Owners of the Trimble County plant: Illinois Municipal Electric Agency (IMEA) and Indiana Municipal Power Agency (IMPA) are responsible for 25%. IMEA owns 12.12% and IMPA owns 12.88%. Co-owner share is not included in the costs provided in this report.

completed the clearing of trees and continues maintaining the site erosion control measures, stripping and grading slopes, and rock blasting associated with landfill leachate and storm-water basins. The forecasted end date of the subprojects has not changed. No additional land purchases occurred during the quarter; however, the Companies continue to discuss land purchases with a few adjacent property owners to the future landfill as it relates to providing additional buffer areas between the landfill and residents.

### CCRT & Transport Quarterly Status Update

The Companies continue to hold project review meetings with AMEC and the station. Activities at weekly project engineering and construction meetings include the review of engineering drawings, 3D models, construction plans and schedules, and final equipment installation and commissioning updates and planning.

The procurement and construction status for the major equipment is summarized in the table below:

Equipment	Awarded Contractor	Status
Unit 1 Bottom Ash Submerged Chain Conveyor	United Conveyor Corporation	Equipment placed into service in November 2017 as planned.
Fly Ash Conditioner and Conveying System	United Conveyor Corporation	Equipment delivered and construction nearing completion. Commissioning activities have begun.
Gypsum Dewatering Vacuum Belt Filter System	FLSmidth	Equipment delivered and construction complete. Commissioning has begun and will continue through 4Q, 2018 as planned.
Gypsum Portal Scraper Reclaimer	Ameco (same vendor as Ghent’s portal reclaimer commissioned in December 2014)	Equipment delivered and construction complete. Commissioning has begun
Pipe Conveyor	Beumer Group (same vendor as Ghent’s pipe conveyor commissioned in December 2014)	Equipment delivered with construction of support foundations and structural steel support frames in progress.

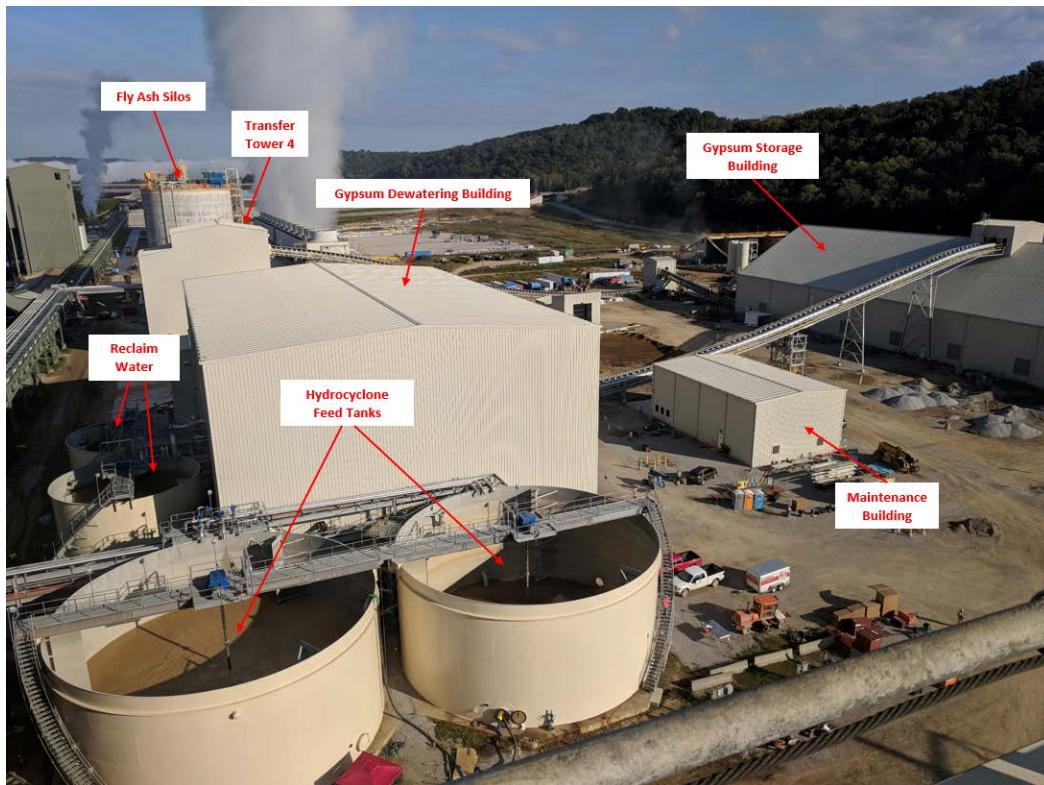
AMEC, with involvement from the Companies, is complete on engineering with the exception of accounting for “as built” conditions on the final documents. The CCRT scope continues to progress well with construction winding down and the focus now on commissioning and testing of equipment. A significant milestone was met during the quarter by AMEC when they achieved Mechanical Completion of the gypsum subproject.

The CCR Transport scope is also progressing well. During the reporting period, AMEC and their subcontractors continued major earthwork activities. AMEC’s subcontractor, Louisville Paving, completed the bridge deck for the bridge over KY 1838 and are on schedule to complete the approach slabs and moment slab during the fourth quarter. They also began constructing ditches along the Haul Road to capture storm-water runoff. Blasting, as part of the CCRT Transport subproject, has been completed. AMEC has received all pipe conveyor parts from Beumer and continues installing pipe conveyor foundations. Beumer

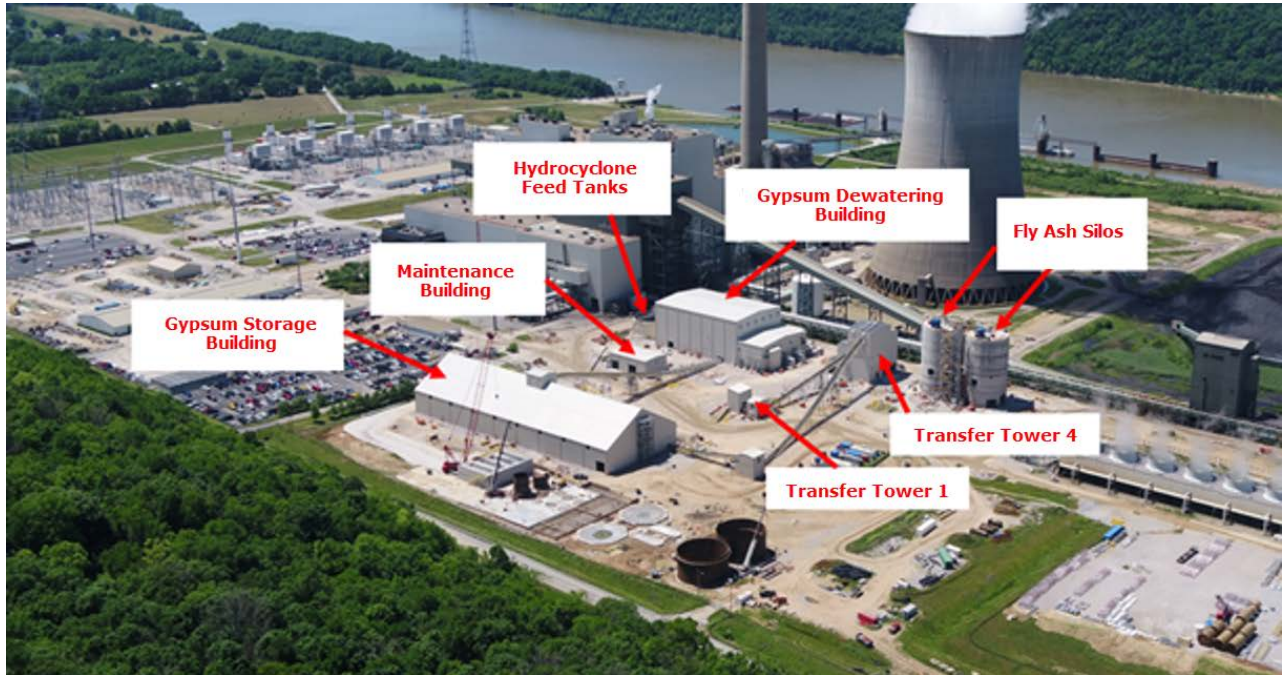
and their subcontractor Bowen have begun installing the structural steel support frames for the pipe conveyor, progressing from the Fly Ash Silos towards the Truck Unloading Facility at the Landfill.



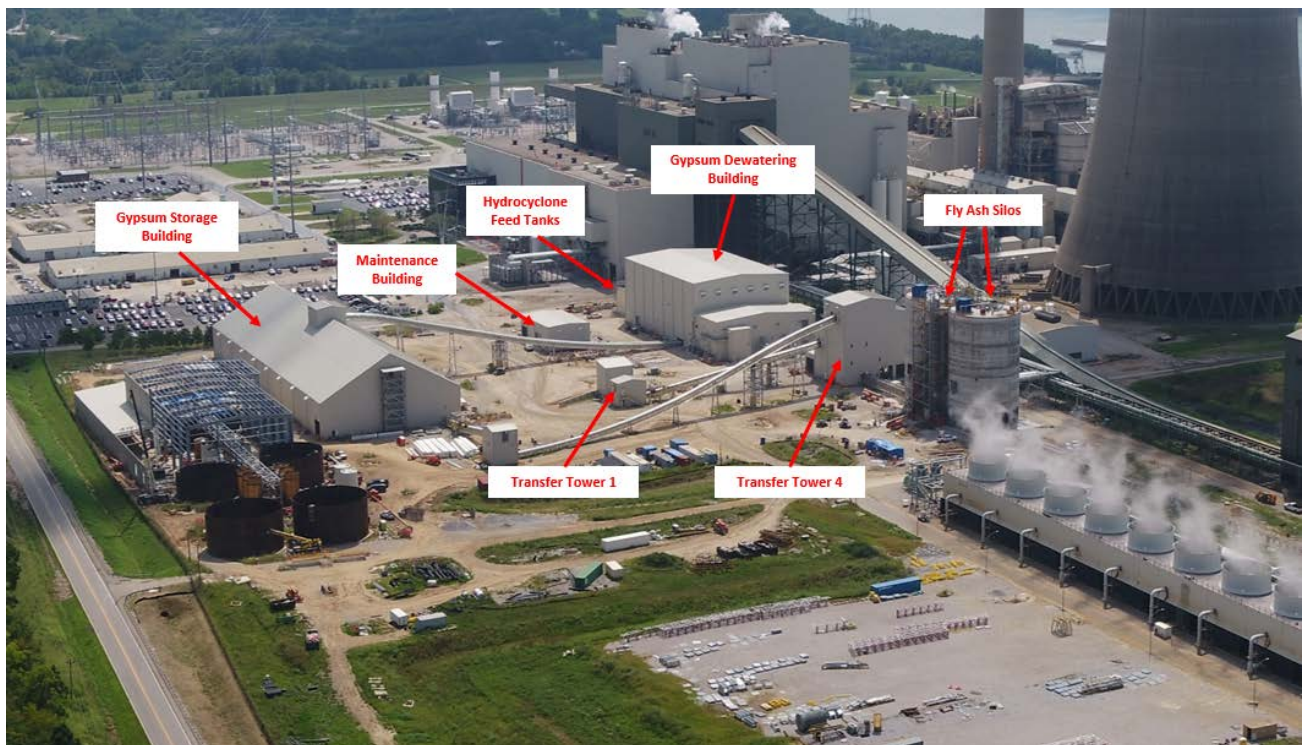
*CCRT Project Area Looking North – June 2018*



*CCRT Project Area Looking North – September 2018*



*CCRT Project Area Looking South – June 2018*



*CCRT Project Area Looking South – End of August 2018*



*CCR Transport Corridor – View of Bridge over KY 1838 to Landfill (Looking North) – June 2018*



*CCRT Transport Corridor – View of Bridge Over KY 1838 to Landfill (Looking West) – End of August 2018*

## Landfill Quarterly Status Update

Charah continues to receive deliveries of landfill infrastructure components including concrete culverts, storm-water structures, piping, rock, and liner components. Charah and its subcontractors continue stripping and grading slopes, blasting of rock, and continue major excavation and construction of the access road to the ravine landfill lower work area (i.e., sediment pond, storm-water pond, leachate pond). The outfall structures associated with the ponds continue progressing very well. The US Corps of Engineers visited the Landfill construction site on October 22, 2018 and had no findings of deficiency. Comments made by the Corps attendees were very favorable towards the project.

AMEC Foster Wheeler Environment & Infrastructure's construction quality assurance activities for the landfill this quarter include visual inspections, testing compaction of fill material, attending meetings, and reviewing informational submittals and drawings.



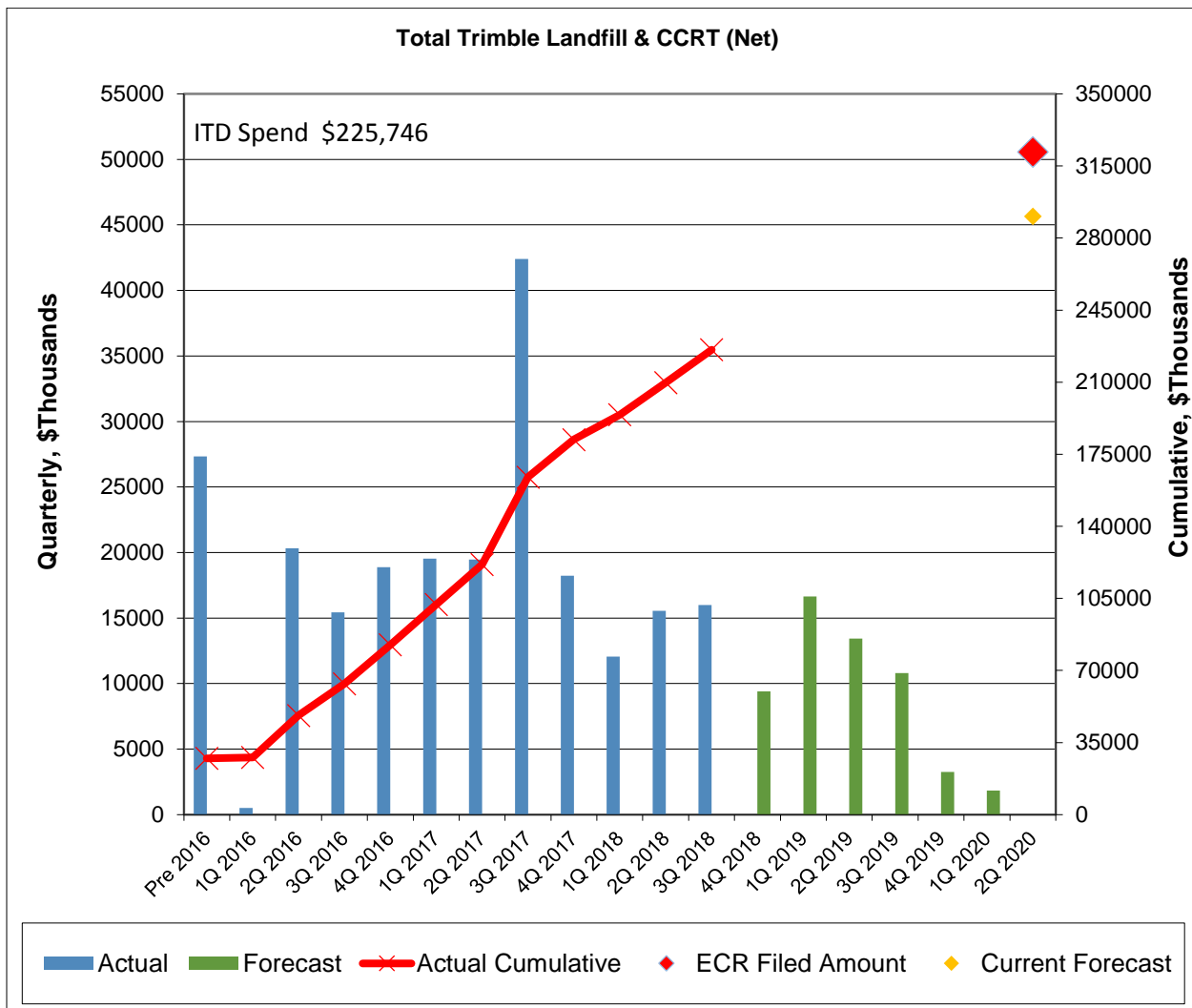
*CCR Landfill Overview – View from Station (Looking East) – June 2018*



*CCR Landfill Overview – View from Station (Looking East) – End of August 2018*

## Financials

The Project’s total forecasted cost has been lowered to \$290.6 million (net), which reflects a reduction from the previous forecast of \$301.9 million (net) and a significant reduction from \$321.9 million (net) as provided in Case No. 2015-00194. The forecast reflects all major contracts have been awarded, spend to date, and progress on construction. Total spend to date has increased from \$209.8 million (net) to \$225.7 million (net) (KU \$103.7M / LG&E \$122.0M) through September 30, 2018. Note for the graph below: (1) includes a symbol (◆) to show the current forecast to completion; and (2) Inception-to-Date (“ITD”) Spend is shown in the upper left corner.





## **Planned Activities for Next Quarter**

### **CCRT**

The Companies will continue oversight of the construction and commissioning activities by AMEC. AMEC's site activities will focus on the testing of equipment, final erection of process and handling equipment assemblies, and continued commissioning and testing of the gypsum dewatering and fly ash subsystems.

### **Transport**

AMEC's subcontractor, Louisville Paving, will complete the approach slabs and moment slab for the bridge over KY 1838, as well as continue to install storm-water trenches and storm-water structures for the future road from the generating station to the landfill. AMEC will continue the construction of the pipe conveyor foundations and structural steel support frames for the unloading facilities.

### **Landfill**

Charah will continue with major earthwork and blasting activities associated with Phase I landfill construction. The Companies remain open to purchase additional land within close proximity of the landfill to provide a further buffer area between local residents and landfill operations.

## APPENDIX

### Scope

The Trimble County Landfill and CCRT Project scopes include: CCR Treatment facilities, CCR Transport system, and Phase I of a dry CCR Landfill.

The CCR Treatment facilities include the Unit 1 bottom ash dewatering system, conversion of station fly ash transport from wet to dry conveyance, fly ash storage and treatment equipment and the station gypsum dewatering system and associated gypsum storage/reclaim system. The CCR Transport system includes a pipe conveyor (approximately 1.5 miles) from the CCR Treatment area to the landfill location, a bridge over KY 1838, and a road from the station to the new dry CCR landfill. The CCR Landfill includes Phase I of a new dry CCR landfill that is designed to receive and manage CCR generated over approximately 37 years. The Landfill will be developed in multiple phases with each fully integrated as an extension of the adjacent landfill phase or cell. Only Phase I is included in the CCRT and Landfill project. The certificate of public convenience and necessity for this project awarded in Case Nos. 2009-00197 and -00198 and affirmed in Case No. 2015-00194.

### Previously Reported Contract Awards

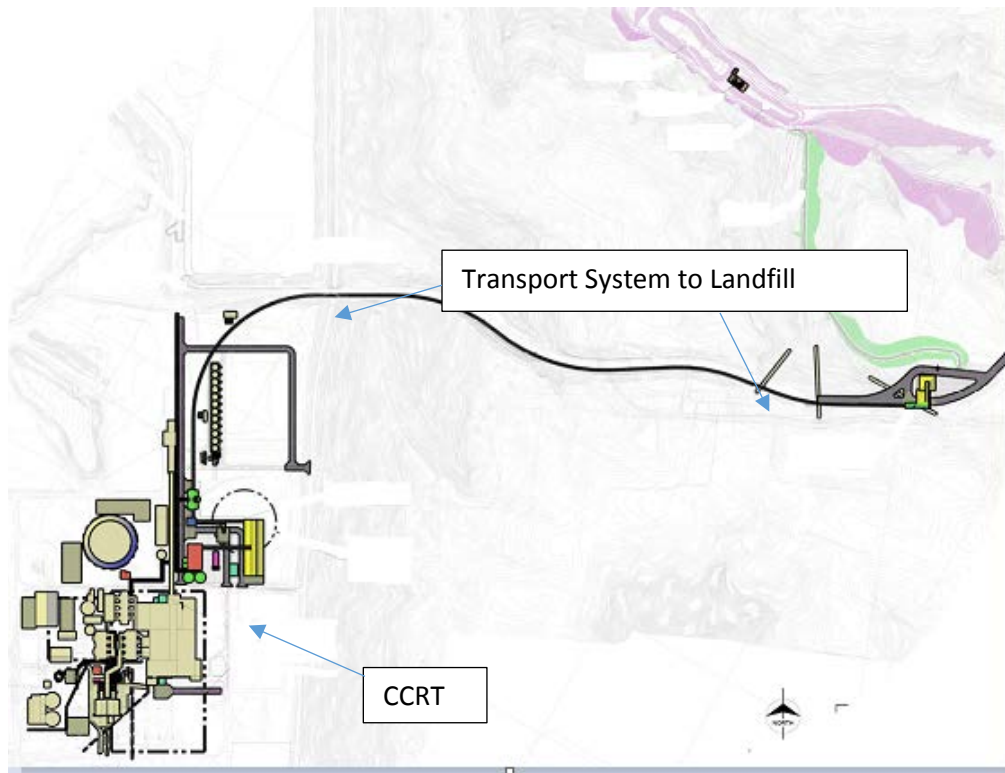
The CCRT Owner's Engineer contract was awarded to B&McD. B&McD has supported various projects for LG&E and KU, and recently supported the Trimble County Unit 1 PJFF capital project. B&McD assisted in the specification development for the CCRT and bottom ash scopes of work, and assisted in the bid evaluations and EPC finalization.

The Landfill Owner's Engineer contract was awarded to GAI. GAI has been the Engineer of Record through the permitting and landfill design phases, as well as the engineering firm that developed the specifications for the road and bridge work.

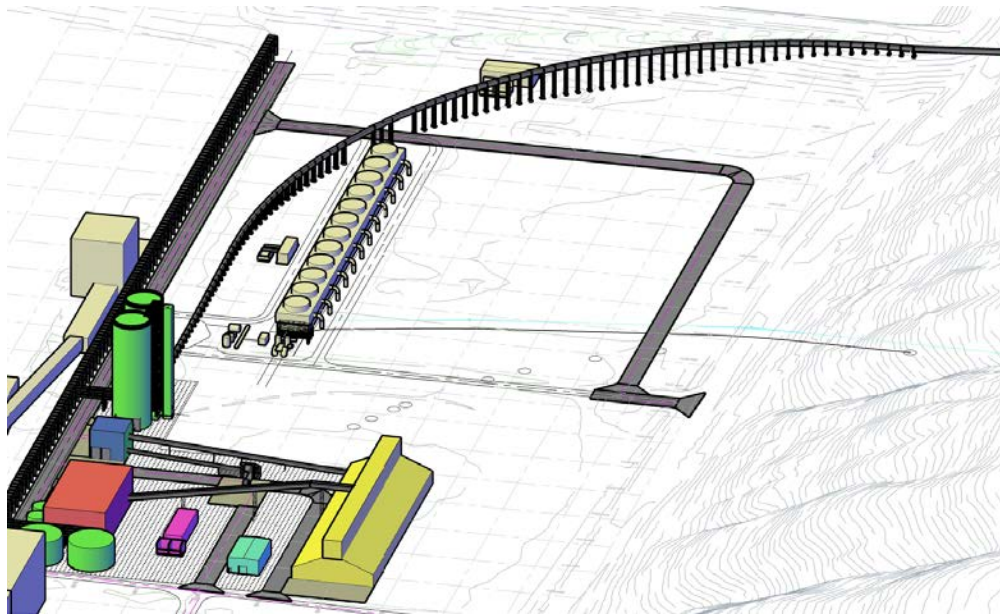
The CCRT and Transport portion of the project was awarded to AMEC. An EPC was executed with AMEC on April 7, 2016. AMEC has performed very well for the Companies in the recent past with completion of the E.W. Brown Unit 3 and Trimble County Unit 1 baghouse projects. AMEC has also been awarded the CCR Rule Process Water System projects for Trimble County and Mill Creek generating stations.

The Phase I Landfill portion of the project was awarded to Charah, a local company. Charah has previously completed successful projects for the Companies, such as the Ghent and E.W. Brown Landfill Phase I projects.

## Conceptual Site Layout Graphics



Graphic 1 - Conceptual Layout of the CCRT and Transport System



Graphic 2 - Conceptual 3D Site Layout of the CCRT

**Table 1 - Landfill Permitting Status**

<u>Required Regulatory Permit</u>	<u>Submitted</u>	<u>Date Submitted</u>	<u>Date Received</u>
Kentucky Division of Waste Management Landfill Permit	Yes	January 3, 2014	<u>February 2017</u>
US Army Corps of Engineers 404 Permit	Yes	April 25, 2014	<u>June 28, 2017</u>
US Army Corps of Engineers Nationwide Permit (Monitoring Wells)	Yes	September 9, 2013	September 2014
Kentucky Division of Water 401 Water Quality Certificate	Yes	April 25, 2014	<u>October 24, 2016</u>
Kentucky Division of Water Dam Safety Permit	Yes	<u>February 15, 2016</u>	<u>August 2016</u>
Kentucky Transportation Cabinet Bridge Permit	Yes	January 30, 2014	February 2015
Kentucky Division for Air Quality Title V Revised Air Permit	Yes	<u>October 12, 2015</u>	<u>December 2015</u>

Note: The underlined dates reflect updates from Application Exhibit 3 in Case No. 2015-00156 filed on May 22, 2015, which the Commission by order later consolidated into Case No. 2015-00194.