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September 6, 2017

VIA: Electronic Mail

U.S. Environmental Protection Agency
Region VII SUPR/MOKS
11201 Renner Boulevard
Lenexa, KS 66219

ATTENTION: Ms. Christine Jump

**SUBJECT: Draft Stormwater Monitoring Plan
West Lake Landfill Operable Unit 1, Bridgeton, Missouri**

Dear Ms. Jump,

On behalf of Cotter Corporation (N.S.L.), Bridgeton Landfill, LLC, Rock Road Industries, Inc. (collectively, the OU-1 Respondents) and the United States Department of Energy (the Federal Respondent), Engineering Management Support Inc. (EMSI) submits this draft Stormwater Monitoring Plan (the Plan), which describes stormwater sampling and analysis at Operable Unit-1 (OU-1) of the West Lake Landfill. Per EPA's letter of December 12, 2016, this Plan addresses stormwater monitoring during the period prior to implementation of a final remedy for OU-1. As discussed further below, this Plan is based on a prior stormwater monitoring plan established under the UAO (defined below) for the construction of a non-combustible cover (NCC) over portions of OU-1 (referred to herein as the NCC stormwater monitoring plan). This Plan has been further revised in response to comments provided in the EPA's August 8, 2017 letter regarding the March 22, 2017 version of the plan. Responses to EPA's comments are being provided separately along with a Quality Assurance Project Plan (QAPP) for the stormwater water monitoring activities.

Background

On February 23, 2016, EMSI, on behalf of the OU-1 Respondents, submitted a proposed plan for performing stormwater monitoring during construction of the NCC (the NCC stormwater monitoring plan) required pursuant to the Unilateral Administrative Order (UAO) for Removal Action (EPA Docket No. CERCLA-07-02016-0002) for the Surface Fire Mitigation Removal Action dated December 9, 2015. EPA provided conditional approval of the NCC stormwater monitoring plan on March 1, 2016, and the plan was implemented in March 2016. Stormwater monitoring has continued to be conducted since that time in accordance with the NCC stormwater monitoring plan, as amended.

On April 4, 2016, EPA provided comments to the February 23, 2016 NCC stormwater monitoring plan. The NCC stormwater monitoring plan was revised to address those comments and re-submitted to EPA on April 11, 2016. EPA provided additional comments on July 5, 2016, and a further revision to the NCC stormwater monitoring plan was submitted to EPA on July 15, 2016. On September 9, 2016, EPA provided comments on the July 15, 2016 version of the NCC stormwater monitoring plan, which resulted in a significant increase in the number of monitoring locations. These directives were implemented during the December 2016 stormwater monitoring activities.

By letter dated December 12, 2016, EPA confirmed the transfer of this stormwater monitoring plan from the UAO to the Administrative Order on Consent, EPA Docket No. VII-93-F-0005 (AOC). The stormwater monitoring plan was revised to address EPA's September 9, 2016 comments and was submitted on March 22, 2017. EPA provided comments to the March 2017 plan in its correspondence dated August 9, 2017. The stormwater monitoring activities described above and herein have been reported to EPA as part of the monthly progress reports submitted pursuant to the UAO, and subsequently (as of December 2016), the AOC.

This letter presents the revised Plan to address EPA's comments concerning performance of ongoing stormwater monitoring within OU-1.

OU-1 Stormwater Monitoring Points

In accordance with EPA's requirements, the OU-1 Respondents propose to sample six (6) potential stormwater outfalls (OU-1-002, 004, -006, -007, 008, and -009) and five (5) inspection/monitoring points (OU-1-001, -003A, -005, -010, and -011), the locations of which are identified on Figure 1:

1. Inspection/monitoring point OU-1-001 (formerly NCC-001) located at the mouth of the culvert that conveys stormwater discharge from the southwestern portion of Area 1 to the north beneath the landfill access road;
2. Potential outfall OU-1-002 (formerly NCC-002) located near the northern corner of Area 1 at the northeast end of the perimeter drainage channel along the north side of Area 1. This channel conveys stormwater from Area 1 to the drainage structure located along St. Charles Rock Road;
3. Inspection/monitoring point OU-1-003A (formerly NCC-003A) located along the interior access road to Area 2 just outside the entrance to Area 2;
4. Potential outfall OU-1-004 (formerly NCC-004) located near the eastern corner of Area 2 near the northern corner of the OU-2 Closed Demolition Landfill;

5. Inspection/monitoring point OU-1-005 located at the northern corner of the Buffer Zone;
6. Potential outfall OU-1-006 located near the southwestern-most point of the Buffer Zone;
7. Potential outfall OU-1-007 (equivalent to Bridgeton Landfill Outfall 007) located at the northeastern end of the perimeter drainage channel along the north side of the landfill access road;
8. Potential outfall OU-1-008 located on the southeastern end of Area 1 drainage features located on the west side of St. Charles Rock Road;¹
9. Potential outfall OU-1-009 also located on the southeastern end of Area 1 drainage features located on the west side of St. Charles Rock Road;
10. Inspection/monitoring point OU-1-010 located north and east of OU-1-006 in the Buffer Zone; and
11. Inspection/monitoring point OU-1-011 located north and east of OU-1-010 in the Buffer Zone.

In addition to sampling these eleven (11) designated stormwater monitoring points, the OU-1 Respondents will continue to perform visual inspections of potential points of stormwater discharge from the northwestern and northeastern boundaries of Area 2 to determine if stormwater discharge occurs in these areas, in accordance with EPA's April 4 and September 9, 2016 letters. Specifically, the slope along the northeastern boundary of Area 2 will continue to be inspected for the presence of any stormwater flow that may be occurring down the slope to the perimeter drainage channel located between Area 2 and St. Charles Rock Road. Depending upon physical access constraints (*e.g.*, vegetation density, the presence of ponded water, or excessively muddy conditions along the perimeter drainage channel), this inspection may be performed along the length of the perimeter drainage channel outside of the Area 2 fence or, alternatively, from within Area 2 along the top of the slope adjacent to the Area 2 fence line.

The OU-1 Respondents will continue to inspect the northern boundary of Area 2 for potential stormwater discharge in accordance with EPA's April 4 and September 9, 2016 letters. Depending upon physical access constraints (*e.g.*, vegetation density or the presence of excessively muddy conditions), this inspection may be performed along the toe of the Area 2 slope. Alternatively, in the event that physical access along the margin of Area 2 is limited, this inspection may be performed offsite. Specifically, the southern terminus of the drainage ditch located along the east side of Crossroads Industrial Drive

¹ This is different from the "eighth outfall" identified in EPA's September 9, 2016 letter, which related to flow from the North Quarry portion of the Bridgeton Landfill, not from OU-1, and accordingly is not included as part of this OU-1 plan.

adjacent to the Enterprise Truck Rental facility (Inspection Point A on Figure 1) and also near the southern corner of the Artur Express Terminal property (Inspection Point B on Figure 1) will be inspected for possible stormwater flow that may originate from Area 2. In the event that stormwater flow is observed to occur in either of these areas, the OU-1 Respondents will conduct additional inspections between these locations and Area 2 to determine if stormwater runoff from the northwestern boundary of Area 2 is contributing to the observed flow. If field personnel observe stormwater discharge from Area 2, samples of this stormwater discharge will be collected.

The OU-1 Respondents will continue to inspect the eastern boundary of Area 1 for potential stormwater discharge. If stormwater flow is observed to occur in this area at locations other than designated locations OU-1-008 and OU-1-009, samples of this stormwater discharge will be collected.

The inspection areas are depicted on Figure 1:

1. Buffer Zone;
2. Buffer Zone near OU1-005;
3. Northwest Side of Area 2;
4. Top of Berm North Side of Area 2;
5. Northeast Side of Area 2; and
6. East Side of Area 1.

As further requested by EPA in its August 9, 2017, correspondence, a Quality Assurance Project Plan (QAPP) for methods and procedures to be used for stormwater sample collection and analyses is attached.

Also per EPA's August 9, 2017 comments, site stormwater culverts / features / water bodies / drop boxes, etc. are depicted on Figure 2.

Timing and Frequency of Stormwater Monitoring

The following procedures govern the timing and frequency of sample collection:

- The eleven (11) outfall/monitoring points and Area 1 / Area 2 potential stormwater discharge locations will be inspected for stormwater flow within 24 hours after rainfall events that are anticipated to result in at least one-tenth of an inch of precipitation and are expected to result in runoff.
- On a monthly basis, samples will be collected from each outfall where stormwater flow is observed.
- Once a sample is collected from a particular monitoring point during a given month, no further inspections or sampling will be conducted at that location for the remainder of the month.
- In the event that a monthly sample is collected from one or more outfalls within the last three days (72 hours) of any month, samples will not be

- collected from those outfalls for the following month's event until at least 72 hours has elapsed.
- If a discharge does not occur at a particular outfall within the reporting period, that outfall will be reported as no discharge.
 - If no discharge occurs, photographs of each outfall that does not display flow will be taken at the time of each inspection until a discharge occurs and a monthly sample has been collected.
 - Daily recorded precipitation at the National Weather Service Forecast Office at St. Louis, Missouri (station KLSX) will be included with the stormwater monitoring results.

Stormwater inspections and sampling will continue to be conducted on a monthly basis until otherwise directed by EPA. Once a year's worth of monthly samples have been collected, the OU-1 Respondents may propose to reduce the stormwater inspection and sampling frequency from a monthly to a quarterly basis, consistent with the monitoring frequency required for the Bridgeton Landfill and other landfills in Missouri. However, any change in the stormwater inspection and monitoring frequency will be subject to EPA approval.

Sample Analyses

Per EPA's direction in its September 9, 2016 letter, stormwater samples will initially be analyzed for the parameters listed in Table 2 of the QAPP. Stormwater samples analyzed for non-radionuclide parameters are currently submitted to TekLab, Inc. Standard Level IV data packages will be requested, and the reported data will be subjected to independent data validation to assess the precision and accuracy of the results.

After six months of data have been received, Respondents may propose to alter the analysis parameters. However, any change to the parameters will be subject to EPA approval.

Reporting of Stormwater Monitoring Results

Results of the stormwater sampling will continue to be included in the OU-1 monthly progress reports. A memorandum documenting the dates, times, and results of the inspections, including any photographs of the monitoring points, and the monthly precipitation data (as described above) will be included as an attachment to the monthly report. The memorandum will also include a discussion of Best Management Practices (BMPs) for the monthly period, including information concerning inspections, Operation and Maintenance (O&M), and upgrades.

As requested by EPA in its August 9, 2017 correspondence, the OU-1 monthly progress reports will also provide a cumulative summary of the stormwater radiological data in tabular format. The tabular summary will include current and previous radiological stormwater data for each outfall and information for stormwater monitoring locations that

did not have flow or samples. Validated sampling and monitoring data will be submitted in an appropriate Electronic Data Deliverable (EDD) format, and spatial data, including spatially-referenced data and geospatial data, will be submitted for each outfall: (a) in the ESRI File Geodatabase format; and (b) as un-projected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83). Spatial data will be accompanied by metadata.

EPA has directed the initiation of expedited notification for stormwater results that exceed Maximum Contaminant Limits applicable to drinking water or relevant standards. Respondents disagree that drinking water limits are applicable to assessment of stormwater discharge and EPA has not yet provided any “relevant standards.” In response to EPA’s directive, however, validated laboratory analytical results will be compared to existing MCLs, if available, or relevant standards if provided by EPA in the future. If the value of a validated laboratory analytical result is determined to be greater than the value of the MCL listed in Table 1, then notification will be provided to the USEPA and the MDNR within 72 hours of receipt of the validated analytical data.

Best Management Practices

Currently, the only Best Management Practices (BMPs) employed for OU-1 are a soil berm along the margin of the Buffer Zone to prevent stormwater that accumulates on the Buffer Zone from spreading onto the adjacent Crossroad property. In the event that additional BMPs are installed, they will be identified in the monthly report and will be subject to ongoing inspection and maintenance.

We look forward to further discussions with EPA about this draft Plan. If you have any questions or desire additional information related to this submittal or any other aspect of the project, please do not hesitate to contact me.

Sincerely,
ENGINEERING MANAGEMENT SUPPORT, Inc.

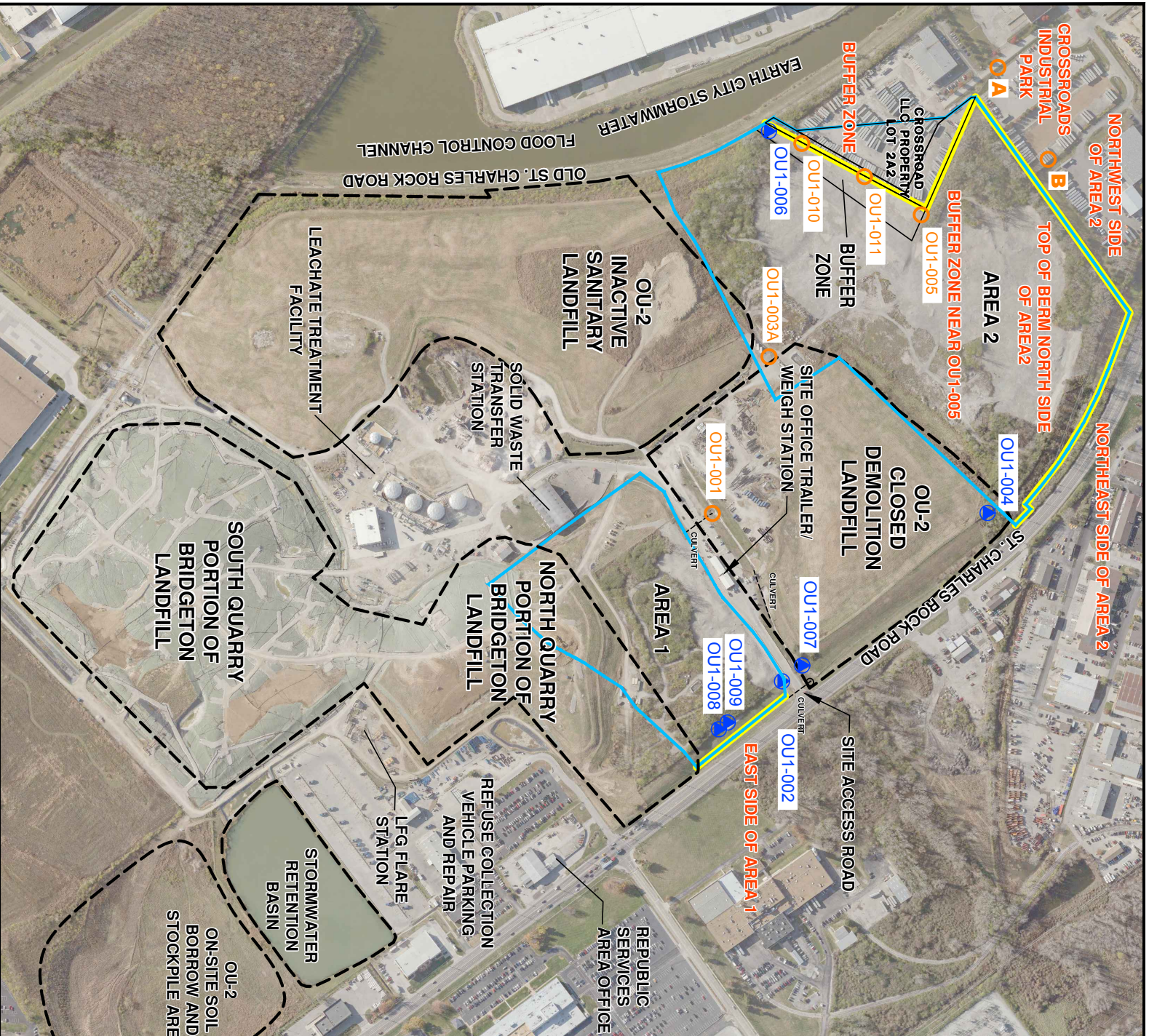
A handwritten signature in black ink, appearing to read 'Paul V. Rosasco', with a stylized flourish extending to the right.

Paul V. Rosasco, P.E.

Attachments: Figure 1 –Stormwater Monitoring Points
Figure 2 – Site Stormwater Conveyance Features
Quality Assurance Project Plan (QAPP)

Distribution:

Tom Mahler – EPA Region 7
Lynn Juett – EPA Region 7
Justin Barker – EPA Region 7
Ryan Seabaugh - Missouri Dept. of Natural Resources
John McGahren – Morgan, Lewis & Bockius
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Dale Guariglia – Bryan Cave
Scott Sklenar – Exelon Corporation
Bill Beck – Lathrop Gage
Jessica Merrigan – Lathrop Gage
Sarah Lintecum – Lathrop Gage
Victoria Warren – Republic Services, Inc.
Erin Fanning – Bridgeton Landfill, LLC
Dana Sincox – Bridgeton Landfill, LLC
Steven Miller - U.S. Department of Energy
Philip Dupre – U.S. Department of Justice
Daniel Feezor – Feezor Engineering, Inc.
Jonathan Wilkinson – Feezor Engineering, Inc.



Source: Aerial provided by Cooper Aerial Surveys Company (December 2, 2016)

Legend





-  Stormwater Sampling Point
 -  Inspection/Monitoring Point
 -  Inspection Paths
 -  BUFFER ZONE
- Inspection Area Name
- 0 600
SCALE IN FEET

Figure 1

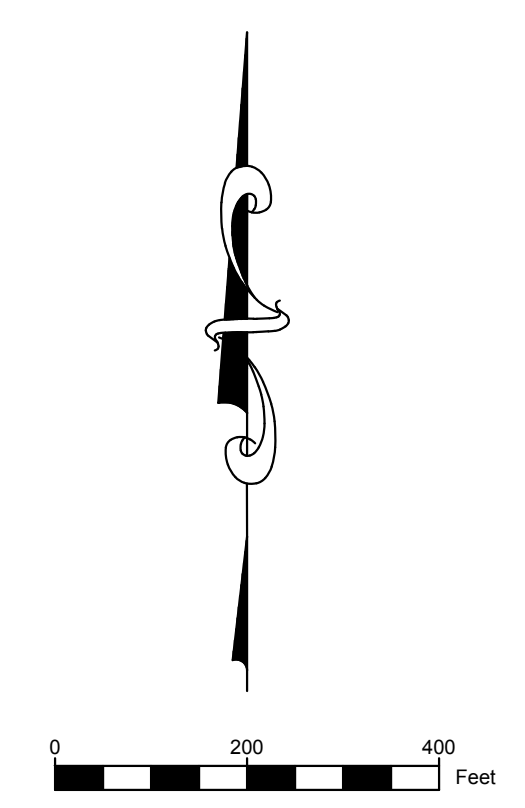
Stormwater Monitoring Locations and Inspection Paths

West Lake Landfill OU-1 RI Addendum



LEGEND

- DRAINS
- CULVERT PIPE
- CONCRETE DITCHES



NOTES:

- AERIAL TOPOGRAPHY PROVIDED BY COOPER AERIAL SURVEYS, INC. AND IS DATED DECEMBER 2, 2016
- ALL 3 DIMENSIONAL EXTENTS OF RADIOLOGICALLY IMPACTED MATERIAL (RIM) AND ALL INITIAL EXCAVATION SURFACES WERE PROVIDED BY S.S. PAPADOPULOS & ASSOC., INC.
- THE DRAWINGS INCLUDED WITHIN THIS PLAN SET ARE NOT DESIGN NOR CONSTRUCTION LEVEL DRAWINGS. THEY ARE INTENDED FOR ILLUSTRATIVE PURPOSES ONLY.

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SITE STORM WATER CONVEYANCE FEATURES			FIGURE	

DRAFT