

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION 7

_____	)	
IN THE MATTER OF:	)	
	)	
West Lake Landfill Site, Bridgeton,	)	CERCLA-07-2018-0259
St. Louis County, Missouri	)	
(MOD079900932)	)	
	)	
Bridgeton Landfill, LLC, and	)	
Cotter Corporation (N.S.L.),	)	
	)	
Respondents,	)	
	)	
and	)	
	)	
U.S. Department of Energy,	)	
	)	
Settling Federal Agency.	)	<b>WEST LAKE LANDFILL OU-3</b>
	)	<b>ADMINISTRATIVE SETTLEMENT</b>
	)	<b>AGREEMENT AND</b>
Proceeding Under Sections 104, 107	)	<b>ORDER ON CONSENT FOR</b>
and 122 of the Comprehensive	)	<b>REMEDIAL INVESTIGATION/</b>
Environmental Response, Compensation,	)	<b>FEASIBILITY STUDY</b>
and Liability Act, 42 U.S.C. §§ 9604,	)	
9607 and 9622.	)	
_____	)	

## TABLE OF CONTENTS

<b>I.</b>	<b>JURISDICTION AND GENERAL PROVISIONS</b> .....	<b>1</b>
<b>II.</b>	<b>PARTIES BOUND</b> .....	<b>1</b>
<b>III.</b>	<b>DEFINITIONS</b> .....	<b>2</b>
<b>IV.</b>	<b>EPA’S FINDINGS OF FACT</b> .....	<b>5</b>
<b>V.</b>	<b>EPA’S CONCLUSIONS OF LAW AND DETERMINATIONS</b> .....	<b>9</b>
<b>VI.</b>	<b>SETTLEMENT AGREEMENT AND ORDER</b> .....	<b>10</b>
<b>VII.</b>	<b>DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS</b> ...	<b>10</b>
<b>VIII.</b>	<b>WORK TO BE PERFORMED</b> .....	<b>11</b>
<b>IX.</b>	<b>SUBMISSION AND APPROVAL OF DELIVERABLES</b> .....	<b>14</b>
<b>X.</b>	<b>QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS</b> .....	<b>17</b>
<b>XI.</b>	<b>PROPERTY REQUIREMENTS</b> .....	<b>19</b>
<b>XII.</b>	<b>ACCESS TO INFORMATION</b> .....	<b>21</b>
<b>XIII.</b>	<b>RECORD RETENTION</b> .....	<b>22</b>
<b>XIV.</b>	<b>COMPLIANCE WITH OTHER LAWS</b> .....	<b>23</b>
<b>XV.</b>	<b>EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES</b> .....	<b>23</b>
<b>XVI.</b>	<b>PAYMENT OF RESPONSE COSTS</b> .....	<b>24</b>
<b>XVII.</b>	<b>DISPUTE RESOLUTION</b> .....	<b>29</b>
<b>XVIII.</b>	<b>FORCE MAJEURE</b> .....	<b>30</b>
<b>XIX.</b>	<b>STIPULATED PENALTIES</b> .....	<b>31</b>
<b>XX.</b>	<b>COVENANTS BY EPA</b> .....	<b>34</b>
<b>XXI.</b>	<b>RESERVATIONS OF RIGHTS BY EPA</b> .....	<b>34</b>
<b>XXII.</b>	<b>COVENANTS BY RESPONDENTS AND SETTLING FEDERAL AGENCY</b> ...	<b>36</b>
<b>XXIII.</b>	<b>OTHER CLAIMS</b> .....	<b>38</b>
<b>XXIV.</b>	<b>EFFECT OF SETTLEMENT/CONTRIBUTION</b> .....	<b>38</b>
<b>XXV.</b>	<b>INDEMNIFICATION</b> .....	<b>39</b>
<b>XXVI.</b>	<b>INSURANCE</b> .....	<b>40</b>
<b>XXVII.</b>	<b>FINANCIAL ASSURANCE</b> .....	<b>41</b>
<b>XXVIII.</b>	<b>MODIFICATION</b> .....	<b>45</b>
<b>XXIX.</b>	<b>NOTICE OF COMPLETION OF WORK</b> .....	<b>45</b>
<b>XXX.</b>	<b>INTEGRATION/APPENDICES</b> .....	<b>46</b>
<b>XXXI.</b>	<b>ADMINISTRATIVE RECORD</b> .....	<b>46</b>
<b>XXXII.</b>	<b>EFFECTIVE DATE</b> .....	<b>46</b>

## **I. JURISDICTION AND GENERAL PROVISIONS**

1. This Administrative Settlement Agreement and Order on Consent is entered into voluntarily by the United States Environmental Protection Agency (“EPA”) and Bridgeton Landfill, LLC, and Cotter Corporation (N.S.L.) (collectively “Respondents”) and the United States Department of Energy (“Settling Federal Agency”). This Settlement provides for the performance of a remedial investigation and feasibility study (RI/FS) for Operable Unit 3 (“OU-3”) by Respondents and the payment of certain response costs incurred by EPA and Respondents by Settling Federal Agency at or in connection with the West Lake Landfill Site (the “Site”) generally located at 13570 St. Charles Rock Road in Bridgeton, St. Louis County, Missouri.

2. This Settlement is issued under the authority vested in the President of the United States by Sections 104, 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9607 and 9622 (CERCLA). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2923 (Jan. 29, 1987), and further delegated to Regional Administrators by EPA Delegation Nos. 14-14-C (Administrative Actions Through Consent Orders, Apr. 15, 1994) and 14-14-D (Cost Recovery Non-Judicial Agreements and Administrative Consent Orders, May 11, 1994). This authority was further redelegated by the Regional Administrator of EPA Region 7 to the Director of EPA Region 7’s Superfund Division by Regional Delegation Nos. R7-14-014-A, R7-14-014-C and R7-14-014-D.

3. EPA, Respondents, and Settling Federal Agency recognize that this Settlement has been negotiated in good faith and that the actions undertaken by Respondents and the payment made by Settling Federal Agency in accordance with this Settlement do not constitute an admission of any liability. Respondents and Settling Federal Agency do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement, the validity of the findings of facts, conclusions of law, and determinations in Section IV (Findings of Fact) and V (Conclusions of Law and Determinations) of this Settlement. Respondents and Settling Federal Agency agree to comply with and be bound by the terms of this Settlement and further agree that they will not contest the basis or validity of this Settlement or its terms.

## **II. PARTIES BOUND**

4. This Settlement is binding upon EPA, Respondents, and Settling Federal Agency and their successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent’s responsibilities under this Settlement.

5. Respondents are jointly and severally liable for carrying out all activities required by this Settlement. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Settlement, the remaining Respondents or Respondent shall complete all such requirements.

6. Each undersigned signatory of this Settlement certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement and to execute and legally bind the party represented by him or her.

7. Respondents shall provide a copy of this Settlement to each contractor hired to perform the Work required by this Settlement and to each person representing any Respondents with respect to the Site or the Work, and shall condition all contracts entered into under this Settlement upon performance of the Work in conformity with the terms of this Settlement. Respondents or their contractors shall provide written notice of the Settlement to all subcontractors hired to perform any portion of the Work required by this Settlement. Respondents shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work in accordance with the terms of this Settlement.

### **III. DEFINITIONS**

8. Unless otherwise expressly provided in this Settlement, terms used in this Settlement that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement or its attached appendices, the following definitions shall apply:

“Affected Property” shall mean all real property at the Site and any other real property where EPA determines, at any time, that access, land, water, or other resource use restrictions are needed to implement the RI/FS.

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“Day” or “day” shall mean a calendar day. In computing any period of time under this Settlement, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.

“Effective Date” shall mean the effective date of this Settlement as provided in Section XXXII.

“Engineering Controls” shall mean constructed containment barriers or systems that control one or more of the following: downward migration, infiltration, or seepage of surface runoff or rain; or natural leaching migration of contaminants through the subsurface over time. Examples include caps, engineered bottom barriers, immobilization processes, and vertical barriers.

“EPA” shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

“EPA Hazardous Substance Superfund” shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

“Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that EPA, or DOJ on behalf of EPA, incurs in reviewing or developing deliverables submitted pursuant to this Settlement, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Settlement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Section XI (Property Requirements) (including, but not limited to, cost of attorney time and any monies paid to secure or enforce access or land, water, or other resource use restrictions, including, but not limited to, the amount of just compensation), Section XV (Emergency Response and Notification of Releases), Paragraph 108 (Work Takeover), Paragraph 132 (Access to Financial Assurance), community involvement (including, but not limited to, the costs of any technical assistance grant under Section 117(e) of CERCLA, 42 U.S.C. § 9617(e)), Section XVII (Dispute Resolution), and all litigation costs. Future Response Costs shall also include Agency for Toxic Substances and Disease Registry (“ATSDR”) costs regarding the Work required by this Settlement at this Site.

“Institutional Controls” or “ICs” shall mean Proprietary Controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, or other resource use to minimize the potential for human exposure to Waste Material at or in connection with the Site; (b) limit land, water, or other resource use to implement, ensure non-interference with, or ensure the protectiveness of the response action pursuant to this Settlement; and/or (c) provide information intended to modify or guide human behavior at or in connection with the Site.

“Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year. Rates are available online at <https://www.epa.gov/superfund/superfund-interest-rates>.

“MDNR” shall mean the Missouri Department of Natural Resources and any successor departments or agencies of the State.

“Municipal Solid Waste” or “MSW” shall mean waste material: (a) generated by a household (including a single or multifamily residence); or (b) generated by a commercial, industrial or institutional entity, to the extent that the waste material (1) is essentially the same as waste normally generated by a household; (2) is collected and disposed of with other municipal solid waste as part of normal municipal solid waste collection services; and (3) contains a relative quantity of hazardous substances no greater than the relative quantity of hazardous substances contained in waste material generated by a typical single-family household.

“National Contingency Plan” or “NCP” shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

“Non-Settling Owner” shall mean any person, other than a Respondent, that owns or controls any Affected Property. The clause “Non-Settling Owner’s Affected Property” means Affected Property owned or controlled by Non-Settling Owner.

“Operable Unit 3” or “OU-3” shall mean groundwater at or surrounding the West Lake Landfill Site that has been impacted by contaminants at the Site.

“Owner Respondent” shall mean any Respondent that owns or controls any Affected Property, including Bridgeton Landfill, LLC. The clause “Owner Respondent’s Affected Property” means Affected Property owned or controlled by Owner Respondent.

“Paragraph” shall mean a portion of this Settlement identified by an Arabic numeral or an upper or lower case letter.

“Parties” shall mean EPA, Respondents, and Settling Federal Agency.

“Proprietary Controls” shall mean easements or covenants running with the land that: (a) limit land, water, or other resource use and/or provide access rights; and (b) are created pursuant to common law or statutory law by an instrument that is recorded in the appropriate land records office.

“RCRA” shall mean the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992 (also known as the Resource Conservation and Recovery Act).

“Respondents” shall mean Bridgeton Landfill, LLC and Cotter Corporation (N.S.L.).

“Respondents’ Future Response Costs” shall mean the response costs incurred by Respondents in performing the Work.

“Section” shall mean a portion of this Settlement identified by a Roman numeral.

“Settling Federal Agency” shall mean the U.S. Department of Energy and its successor departments, agencies, and instrumentalities.

“Settlement” shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXX (Integration/Appendices)). In the event of conflict between this Settlement and any appendix, this Settlement shall control.

“Site” shall mean the West Lake Landfill Site, encompassing approximately 200 acres, located at 13570 St. Charles Rock Road in Bridgeton, St. Louis County, Missouri, and depicted generally on the map attached as Appendix A. The Site includes Operable Unit 1 (“OU-1”), Operable Unit 2 (“OU-2”), and Operable Unit 3 (“OU-3”).

“State” shall mean the State of Missouri.

“Statement of Work” or “SOW” shall mean the document describing the activities Respondents must perform to develop the RI/FS for OU-3, as set forth in Appendix B to this

Settlement. The Statement of Work is incorporated into this Settlement and is an enforceable part of this Settlement as are any modifications made thereto in accordance with this Settlement.

“Transfer” shall mean to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

“United States” shall mean the United States of America, including all of its departments, agencies, and instrumentalities of the United States, including EPA and Settling Federal Agency.

“Waste Material” shall mean (a) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

“West Lake Landfill Special Account” shall mean the special account within the EPA Hazardous Substance Superfund, established for the Site by EPA pursuant to Section 122(b)(3) of CERCLA, 42 U.S.C. § 9622(b)(3).

“Work” shall mean all activities and obligations Respondents are required to perform under this Settlement, except those required by Section XIII (Record Retention).

#### **IV. EPA’S FINDINGS OF FACT**

9. Respondent Bridgeton Landfill, LLC, a Delaware limited liability corporation authorized to transact business in Missouri, is the current owner and operator of the Site.

10. Respondent Cotter Corporation (N.S.L.) is a corporation organized and existing pursuant to the laws of the State of New Mexico.

11. The United States Department of Energy is a department of the United States Government and is a successor to the Atomic Energy Commission.

12. West Lake Landfill is an approximately 200-acre property that includes several closed solid waste landfill units that accepted wastes for on-Site landfilling from the 1940s or 1950s through 2004, plus a solid waste transfer station, a concrete plant, and an asphalt batch plant. The Site is located at 13570 St. Charles Rock Road in Bridgeton, St. Louis County, Missouri, approximately one mile north of the intersection of Interstate 70 and Interstate 270.

13. The Site was used for limestone quarrying and crushing operations from 1939 through 1988. Beginning in the late 1940s or early 1950s, portions of the quarried areas and adjacent areas were used for landfilling municipal refuse, solid and liquid industrial wastes, sludges, and construction/demolition debris. In 1973, approximately 8,700 tons of leached barium sulfate residues (a remnant from the Manhattan Engineer District/Atomic Energy Commission project) were reportedly mixed with approximately 39,000 tons of soil from the 9200 Latty Avenue Site in Hazelwood, Missouri, transported to the West Lake Landfill, and used

for landfill operations. Investigations have determined that these radiologically-impacted materials were disposed in portions of two separate disposal areas at the Site.

14. OU-1 of the Site is comprised of the two radiological disposal areas, Radiological Area 1 and Radiological Area 2 (“Area 1” and “Area 2”), plus an adjacent area, formerly described as the Ford Property but now called the Buffer Zone/Crossroads Property, where erosion from Area 2 deposited radiologically-impacted materials. OU-2 consists of the areal remainder of the Site, including several inactive landfilled areas containing sanitary waste or demolition debris that ceased operation prior to state regulation, a permitted sanitary landfill (the Bridgeton Sanitary Landfill), a solid waste transfer station, and an asphalt batch plant.

15. Landfill activities conducted after 1979 within the quarry areas (part of what is now included in OU-2) were subject to permits obtained from the Missouri Department of Natural Resources (MDNR). In 1979 landfilling began in the portion of the Site described as the North Quarry Pit. Landfilling continued in this area until 1985, when the landfill underwent expansion to the southwest into the area described as the South Quarry Pit. Together, the North and South Quarry Pit landfills make up the MDNR-permitted Bridgeton Sanitary Landfill.

16. In December 2004, the Bridgeton Sanitary Landfill stopped receiving waste pursuant to an agreement with the City of St. Louis to reduce the potential for birds to interfere with Lambert Field International Airport operations. The Bridgeton Sanitary Landfill is currently inactive and future closure activities are planned to proceed under MDNR supervision. The majority of the West Lake Landfill Site remains subject to a restrictive covenant held by the City of St. Louis.

17. Characterization of the nature, rate, and extent of contamination at the Site began in 1976. On August 30, 1990, EPA placed the Site on the National Priorities List (NPL). The NPL is EPA’s list, compiled pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, of uncontrolled hazardous substances releases in the United States that are priorities for long-term remedial evaluation and response.

18. On March 3, 1993, EPA and Cotter Corporation (N.S.L.); Laidlaw Waste Systems (Bridgeton), Inc.; Rock Road Industries, Inc.; and the United States Department of Energy entered into an Administrative Order on Consent, EPA Docket No. VII-93-F-0005, for the performance of a remedial investigation/feasibility study for OU-1.

19. On December 19, 1994, EPA and Laidlaw Waste Systems (Bridgeton), Inc., entered into an Administrative Order on Consent, EPA Docket No. VII-94-F-0025, for the performance of a remedial investigation/feasibility study for OU-2.

20. On May 29, 2008, EPA issued a Record of Decision (ROD) for OU-1 selecting a remedial action for Area 1, Area 2, and the Buffer Zone/Crossroads Property. On February 6, 2018, EPA issued a proposed plan to amend the OU-1 ROD.

21. On July 29, 2008, EPA issued a ROD for OU-2 selecting a remedial action for the inactive sanitary landfill portion of the Site. Consistent with agency policy, EPA deferred action



to MDNR on the remaining portions of OU-2—the Bridgeton Sanitary Landfill and the closed demolition landfill—which had operated under state-issued permits.

22. Carcinogenic and noncarcinogenic contaminants exceeding Maximum Contaminant Levels (MCLs) in alluvial groundwater were identified as contaminants of concern for OU-1 and OU-2. These contaminants include arsenic, benzene, vinyl chloride, iron, manganese, chloride, total dissolved solids, fluoride, and total petroleum hydrocarbons.

23. In December 2010, Bridgeton Sanitary Landfill detected increased temperatures and carbon monoxide levels in the landfill gas extraction system in use at the South Quarry Pit of the Bridgeton Sanitary Landfill portion of the Site. Further investigation indicated that the South Quarry Pit landfill was experiencing an exothermic subsurface smoldering event (SSE).

24. In response to the SSE, Bridgeton Landfill, LLC, Rock Road Industries, Inc., and EPA entered into an Administrative Settlement Agreement and Order on Consent for Removal Action, Docket No. CERCLA-07-2014-002, on April 16, 2014, which required the parties to conduct certain activities necessary to advance, support, and prepare for the design, construction, and maintenance of an isolation barrier system intended to prevent the SSE from impacting radiologically-impacted materials in OU-1, Area 1. In addition, Bridgeton Landfill, LLC, entered into a second Administrative Settlement Agreement and Order on Consent for Removal Actions, Docket No. CERCLA-07-2016-0005, for, among other activities, design and installation of an ethylene vinyl alcohol, or EVOH, cover to mitigate odors and minimize oxygen infiltration and an Inert Gas Injection System and Neck Heat Extraction System for heat suppression between the North and South Quarry areas of the landfill.

25. On October 24, 2015, a brush fire occurred near the entrance to the property located at the intersection of St. Charles Rock Road and Taussig Road. The brush fire was caused by a malfunctioning electrical switch attached to a power line pole. The fire burned an area of grass approximately 120 feet by 80 feet located approximately 100 feet from the south fence of OU-1, Area 1.

26. In response to the surface fire, EPA issued a Unilateral Administrative Order for Removal Action to Bridgeton Landfill, LLC, Rock Road Industries, Inc., and Cotter Corporation (N.S.L.) for, among other actions, design and installation of a non-combustible cover over exposed areas of OU-1 where radiologically-impacted materials are known to be located at or near the surface.

27. Groundwater beneath the Site is part of a larger alluvial aquifer which could potentially be used for drinking water by private and/or public wells outside of the Site. EPA has established (40 C.F.R. Part 141) an MCL of 5 picocuries per liter (pCi/L) for combined Ra-226 plus Ra-228 in drinking water supplies. For 13 of the on-Site wells the U.S. Geological Survey (USGS) has documented radium levels with an average dissolved combined radium level between 5.1 pCi/L and 26.7 pCi/L. The MCL for uranium is 30 ug/L. There is no MCL or other regulatory standard for thorium in groundwater, however, thorium is primarily an alpha emitter and Gross Alpha which is a water quality test for alpha emitters has an MCL of 15 pCi/L in drinking water.

28. Public drinking water MCLs also exist for metals, volatile organic compounds, and other constituents. Benzene, chloroethane and vinyl chloride have been detected at levels above their respective public drinking water system MCLs. Arsenic, iron, manganese, barium, sulfate, and chloride have also been detected above their public drinking water system MCLs or secondary MCLs.

29. Groundwater sampling associated with various programs has been conducted on- and off-Site since 1980. These programs include the NRC investigation in 1980/1981, five events from 1995-1997 during the RI investigation, two OU-1 events in 2004, four OU-1 events 2012-2013, sampling of off-Site private wells in 2013, monitoring associated with the OU-2 RI/FS, and on-going compliance monitoring conducted by Bridgeton Landfill, LLC. To date, only limited sampling of off-Site groundwater has been conducted. These groundwater sampling events are summarized in the OU-1 Remedial Investigation Addendum.

30. Upon reviewing the remedial alternatives for OU-1, in 2012 EPA's National Remedy Review Board suggested that Region 7 consider adding wells at the Site to better delineate the vertical and lateral extent of potential Site-related contamination previously identified from limited sampling in Areas 1 and 2. The Board reasoned that data from additional wells would be needed to clarify whether contamination is present in isolated areas of groundwater or exists as a plume in the complex subsurface geologic setting. Such information would inform EPA's decision as to whether further response action is required to address additional contamination. The Board also noted discrepancies in reported groundwater data that required clarification.

31. On December 17, 2014, the USGS issued a report titled "Background Groundwater Quality, Review of 2012-14 Groundwater Data, and Potential Origin of Radium at the West Lake Landfill Site, St. Louis County, Missouri" ("USGS Report"). The USGS Report summarizes an analysis and characterization of groundwater conditions at and around the Site. It examines data collected by USGS, EPA and its contractors, and OU-1 Respondents and their contractors during 2012, 2013, and 2014, along with previous historical sampling data.

32. The USGS Report documented leachate-related impacts to groundwater at 47 of 83 monitoring wells located at the Site. In addition, while radium was found in groundwater beneath the Site at concentrations above MCLs in some samples, the USGS Report concluded that current data do not indicate whether the radium detections are the result of naturally occurring sources in surrounding bedrock or from wastes or other materials disposed at the Site.

33. A 2013 field inventory conducted by USGS in partnership with EPA identified 15 private water supply wells within an approximate 5-mile radius of the Site.

34. In response to confirmed detections of inorganic and organic constituent exceedances at certain landfill monitoring wells in November 2012 and May 2013, Bridgeton Landfill, LLC, submitted to MDNR a plan for groundwater assessment monitoring in December 2013 pursuant to 10 C.S.R. 80-3.010(11)(C)6.C. The assessment monitoring program consists of semiannual sampling for 32 constituents conducted in conjunction with routine detection monitoring conducted in the second and fourth quarters of each calendar year pursuant to 10 CSR 80-3.010(11)(C)4. Assessment monitoring was initiated in September 2014, with

semiannual sampling and analysis occurring in the fourth quarter of 2016 and the second quarter of 2017.

35. In October 2016, MDNR requested four additional groundwater-related reports. Bridgeton Landfill, LLC, submitted to MDNR a Groundwater Alternate Source Demonstration and an updated Assessment Monitoring Plan on November 14, 2016. In addition, on November 28, 2016, Bridgeton Landfill, LLC, submitted an Interim Corrective Measures Technical Report pursuant to 10 C.S.R. 80-3.010(12), as well as a Groundwater Technical Report. MDNR requested the Groundwater Technical Report, which evaluated groundwater quality at monitoring wells located near the landfill's North and South Quarry that are not currently sampled as part of the facility's detection or assessment monitoring programs. The November 2016 Groundwater Technical Report recommended confirmatory sampling from select wells with unconfirmed detections of organic and inorganic constituents, as well as further investigation of groundwater quality at certain other wells exhibiting confirmed detections of such constituents. The results of the confirmatory sampling and additional investigation were documented in a Groundwater Evaluation Report submitted by Bridgeton Landfill, LLC, to MDNR on December 27, 2017. The Groundwater Evaluation Report presented an updated evaluation of the landfill's groundwater monitoring network, concluding with proposed changes to the detection and assessment monitoring programs and well network.

36. EPA has determined that additional data are needed to determine the nature, extent, and source of groundwater contamination at the Site, the potential for such contamination to migrate beyond Site boundaries into critical exposure pathways, the mechanisms of contaminant migration, and attendant risks posed to human health and the environment.

## **V. EPA'S CONCLUSIONS OF LAW AND DETERMINATIONS**

37. Based on the Findings of Fact set forth above, and the administrative record, EPA has determined that:

a. The West Lake Landfill Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

c. Each Respondent and Settling Federal Agency is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. Each Respondent and Settling Federal Agency is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Specifically:

(1) Respondent Bridgeton Landfill, LLC is the "owner" and/or "operator" of the Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1);

(2) Respondent Cotter Corporation (N.S.L.) arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3); and

(3) Settling Federal Agency, the U.S. Department of Energy, arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

e. The conditions described in Paragraphs 31 through 34 of the Findings of Fact above constitute an actual and/or threatened “release” of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

f. The actions required by this Settlement are necessary to protect the public health, welfare, or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a).

g. EPA has determined that Respondents are qualified to conduct the RI/FS within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), if Respondents comply with the terms of this Settlement.

## **VI. SETTLEMENT AGREEMENT AND ORDER**

38. Based upon the Findings of Fact, Conclusions of Law and Determinations set forth above, and the administrative record, it is hereby Ordered and Agreed that Respondents and Settling Federal Agency shall comply with all provisions of this Settlement, including, but not limited to, all appendices to this Settlement and all documents incorporated by reference into this Settlement.

## **VII. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS**

39. **Selection of Contractors, Personnel.** All Work performed under this Settlement shall be under the direction and supervision of qualified personnel. Within 30 days after the Effective Date, and before the Work outlined below begins, Respondents shall notify EPA in writing of the names, titles, addresses, telephone numbers, email addresses, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such Work. If, after the commencement of Work, Respondents retain additional contractors or subcontractors, Respondents shall notify EPA of the names, titles, contact information, and qualifications of such contractors or subcontractors retained to perform the Work at least 21 days prior to commencement of Work by such additional contractors or subcontractors. EPA retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by Respondents. If EPA disapproves of a selected contractor or

subcontractor, Respondents shall retain a different contractor or subcontractor and shall notify EPA of that contractor's or subcontractor's name, title, contact information, and qualifications within 21 days after EPA's disapproval. With respect to any proposed contractor, Respondents shall demonstrate that the proposed contractor demonstrates compliance with ASQ/ANSI E4:2014 "Quality management systems for environmental information and technology programs – Requirements with guidance for use" (American Society for Quality, February 2014), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," EPA/240/B-01/002 (Reissued May 2006) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondents shall be subject to EPA's review for verification based on objective assessment criteria (e.g., experience, capacity, technical expertise) and that they do not have a conflict of interest with respect to the project.

40. Within 30 days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for the Work and shall submit to EPA the designated Project Coordinator's name, title, address, telephone number, email address and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during the Work. EPA retains the right to disapprove of a designated Project Coordinator who does not meet the requirements of Paragraph 39 (Selection of Contractors, Personnel). If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, title, contact information, and qualifications within 30 days following EPA's disapproval. Notice or communication relating to this Settlement from EPA to Respondents' Project Coordinator shall constitute notice or communication to all Respondents.

41. EPA has designated Justin Barker in the Site Remediation Branch of the Superfund Division, EPA Region 7, as its Remedial Project Manager (RPM). EPA will notify Respondents of a change of its designated RPM. Communications between Respondents and EPA, and all documents concerning the activities performed pursuant to this Settlement, shall be directed to the RPM in accordance with Paragraph 51.a.

42. EPA's RPM shall have the authority lawfully vested in a Remedial Project Manager and On-Scene Coordinator by the NCP. In addition, EPA's RPM shall have the authority, consistent with the NCP, to halt, conduct, or direct any Work required by this Settlement, or to direct any other response action when s/he determines that conditions at the Site constitute an emergency situation or may present a threat to public health or welfare or the environment. Absence of the RPM from the area under study pursuant to this Settlement shall not be cause for stoppage or delay of Work.

## **VIII. WORK TO BE PERFORMED**

43. For any regulation or guidance referenced in the Settlement, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondents receive notification from EPA of the modification, amendment, or replacement.

44. Respondents shall conduct the RI/FS and prepare all plans in accordance with the provisions of this Settlement, the attached SOW, CERCLA, the NCP, and EPA guidance, including, but not limited to the “Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA” (“RI/FS Guidance”), OSWER Directive No. 9355.3-01 (October 1988), available at <https://semspub.epa.gov/src/document/11/128301>; “Guidance for Data Useability in Risk Assessment (Part A), Final,” OSWER Directive No. 9285.7-09A, PB 92-963356 (April 1992), available at <http://semspub.epa.gov/src/document/11/156756>; and guidance referenced therein, and guidance referenced in the SOW. The Remedial Investigation (RI) shall consist of collecting data to characterize Site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to human health and the environment, and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Feasibility Study (FS) shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate, or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, 40 C.F.R. § 300.430(e), and shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, Respondents shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and 40 C.F.R. § 300.430(e).

45. All written documents prepared by Respondents pursuant to this Settlement shall be submitted by Respondents in accordance with Section IX (Submission and Approval of Deliverables). With the exception of progress reports and the Health and Safety Plan, all such submittals will be reviewed and approved by EPA in accordance with Section IX (Submission and Approval of Deliverables). Respondents shall implement all EPA approved, conditionally-approved, or modified deliverables.

46. Upon receipt of the draft Feasibility Study Report (“FS Report”), EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the cost, implementability, and long-term effectiveness of any proposed ICs for that alternative.

**47. Modification of the RI/FS Work Plan**

a. If at any time during the RI/FS process, Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to EPA’s RPM within 21 days after identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into deliverables.

b. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify EPA’s RPM by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the unanticipated or changed circumstances warrant changes in the RI/FS Work Plan, EPA shall modify the RI/FS

Work Plan in writing accordingly or direct Respondents to modify and submit the modified RI/FS Work Plan to EPA for approval. Respondents shall perform the RI/FS Work Plan as modified.

c. EPA may determine that, in addition to tasks defined in the initially approved RI/FS Work Plan, other additional work may be necessary to accomplish the objectives of the RI/FS. Respondents shall perform these response actions in addition to those required by the initially approved RI/FS Work Plan, including any approved modifications, if EPA determines that such actions are necessary for a thorough RI/FS.

d. Respondents shall confirm their willingness to perform the additional work in writing to EPA within 7 days after receipt of the EPA request. If Respondents object to any modification determined by EPA to be necessary pursuant to this Paragraph, Respondents may seek dispute resolution pursuant to Section XVII (Dispute Resolution). The SOW and/or RI/FS Work Plan shall be modified in accordance with the final resolution of the dispute.

e. Respondents shall complete the additional work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the RI/FS Work Plan or written RI/FS Work Plan supplement. EPA reserves the right to conduct the work itself, to seek reimbursement from Respondents for the costs incurred in performing the work, and/or to seek any other appropriate relief.

f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

#### **48. Off-Site Shipments**

a. Respondents may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).

b. Respondents may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide written notice to the appropriate state environmental official in the receiving facility's state and to EPA's RPM. This notice requirement shall not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondents shall also notify the state environmental official referenced above and EPA's RPM of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall provide the written notice after the award of the contract for the RI/FS and before the Waste Material is shipped.

c. Respondents may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the SOW. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

49. **Meetings.** Respondents shall make presentations at, and participate in, meetings at the request of EPA during the preparation of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

50. **Progress Reports.** In addition to the deliverables set forth in this Settlement, Respondents shall submit written monthly progress reports to EPA by the 11<sup>th</sup> day of the following month. At a minimum, with respect to the preceding month, these progress reports shall:

- a. describe the actions that have been taken to comply with this Settlement;
- b. include all results of sampling and tests and all other data received by Respondents;
- c. describe Work planned for the next two months with schedules relating such Work to the overall project schedule for RI/FS completion; and
- d. describe all problems encountered in complying with the requirements of this Settlement and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

## **IX. SUBMISSION AND APPROVAL OF DELIVERABLES**

### **51. Submission of Deliverables**

#### **a. General Requirements for Deliverables**

(1) Except as otherwise provided in this Settlement, Respondents shall direct all submissions required by this Settlement to EPA's RPM at:

Justin Barker  
Remedial Project Manager  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Boulevard  
Lenexa, Kansas 66219  
Office: (913) 551-7789



In the Matter of West Lake Landfill Superfund Site, OU-3  
Bridgeton Landfill, LLC, Cotter Corporation (N.S.L.), and U.S. Department of Energy  
Administrative Settlement Agreement and Order on Consent for RI/FS

and to the State at:

Ryan Seabaugh, P.E.  
Federal Facilities Section  
Hazardous Waste Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, Missouri 65102.

Respondents shall submit all deliverables required by this Settlement, the attached SOW, or any approved work plan in accordance with the schedule set forth in such plan.

(2) Respondents shall submit all deliverables in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in Paragraph 51.b. All other deliverables shall be submitted in the electronic form specified by EPA's RPM. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5 x 11 inches, Respondents shall also provide paper copies of such exhibits.

**b. Technical Specifications for Deliverables**

(1) Sampling and monitoring data should be submitted in standard regional Electronic Data Deliverable (EDD) format. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.

(2) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (i) in the ESRI File Geodatabase format; and (ii) as unprojected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at <https://edg.epa.gov/EME/>.

(3) Each file must include an attribute name for each Site unit or sub-unit submitted. Consult <https://www.epa.gov/geospatial/geospatial-policies-and-standards> for any further available guidance on attribute identification and naming.

(4) Spatial data submitted by Respondents does not, and is not intended to, define the boundaries of the Site.

(5) Respondents shall also develop and maintain an inclusive Site-wide OU-3 database as described in the SOW.

52. **Approval of Deliverables**

a. **Initial Submissions**

(1) After review of any deliverable that is required to be submitted for EPA approval under this Settlement or the attached SOW, EPA shall: (i) approve, in whole or in part, the submission; (ii) approve the submission upon specified conditions; (iii) disapprove, in whole or in part, the submission; or (iv) any combination of the foregoing.

(2) EPA also may modify the initial submission to cure deficiencies in the submission if: (i) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work; or (ii) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

b. **Resubmissions.** Upon receipt of a notice of disapproval under Paragraph 52.a(1) (Initial Submissions), or if required by a notice of approval upon specified conditions under Paragraph 52.a(1), Respondents shall, within 30 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the deliverable for approval. After review of the resubmitted deliverable, EPA may: (a) approve, in whole or in part, the resubmission; (b) approve the resubmission upon specified conditions; (c) modify the resubmission; (d) disapprove, in whole or in part, the resubmission, requiring Respondents to correct the deficiencies; or (e) any combination of the foregoing.

c. **Implementation.** Upon approval, approval upon conditions, or modification by EPA under Paragraph 52.a (Initial Submissions) or Paragraph 52.b (Resubmissions) of any deliverable, or any portion thereof: (1) such deliverable, or portion thereof, will be incorporated into and enforceable under this Settlement; and (2) Respondents shall take any action required by such deliverable, or portion thereof. Implementation of any non-deficient portion of a submission shall not relieve Respondents of any liability for penalties under Section XIX (Stipulated Penalties) for violations of this Settlement.

53. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA.

54. In the event that EPA takes over some of the tasks, but not the preparation of the Remedial Investigation Report ("RI Report") or the FS Report, Respondents shall incorporate and integrate information supplied by EPA into those reports.

55. Respondents shall not proceed with any activities or tasks until receiving EPA approval, approval on condition, or modification of such deliverables: RI/FS Work Plan; Sampling and Analysis Plan; Hydrogeologic Investigation and Groundwater Characterization Report; Modeling Work Plan; Baseline Risk Assessment Work Plan; draft RI Report; and draft FS Report. While awaiting EPA approval, approval on condition, or modification of these deliverables, Respondents shall proceed with all other tasks and activities that may be conducted

independently of these deliverables, in accordance with the schedule set forth under this Settlement.

56. For all remaining deliverables not listed in Paragraph 55, Respondents shall proceed with all subsequent tasks, activities, and deliverables without awaiting EPA approval of the submitted deliverable. EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the Work.

57. **Material Defects.** If an initially submitted or resubmitted plan, report, or other deliverable contains a material defect, and the plan, report, or other deliverable is disapproved or modified by EPA under Paragraph 52.a (Initial Submissions) or 52.b (Resubmissions) due to such material defect, Respondents shall be deemed in violation of this Settlement for failure to submit such plan, report, or other deliverable timely and adequately. Respondents may be subject to penalties for such violation as provided in Section XIX (Stipulated Penalties).

58. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA.

## X. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

59. Respondents shall use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with "EPA Requirements for Quality Assurance Project Plans (QA/R5)," EPA/240/B-01/003 (March 2001, reissued May 2006); "Guidance for Quality Assurance Project Plans (QA/G-5)," EPA/240/R-02/009 (December 2002); and "Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3, EPA/505/B-04/900A-900C (March 2005).

### 60. Laboratories

a. Respondents shall ensure that EPA personnel and its authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondents in implementing this Settlement. In addition, Respondents shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the Quality Assurance Project Plan (QAPP) for quality assurance, quality control, and technical activities that will satisfy the stated performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance with *EPA QA Field Activities Procedure* (CIO 2105-P-02.1, 9/23/2014) available at <http://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures>. Respondents shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Settlement meet the competency requirements set forth in EPA's *Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions*, available at <http://www.epa.gov/measurements/documents-about-measurement-competency-under-acquisition-agreements>, and that the laboratories perform all analyses according to accepted EPA methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA's Contract Laboratory Program, available at <http://www.epa.gov/clp>; SW 846 Test

In the Matter of West Lake Landfill Superfund Site, OU-3  
Bridgeton Landfill, LLC, Cotter Corporation (N.S.L.), and U.S. Department of Energy  
Administrative Settlement Agreement and Order on Consent for RI/FS

*Methods for Evaluating Solid Waste, Physical/Chemical Methods*, available at <http://www3.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>; *Standard Methods for the Examination of Water and Wastewater*, available at <http://www.standardmethods.org/>; 40 C.F.R. Part 136; and *Air Toxics - Monitoring Methods*, available at <http://www3.epa.gov/ttnamti1/airtox.html>.

b. Upon approval by EPA, after a reasonable opportunity for review and comment by the State, Respondents may use other appropriate analytical methods, as long as: (1) quality assurance/quality control (QA/QC) criteria are contained in the methods and the methods are included in the QAPP, (2) the analytical methods are at least as stringent as the methods listed above, and (3) the methods have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods (e.g., EPA, ASTM, NIOSH, OSHA, etc).

c. Respondents shall ensure that all laboratories they use for analysis of samples taken pursuant to this Settlement have a documented Quality System that complies with ASQ/ANSI E4:2014 “Quality Management Systems for Environmental Information and Technology Programs – Requirements With Guidance for Use” (American Society for Quality, February 2014), and “EPA Requirements for Quality Management Plans (QA/R-2)” EPA/240/B-01/002 (March 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider Environmental Response Laboratory Network (ERLN) laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs as meeting the Quality System requirements.

d. Respondents shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Settlement are conducted in accordance with the procedures set forth in the approved QAPP.

## 61. Sampling

a. Upon request, Respondents shall provide split or duplicate samples to EPA and the State or their authorized representatives. Respondents shall notify EPA and the State not less than 7 days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA and the State shall have the right to take any additional samples that EPA or the State deems necessary. Upon request, EPA and the State shall provide to Respondents split or duplicate samples of any samples they take as part of EPA’s oversight of Respondents’ implementation of the Work, and any such samples shall be analyzed in accordance with the approved QAPP.

b. Respondents shall submit to EPA and the State, in the next monthly progress report as described in Paragraph 50 (Progress Reports) the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondents with respect to the Site and/or the implementation of this Settlement.

c. Respondents waive any objections to any data gathered, generated, or evaluated by EPA, the State, or Respondents in the performance or oversight of the Work that

has been verified according to the QA/QC procedures required by the Settlement or any EPA-approved RI/FS Work Plans or Sampling and Analysis Plans. If Respondents object to any other data relating to the RI/FS, Respondents shall submit to EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within 15 days after the monthly progress report containing the data.

## XI. PROPERTY REQUIREMENTS

62. **Agreements Regarding Access and Non-Interference.** Respondents shall, with respect to any Affected Property, use best efforts to secure from any Non-Settling Owner an agreement, enforceable by Respondents and the EPA, providing that such Non-Settling Owner shall provide EPA, the State, and the other Respondents and their representatives, contractors, and subcontractors with access at all reasonable times to such Affected Property to conduct any activity regarding the Work, including those listed in Paragraph 63 (Access Requirements); and (ii) refrain from using such Affected Property in any manner that EPA determines will pose an unacceptable risk to human health or to the environment due to exposure to Waste Material, or interfere with or adversely affect the implementation or integrity of the Work.

63. **Access Requirements.** The following is a list of activities for which access is required regarding the Affected Property:

- (1) Monitoring the Work;
- (2) Verifying any data or information submitted to EPA or the State;
- (3) Conducting investigations regarding contamination at or near the Site;
- (4) Obtaining samples;
- (5) Assessing the need for, planning, implementing, or monitoring response actions;
- (6) Assessing implementation of quality assurance and quality control practices as defined in the approved QAPP;
- (7) Implementing the Work pursuant to the conditions set forth in Paragraph 108 (Work Takeover);
- (8) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondents or their agents, consistent with Section XII (Access to Information);
- (9) Assessing Respondents' compliance with the Settlement;

(10) Determining whether the Affected Property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted under the Settlement; and

(11) Implementing, monitoring, maintaining, reporting on, and enforcing any land, water, or other resource use restrictions regarding the Affected Property.

64. **Best Efforts.** As used in this Section, “best efforts” means the efforts that a reasonable person in the position of Respondents would use so as to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access and/or use restriction agreements, as required by this Section. If Respondents are unable to accomplish what is required through “best efforts” in a timely manner, they shall notify EPA and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondents, or take independent action, in obtaining such access and/or use restrictions. All costs incurred by the United States in providing such assistance or taking such action, including the cost of attorney time and the amount of monetary consideration or just compensation paid, constitute Future Response Costs to be reimbursed under Section XVI (Payment of Response Costs).

65. If EPA determines in a decision document prepared in accordance with the NCP that Institutional Controls in the form of state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices are needed, Respondents shall cooperate with EPA’s and the State’s efforts to secure and ensure compliance with such Institutional Controls.

66. **Notice to Successors-in-Title**

a. Owner Respondent shall, within 15 days after the Effective Date, submit for EPA approval a notice to be filed regarding Owner Respondent’s Affected Property in the appropriate land records. The notice must: (1) include a proper legal description of the Affected Property; (2) provide notice to all successors-in-title that: (i) the Affected Property is part of, or related to, the Site; (ii) EPA has entered into an agreement with Respondents for performance of an RI/FS with respect to the Affected Property; and (iii) potentially responsible parties have entered into an Administrative Settlement Agreement and Order on Consent requiring performance of the RI/FS; and (3) identify the name, docket number, and effective date of this Settlement. Owner Respondent shall record the notice within 10 days after EPA’s approval of the notice and submit to EPA, within 10 days thereafter, a certified copy of the recorded notice.

b. Owner Respondent shall, prior to entering into a contract to Transfer Owner Respondent’s Affected Property, or 60 days prior to Transferring Owner Respondent’s Affected Property, whichever is earlier:

(1) Notify the proposed transferee that EPA has entered into an agreement with Respondents for performance of an RI/FS with respect to the Affected Property (identifying the name, docket number, and the effective date of this Settlement); and

(2) Notify EPA and the State of the name and address of the proposed transferee and provide EPA and the State with a copy of the notice that it provided to the proposed transferee.

67. In the event of any Transfer of the Affected Property, unless EPA otherwise consents in writing, Respondents shall continue to comply with their obligations under this Settlement, including their obligation to secure access and ensure compliance with any land, water, or other resource use restrictions regarding the Affected Property.

68. Notwithstanding any provision of the Settlement, EPA and the State retain all of their access authorities and rights, as well as all of their rights to require land, water, or other resource use restrictions, including enforcement authorities related thereto under CERCLA, RCRA, and any other applicable statute or regulations.

## **XII. ACCESS TO INFORMATION**

69. Respondents shall provide to EPA and the State, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as “Records”) within Respondents’ possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Settlement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Respondents shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

### **70. Privileged and Protected Claims**

a. Respondents may assert that all or part of a Record requested by EPA or the State is privileged or protected as provided under federal law, in lieu of providing the Record, provided Respondents comply with Paragraph 70.b, and except as provided in Paragraph 70.c.

b. If Respondents assert a claim of privilege or protection, they shall provide EPA and the State with the following information regarding such Record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the Record’s contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a Record, Respondents shall provide the Record to EPA and the State in redacted form to mask the privileged or protected portion only. Respondents shall retain all Records that they claim to be privileged or protected until EPA and the State have had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in Respondents’ favor.

c. Respondents may make no claim of privilege or protection regarding:  
(1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other

Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondents are required to create or generate pursuant to this Settlement.

71. **Business Confidential Claims.** Respondents may assert that all or part of a Record provided to EPA and the State under this Section or Section XIII (Record Retention) is business confidential to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondents shall segregate and clearly identify all Records or parts thereof submitted under this Settlement for which Respondents assert business confidentiality claims. Records claimed as confidential business information will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA and the State, or if EPA has notified Respondents that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to Respondents.

72. Notwithstanding any provision of this Settlement, EPA and the State retain all of their information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

### **XIII. RECORD RETENTION**

73. Until 10 years after EPA provides Respondents with notice, pursuant to Section XXIX (Notice of Completion of Work), that all Work has been fully performed in accordance with this Settlement, each Respondent shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control, or that come into its possession or control, that relate in any manner to its liability under CERCLA with regard to the Site; provided, however, that Respondents who are potentially liable as owners or operators of the Site must retain, in addition, all Records that relate to the liability of any other person under CERCLA with respect to the Site. Each Respondent must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that each Respondent (and its contractors and agents) must retain, in addition, copies of all data generated during the performance of the Work and not contained in the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

74. At the conclusion of the document retention period, Respondents shall notify EPA and the State at least 90 days prior to the destruction of any such Records, and, upon request by EPA or the State, and except as provided in Paragraph 70 (Privileged and Protected Claims), Respondents shall deliver any such Records to EPA or the State.

75. Each Respondent certifies individually that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA or the State and that it has fully complied



with any and all EPA and State requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law.

76. The United States acknowledges that Settling Federal Agency: (1) is subject to all applicable federal record retention laws, regulations and policies; and (2) has certified that it has fully complied with any and all EPA requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

#### **XIV. COMPLIANCE WITH OTHER LAWS**

77. Nothing in this Settlement limits Respondent's obligations to comply with the requirements of all applicable state and federal laws and regulations when performing the RI/FS. No local, state, or federal permit shall be required for any portion of the Work conducted entirely on-Site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work), including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work that is not on-Site requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. Respondents may seek relief under the provisions of Section XVIII (Force Majeure) for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit or approval required for the Work, provided that they have submitted timely and complete applications and taken all other actions necessary to obtain all such permits or approvals. This Settlement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

#### **XV. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES**

78. **Emergency Response.** If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondents shall take these actions in accordance with all applicable provisions of this Settlement, including, but not limited to, the Health and Safety Plan. Respondents shall also immediately notify EPA's RPM or, in the event of his/her unavailability, the Regional Duty Officer, at (913) 281-0991, of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondents shall reimburse EPA for all costs of such response action not inconsistent with the NCP pursuant to Section XVI (Payment of Response Costs).

79. **Release Reporting.** Upon the occurrence of any event during performance of the Work that Respondents are required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. § 11004, Respondents shall immediately orally notify EPA's RPM or, in the event of his/her unavailability, the Regional Duty Officer, at (913) 281-0991, and the

In the Matter of West Lake Landfill Superfund Site, OU-3  
Bridgeton Landfill, LLC, Cotter Corporation (N.S.L.), and U.S. Department of Energy  
Administrative Settlement Agreement and Order on Consent for RI/FS

National Response Center at (800) 424-8802. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of EPCRA, 42 U.S.C. § 11004.

80. For any event covered under this Section, Respondents shall submit a written report to EPA within 7 days after the onset of such event, setting forth the action or event that occurred and the measures taken, and to be taken, to mitigate any release or threat of release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release or threat of release.

## **XVI. PAYMENT OF RESPONSE COSTS**

81. **Payments by Respondents for Future Response Costs.** Respondents shall pay to EPA all Future Response Costs not inconsistent with the NCP.

a. **Periodic Bill.** On a periodic basis, EPA will send Respondents a bill requiring payment of Future Response Costs that includes a standard regionally-prepared cost summary, which includes direct and indirect costs incurred by EPA, its contractors, subcontractors, and the United States Department of Justice. Respondents shall make all payments within 30 days after receipt of each bill requiring payment, except as otherwise provided in Paragraph 85 (Contesting Future Response Costs), and in accordance with Paragraphs 81.b and 81.c.

b. Respondents shall make payment to EPA by Fedwire Electronic Funds Transfer (EFT) to:

Federal Reserve Bank of New York  
ABA = 021030004  
Account = 68010727  
SWIFT address = FRNYUS33  
33 Liberty Street  
New York, NY 10045  
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number 0714 and the EPA docket number for this action.

c. At the time of payment, Respondents shall send notice that payment has been made to EPA's RPM at:

Justin Barker  
Remedial Project Manager  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Boulevard  
Lenexa, Kansas 66219

In the Matter of West Lake Landfill Superfund Site, OU-3  
Bridgeton Landfill, LLC, Cotter Corporation (N.S.L.), and U.S. Department of Energy  
Administrative Settlement Agreement and Order on Consent for RI/FS

and to the EPA Cincinnati Finance Office by email at [cinwd\\_acctsreceivable@epa.gov](mailto:cinwd_acctsreceivable@epa.gov), or by mail to:

EPA Cincinnati Finance Office  
26 W. Martin Luther King Drive  
Cincinnati, Ohio 45268

Such notice shall reference Site/Spill ID Number 0714 and the EPA docket number for this action.

d. **Deposit of Future Response Costs Payments.** The total amount to be paid by Respondents pursuant to Paragraph 81.a (Periodic Bill) shall be deposited by EPA in the West Lake Landfill Superfund Site Special Account to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund, provided, however, that EPA may deposit a Future Response Costs payment directly into the EPA Hazardous Substance Superfund if, at the time the payment is received, EPA estimates that the West Lake Landfill Superfund Site Special Account balance is sufficient to address currently anticipated future response actions to be conducted or financed by EPA at or in connection with the Site. Any decision by EPA to deposit a Future Response Costs payment directly into the EPA Hazardous Substance Superfund for this reason shall not be subject to challenge by Respondents pursuant to the dispute resolution provisions of this Settlement or in any other forum.

82. **Unused Amount.** After EPA issues the Notice of Completion of Work pursuant to Paragraph 138 and a final accounting of the West Lake Landfill Superfund Site Future Response Costs Special Account (including crediting Respondents and Settling Federal Agency for any amounts received under Paragraph 81.a (Periodic Bill)), EPA will apply any unused amount paid by Respondents pursuant to Paragraph 81.a (Periodic Bill) to any other unreimbursed response costs or response actions remaining at the Site. Any decision by EPA to apply unused amounts to unreimbursed response costs or response actions remaining at the Site shall not be subject to challenge by Respondents pursuant to the dispute resolution provisions of this Settlement or in any other forum.

83. **Payments by Settling Federal Agency**

a. The United States, on behalf of Settling Federal Agency, shall reimburse Respondents for 25 percent of Respondents' Future Response Costs and for 25 percent of Future Response Costs that Respondents have paid to EPA in accordance with Paragraph 81. Such payments shall be made in accordance with the provisions of this Paragraph.

b. The United States, on behalf of Settling Federal Agency, shall make an initial payment to Respondents of \$850,000 as soon as reasonably practical after this Settlement becomes effective. This amount represents Settling Federal Agency's minimum estimate of its 25 percent share of Respondents' Future Response Costs and its 25 percent share of Future Response Costs that respondents will pay to EPA in accordance with Paragraph 81. In the event that Settling Federal Agency's initial payment of \$850,000 represents more than its 25 percent

share, Respondents shall credit Settling Federal Agency the difference between \$850,000 and its 25 percent share in a future settlement between the Parties regarding the Site.

c. Respondents shall make an Initial Payment Demand to Settling Federal Agency within 120 days after the end of the Calendar Year in which Respondents expended a total of \$3,400,000 for Respondents' Future Response Costs and Future Response Costs. Such payment demand shall cover all reimburseable costs incurred by Respondents up through the end of that Calendar Year. Respondents' failure to include costs in the Initial Payment Demand that had been incurred prior to the end of the preceeding Calendar Year shall result in a waiver of Respondents' right to demand payment for those costs from Settling Federal Agency.

d. After making the Initial Payment Demand, Respondents shall make Annual Payment Demands to Settling Federal Agency within 120 days after the end of each Calendar Year. Respondents' failure to include costs in the Payment Demand for the calendar year in which the cost was incurred shall result in a waiver of Respondents' right to demand payment for those costs from Settling Federal Agency.

e. Every Payment Demand, including the Initial Payment Demand, shall include the following:

(1) Reference to the order, letters, or other communication issued by EPA, during the time period in which the costs were incurred, pursuant to which Respondents have incurred costs performing the Work;

(2) For Payment Demands for Settling Federal Agencies' 25 percent share of Future Response Costs, a copy of EPA's bill(s) to Respondents for its Future Response Costs;

(3) An invoice showing the amount of payment requested fully divided into its detailed component cost items and related back to the relevant cost authorizing document(s);

(4) Supporting documentation or information, such as copies of invoices and descriptions of the work underlying the invoices. Such supporting documentation or information shall identify each contractor, vendor, or other person to whom money for which Respondents seek reimbursement was paid, and show, for each such contractor, vendor, or other person, the amount of money they were paid and the services or goods they provided;

(5) Evidence that Respondents have actually incurred and paid each claimed cost;

(6) Certification by a principal of the Project Coordinator's firm, other than the Project Coordinator, that the information provided in or with the Payment Demand is true and accurate to the best of Respondents' knowledge and that Respondents believe in good faith that they are entitled to recover the amount requested. The certification should be included in each Payment Demand and

state the following: “To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I further certify that in my professional judgment the actual costs summarized in this submission were incurred and paid for necessary Work in compliance with the requirements of the ASAOC, the SOW, and EPA-approved deliverables. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”; and

(7) A statement that, effective upon the receipt of the United States’ payment of such costs on behalf of Settling Federal Agency, the Respondents covenant not to sue the United States for the response costs identified in the payment demand.

f. A Payment Demand that does not comply with the requirements of this Paragraph may be rejected by Settling Federal Agency and returned to Respondents for proper completion, clarification, or documentation. No time limits or other consequences associated with payment for and calculation of interest on the Payment Demand will begin to run until a complete and documented Payment Demand is submitted in conformance with Paragraph 83.e.

g. Respondents’ Payment Demands shall reference *In re Westlake Landfill Superfund Site*, DJ No. 90-11-6-130, and shall be sent by overnight delivery to the address specified below, or such other address or by such other means as an authorized representative of Settling Federal Agency specifies in writing:

Chief, Environmental Defense Section  
Environment & Natural Resources Division  
601 D Street, N.W.  
Suite 8000  
Washington, D.C. 20004  
(202) 514-2701

h. Settling Federal Agency shall pay its 25 percent share of the Respondents’ Future Response Costs and 25 percent share of Future Response Costs paid by Respondents that are identified in each Payment Demand, less any amount that Settling Federal Agency disputes pursuant to Paragraph 83.i. as soon as reasonably practicable after receipt of a complete payment demand. For any payment made more than 120 days after Settling Federal Agency’s receipt of a complete Payment Demand in conformance with the requirements of Paragraph 83.e., except a payment made after the resolution of a dispute under Paragraph 83.i., Settling Federal Agency shall pay interest at the rate established pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), which interest shall begin to accrue on the 121st day after Settling Federal Agency’s receipt of the Payment Demand and shall continue to accrue until the date of payment. Payments shall be made by Electronic Funds Transfer in accordance with instructions provided by Respondents.

i. Objections to Payment of Response Costs by the United States.

(1) If Settling Federal Agency in good faith questions or contests any cost for which payment is requested, in whole or in part, it shall have the right to withhold payment of the amount of the disputed cost; provided, however, that Settling Federal Agency shall notify Respondents in writing of any such disputed amount within 60 days after Settling Federal Agency receives Respondents' complete Payment Demand or any supplement thereto. Such notice shall contain a listing of the specific costs questioned by Settling Federal Agency and a detailed statement describing the basis for Settling Federal Agency's position. Respondents and Settling Federal Agency shall promptly make a good faith effort to resolve such a dispute. In the event that Settling Federal Agency and Respondents cannot informally resolve the dispute, either party may seek formal dispute resolution in accordance with 5 U.S.C. § 571 et seq. The invocation of dispute resolution procedures under this Paragraph shall not extend, postpone or affect in any way any obligation of Respondents to perform the Work or pay Future Response Costs under this agreement.

(2) If Settling Federal Agency questions any costs included in a Payment Demand because the information provided by Respondents with regard to those costs is incomplete or not clear, Respondents may supplement its payment request by submitting additional information concerning those costs within 60 days after Respondents receive notice, pursuant to this subparagraph, that Settling Federal Agency has disputed such costs. An error or omission in the original submission, if corrected within 60 days after Respondents receives notice, shall not be the basis for Settling Federal Agency denying payment of an otherwise sufficiently documented cost. If Respondents supplements its original submission pursuant to this subparagraph, Settling Federal Agency shall be deemed to have received the Payment Demand on the Day that it receives the supplement.

j. The Parties to this Settlement recognize and acknowledge that the payment obligations of Settling Federal Agency under this Settlement can only be paid from appropriated funds legally available for such purpose. Nothing in this Settlement shall be interpreted or construed as a commitment or requirement that Settling Federal Agency obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. § 1341, or any other applicable provision of law.

84. **Interest.** In the event that any payment for Future Response Costs is not made by the date required, Respondents shall pay Interest on the unpaid balance. The Interest on Future Response Costs shall begin to accrue on the date of the bill. The Interest shall accrue through the date of Respondents' payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XIX (Stipulated Penalties).

85. **Contesting Future Response Costs.** Respondents may initiate the procedures of Section XVII (Dispute Resolution) regarding payment of any Future Response Costs billed under

Paragraph 81 (Payments by Respondents for Future Response Costs) if they determine that EPA has made a mathematical error or included a cost item that is not within the definition of Future Response Costs, or if they believe EPA incurred excess costs as a direct result of an EPA action that was inconsistent with a specific provision or provisions of the NCP. To initiate such a dispute, Respondents shall submit a Notice of Dispute in writing to EPA's RPM within 30 days after receipt of the bill. Any such Notice of Dispute shall specifically identify the contested Future Response Costs and the basis for objection. If Respondents submit a Notice of Dispute, Respondents shall within the 30-day period, also as a requirement for initiating the dispute, (a) pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 81, and (b) establish, in a duly chartered bank or trust company, an interest-bearing escrow account that is insured by the Federal Deposit Insurance Corporation (FDIC) and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondents shall send to EPA's RPM a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. If EPA prevails in the dispute, within 5 days after the resolution of the dispute, Respondents shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 81. If Respondents prevail concerning any aspect of the contested costs, Respondents shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to EPA in the manner described in Paragraph 81. Respondents shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XVII (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondents' obligation to reimburse EPA for its Future Response Costs.

## **XVII. DISPUTE RESOLUTION**

86. Unless otherwise expressly provided for in this Settlement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement. The Parties shall attempt to resolve any disagreements concerning this Settlement expeditiously and informally.

87. **Informal Dispute Resolution.** If Respondents object to any EPA action taken pursuant to this Settlement, including billings for Future Response Costs, they shall send EPA a written Notice of Dispute describing the objection(s) within 15 days after such action. The Parties shall have 10 days from EPA's receipt of Respondents' Notice of Dispute to resolve the dispute through informal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Settlement.

88. **Formal Dispute Resolution.** If the Parties are unable to reach an agreement within the Negotiation Period, Respondents shall, within 15 days after the end of the Negotiation Period, submit a statement of position to EPA's RPM. EPA may, within 15 days thereafter, submit a statement of position. Thereafter, the director of EPA Region 7's Superfund Division

will issue a written decision on the dispute to Respondents. EPA's decision shall be incorporated into and become an enforceable part of this Settlement. Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

89. Except as provided in Paragraph 85 (Contesting Future Response Costs) or as agreed by EPA, the invocation of formal dispute resolution procedures under this Section does not extend, postpone, or affect in any way any obligation of Respondents under this Settlement. Except as provided in Paragraph 97, stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Settlement. In the event that Respondents do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XIX (Stipulated Penalties).

### **XVIII. FORCE MAJEURE**

90. "Force Majeure" for purposes of this Settlement, is defined as any event arising from causes beyond the control of Respondents, of any entity controlled by Respondents, or of Respondents' contractors that delays or prevents the performance of any obligation under this Settlement despite Respondents' best efforts to fulfill the obligation. The requirement that Respondents exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure (a) as it is occurring and (b) following the potential force majeure such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. "Force majeure" does not include financial inability to complete the Work or increased cost of performance.

91. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement and for which Respondents intend or may intend to assert a claim of force majeure, Respondents shall notify EPA's RPM orally or, in his or her absence, the alternate RPM, or, in the event both of EPA's designated representatives are unavailable, the director of EPA Region 7's Superfund Division, within 3 days of when Respondents first knew that the event might cause a delay. Within 5 days thereafter, Respondents shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the rationale for attributing such delay to a force majeure; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health or welfare, or the environment. Respondents shall include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure. Respondents shall be deemed to know of any circumstance of which Respondents, any entity controlled by Respondents, or Respondents' contractors knew or should have known. Failure to comply with the above requirements regarding an event shall preclude Respondents from asserting any claim of force majeure regarding that event; provided, however, that if EPA, despite the late or incomplete notice, is able to assess to its satisfaction whether the event is a



force majeure under Paragraph 90 and whether Respondents have exercised their best efforts under Paragraph 90, EPA may, in its unreviewable discretion, excuse in writing Respondents' failure to submit timely or complete notices under this Paragraph.

92. If EPA agrees that the delay or anticipated delay is attributable to a force majeure, the time for performance of the obligations under this Settlement that are affected by the force majeure will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure, EPA will notify Respondents in writing of its decision and Respondent may invoke Dispute Resolution pursuant to Section XVII. If EPA agrees that the delay is attributable to a force majeure, EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure.

93. If Respondents elect to invoke the dispute resolution procedures set forth in Section XVII (Dispute Resolution), they shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Respondents shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Respondents complied with the requirements of Paragraphs 90 and 91. If Respondents carry this burden, the delay at issue shall be deemed not to be a violation by Respondents of the affected obligation of this Settlement identified to EPA.

94. The failure by EPA to timely complete any obligation under this Settlement is not a violation of this Settlement; provided, however, that if such failure prevents Respondents from meeting one or more deadlines under this Settlement, Respondents may seek relief under this Section.

## **XIX. STIPULATED PENALTIES**

95. Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraph 96.a for failure to comply with the obligations specified in Paragraph 96.b, unless excused under Section XVIII (Force Majeure). "Comply" as used in the previous sentence includes compliance by Respondents with all applicable requirements of this Settlement, within the deadlines established under this Settlement.

### **96. Stipulated Penalty Amounts: Payments, Financial Assurance, Major Deliverables, and Other Milestones**

a. The following stipulated penalties shall accrue per violation per day for any noncompliance with any obligation identified in Paragraph 96.b:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 500.00	1st through 14th day
\$ 1,000.00	15th through 30th day
\$ 2,500.00	31st day through 60 <sup>th</sup> day
\$ 5,000.00	61 <sup>st</sup> day and beyond

**b. Obligations**

- (1) Payment of any amount due under Section XVI (Payment of Response Costs).
- (2) Establishment and maintenance of financial assurance in accordance with Section XXVII (Financial Assurance).
- (3) Establishment of an escrow account to hold any disputed Future Response Costs under Paragraph 85 (Contesting Future Response Costs).
- (4) Submission of RI/FS Work Plan (draft and revised).
- (5) Submission of Well Inventory Summary Report.
- (6) Submission of Sampling and Analysis Plan (draft and revised).
- (7) Submission of Hydrogeologic Investigation and Groundwater Characterization Report (draft and revised).
- (8) Submission of 3-D Modeling Work Plan (draft and revised).
- (9) Submission of Risk Assessment Work Plan (draft and revised).
- (10) Commencement of Work according to the schedule in an approved Work Plan.
- (11) Completion of Work according to the schedule in an approved Work Plan.
- (12) Submission of RI Report (draft and revised).
- (13) Submission of FS Report (draft and revised).
- (14) Submission of Monthly and Annual Progress Reports.
- (15) Submission of certificates of insurance and copies of insurance policies.
- (16) Submission of written evidence of financial security.

97. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. Penalties shall continue to accrue during any dispute resolution period, and shall be paid within 15 days after the agreement or the receipt of EPA's decision. However, stipulated penalties shall not accrue: (a) with respect to a deficient submission under Section IX (Submission and Approval of Deliverables), during the period, if any, beginning on the 31<sup>st</sup> day after EPA's receipt of such submission until the date that EPA notifies Respondents of any deficiency; and (b) with respect to a decision by the EPA Management Official at the division director level or higher, under Paragraph 88 (Formal Dispute Resolution), during the period, if any, beginning on the 21<sup>st</sup> day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing in this Settlement shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement.

98. Following EPA's determination that Respondents have failed to comply with a requirement of this Settlement, EPA may give Respondents written notification of the failure and describe the noncompliance. EPA may send Respondents a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation, but Respondents' failure to pay penalties shall not be considered a new violation of this Settlement absent a demand or invoice from EPA notifying Respondent that such penalties are due and owing.

99. All penalties accruing under this Section shall be due and payable to EPA within 30 days after Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the Dispute Resolution procedures under Section XVII (Dispute Resolution) within the 30-day period. All payments to EPA under this Section shall indicate that the payment is for stipulated penalties and shall be made in accordance with Paragraph 81 (Payments for Future Response Costs).

100. If Respondents fail to pay stipulated penalties when due, Respondents shall pay Interest on the unpaid stipulated penalties as follows: (a) if Respondents have timely invoked dispute resolution such that the obligation to pay stipulated penalties has been stayed pending the outcome of dispute resolution, Interest shall accrue from the date stipulated penalties are due pursuant to Paragraph 97 until the date of payment; and (b) if Respondents fail to timely invoke dispute resolution, Interest shall accrue from the date of demand under Paragraph 99 until the date of payment. If Respondents fail to pay stipulated penalties and Interest when due, the United States may institute proceedings to collect the penalties and Interest.

101. The payment of penalties and Interest, if any, shall not alter in any way Respondents' obligation to complete performance of the Work required under this Settlement.

102. Nothing in this Settlement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Settlement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(*l*) of CERCLA, 42 U.S.C. § 9622(*l*), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C.

§ 9607(c)(3); provided, however, that EPA shall not seek civil penalties pursuant Section 122(I) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided in this Settlement, except in the case of willful violation of this Settlement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 108 (Work Takeover).

103. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement.

## **XX. COVENANTS BY EPA**

104. **Covenants for Respondents.** Except as provided in Section XXI (Reservations of Rights by EPA), EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Future Response Costs. These covenants shall take effect upon the Effective Date. These covenants are conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Settlement. These covenants extend only to Respondents and do not extend to any other person.

105. **Covenants for Settling Federal Agency.** In consideration of the payments that will be made by the United States on behalf of Settling Federal Agency under this Settlement, and except as specifically provided in Section XXI (Reservation of Rights by EPA), EPA covenants not to take administrative action against Settling Federal Agency pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 42 U.S.C. 9606 and 9607(a), for the Work and Future Response Costs. This covenant shall take effect upon receipt of the payment(s) due under Paragraphs 83 and any Interest due thereon under Paragraph 84 and is conditioned upon the complete and satisfactory performance by Settling Federal Agency of all obligations under this Settlement. This covenant extends only to Settling Federal Agency and does not extend to any other person.

## **XXI. RESERVATIONS OF RIGHTS BY EPA**

106. Except as specifically provided in this Settlement, nothing in this Settlement shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Settlement shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents or Settling Federal Agency in the future to perform additional activities pursuant to CERCLA or any other applicable law.

107. The covenants not to sue set forth in Section XX (Covenants by EPA) do not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement is without prejudice to, all rights against Respondents and Settling Federal Agency with respect to all other matters, including, but not limited to:

- a. liability for failure by Respondents and Settling Federal Agency to meet a requirement of this Settlement;
- b. liability for costs not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work;
- d. criminal liability;
- e. liability for violations of federal or state law that occur during or after implementation of the Work;
- f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- g. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and
- h. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site not paid as Future Response Costs under this Settlement.

#### **108. Work Takeover**

a. In the event EPA determines that Respondents: (1) have ceased implementation of any portion of the Work; (2) are seriously or repeatedly deficient or late in their performance of the Work; or (3) are implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice (“Work Takeover Notice”) to Respondents. Any Work Takeover Notice issued by EPA (which writing may be electronic) will specify the grounds upon which such notice was issued and will provide Respondents a period of 10 days within which to remedy the circumstances giving rise to EPA’s issuance of such notice.

b. If, after expiration of the 10-day notice period specified in Paragraph 108.a, Respondents have not remedied to EPA’s satisfaction the circumstances giving rise to EPA’s issuance of the relevant Work Takeover Notice, EPA may at any time thereafter assume the performance of all or any portion(s) of the Work as EPA deems necessary (“Work Takeover”). EPA will notify Respondents in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted under this Paragraph 108.b. Funding of Work Takeover costs is addressed under Paragraph 132 (Access to Financial Assurance).

c. Respondents may invoke the procedures set forth in Section XVII (Dispute Resolution) to dispute EPA’s implementation of a Work Takeover under Paragraph 108.b. However, notwithstanding Respondents’ invocation of such dispute resolution procedures, and during the pendency of any such dispute, EPA may in its sole discretion

commence and continue a Work Takeover under Paragraph 108.b until the earlier of: (1) the date that Respondents remedy, to EPA's satisfaction, the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, or (2) the date that a written decision terminating such Work Takeover is rendered in accordance with Paragraph 88 (Formal Dispute Resolution).

d. Notwithstanding any other provision of this Settlement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

## **XXII. COVENANTS BY RESPONDENTS AND SETTLING FEDERAL AGENCY**

109. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Respondents' Future Response Costs, or this Settlement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund through Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claims under Sections 107 and 113 of CERCLA, Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), or state law regarding the Work, Future Response Costs, and this Settlement;

c. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Missouri Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, or at common law.

### **110. Covenant by Settling Federal Agency**

a. Settling Federal Agency agrees not to assert any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund through CERCLA Sections 106(b)(2), 107, 111, 112, 113 or any other provision of law with respect to the Work, Future Response Costs, Respondents' Future Response Costs, and this Settlement. This covenant does not preclude demand for reimbursement from the Superfund of costs incurred by Settling Federal Agency in the performance of its duties (other than pursuant to this Settlement) as lead or support agency under the National Contingency Plan (40 C.F.R. Part 300).

b. Settling Federal Agency covenants not to sue and agrees not to assert any claims or causes of action against the Respondents with respect to the Work, Respondents' Future Response Costs, and this Settlement.

111. Except as provided in Paragraph 114 (Waiver of Claims by Respondents) these covenants not to sue shall not apply in the event the United States on behalf of EPA brings a cause of action or issues an order pursuant to the reservations set forth in Section XXI (Reservations of Rights by EPA), other than in Paragraph 107.a (liability for failure to meet a requirement of the Settlement), 107.d (criminal liability), or 107.e (liability for violations of federal or state law), but only to the extent that Respondents' claims and Settling Federal

Agency's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

112. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

113. Respondents reserve, and this Settlement is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, and brought pursuant to any statute other than CERCLA or RCRA and for which the waiver of sovereign immunity is found in a statute other than CERCLA or RCRA, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States, as that term is defined in 28 U.S.C. § 2671, while acting within the scope of his or her office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, the foregoing shall not include any claim based on EPA's selection of response actions, or the oversight or approval of Respondents' deliverables or activities.

114. **Waiver of Claims by Respondents**

a. Respondents agree not to assert any claims and to waive all claims or causes of action (including but not limited to claims or causes of action under Sections 107(a) and 113 of CERCLA) that they may have:

(1) **De Micromis Waiver.** For all matters relating to the Site against any person where the person's liability to Respondents with respect to the Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at the Site, or having accepted for transport for disposal or treatment of hazardous substances at the Site, if all or part of the disposal, treatment, or transport occurred before April 1, 2001, and the total amount of material containing hazardous substances contributed by such person to the Site was less than 110 gallons of liquid materials or 200 pounds of solid materials; and

(2) **MSW Waiver.** For all matters relating to the Site against any person where the person's liability to Respondents with respect to the Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of MSW at the Site, if the volume of MSW disposed, treated, or transported by such person to the Site did not exceed 0.2 percent of the total volume of waste at the Site.

b. **Exceptions to Waiver**

(1) The waiver under this Paragraph 114 shall not apply with respect to any defense, claim, or cause of action that a Respondent may have against any person otherwise covered by such waiver if such person asserts a claim or cause of action relating to the Site against such Respondent.

(2) The waiver under Paragraph 114.a(1) (De Micromis Waiver) shall not apply to any claim or cause of action against any person otherwise covered by such waiver if EPA determines that: (i) the materials containing hazardous substances contributed to the Site by such person contributed significantly or could contribute significantly, either individually or in the aggregate, to the cost of the response action or natural resource restoration at the Site; or (ii) such person has failed to comply with any information request or administrative subpoena issued pursuant to Section 104(e) or 122(e) of CERCLA, 42 U.S.C. § 9604(e) or 9622(e), or Section 3007 of RCRA, 42 U.S.C. § 6927, or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the Site; or if (iii) such person has been convicted of a criminal violation for the conduct to which the waiver would apply and that conviction has not been vitiated on appeal or otherwise.

(3) The waiver under Paragraph 114.a(2) (MSW Waiver) shall not apply to any claim or cause of action against any person otherwise covered by such waiver if EPA determines that: (i) the materials containing hazardous substances contributed to the Site by such person contributed significantly or could contribute significantly, either individually or in the aggregate, to the cost of the response action or natural resource restoration at the Site; or (ii) such person has failed to comply with any information request or administrative subpoena issued pursuant to Section 104(e) or 122(e) of CERCLA, 42 U.S.C. § 9604(e) or 9622(e), or Section 3007 of RCRA, 42 U.S.C. § 6927, or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the Site.

### **XXIII. OTHER CLAIMS**

115. By issuance of this Settlement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or EPA shall not be deemed a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement.

116. Except as expressly provided in Paragraph 114 (Waiver of Claims by Respondents) and Section XX (Covenants by EPA), nothing in this Settlement constitutes a satisfaction of or release from any claim or cause of action against Respondents, Settling Federal Agency, or any person not a party to this Settlement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages, and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

117. No action or decision by EPA pursuant to this Settlement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

### **XXIV. EFFECT OF SETTLEMENT/CONTRIBUTION**

118. Except as provided in Paragraph 114 (Waiver of Claims by Respondents), nothing in this Settlement shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Settlement. Except as provided in Section XXII (Covenants by Respondents and Settling Federal Agency), each of the Parties expressly reserves any and all



rights (including, but not limited to, pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto. Nothing in this Settlement diminishes the right of the United States, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

119. The Parties agree that this Settlement constitutes an administrative settlement pursuant to which each Respondent and Settling Federal Agency has, as of the Effective Date, resolved liability to the United States within the meaning of Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), and is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, or as may be otherwise provided by law, for the “matters addressed” in this Settlement. The “matters addressed” in this Settlement are the Work and Future Response Costs.

120. The Parties further agree that this Settlement constitutes an administrative settlement pursuant to which each Respondent and Settling Federal Agency has, as of the Effective Date, resolved liability to the United States within the meaning of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B).

121. Each Respondent shall, with respect to any suit or claim brought by it for matters related to this Settlement, notify EPA in writing no later than 60 days prior to the initiation of such suit or claim. Each Respondent also shall, with respect to any suit or claim brought against it for matters related to this Settlement, notify EPA in writing within 10 days after service of the complaint or claim upon it. In addition, each Respondent shall notify EPA within 10 days after service or receipt of any Motion for Summary Judgment and within 10 days after receipt of any order from a court setting a case for trial, for matters related to this Settlement.

122. In any subsequent administrative or judicial proceeding initiated by EPA, or by the United States on behalf of EPA, for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondents shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenant by EPA set forth in Section XX (Covenants By EPA).

## **XXV. INDEMNIFICATION**

123. The United States does not assume any liability by entering into this Settlement or by virtue of any designation of Respondents as EPA’s authorized representatives under Section 104(e) of CERCLA, 42 U.S.C. § 9604(e), and 40 C.F.R. § 300.400(d)(3). Respondents shall indemnify, save, and hold harmless the United States, its officials, agents, employees, contractors, subcontractors, and representatives for or from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, or subcontractors, and any persons acting

on Respondents' behalf or under their control, in carrying out activities pursuant to this Settlement. Further, Respondents agree to pay the United States all costs it incurs, including but not limited to attorneys' fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Settlement. Neither Respondents nor any such contractor shall be considered an agent of the United States.

124. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

125. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

## **XXVI. INSURANCE**

126. No later than 5 days before commencing any on-Site Work, Respondents shall secure, through themselves or an approved contractor, and shall maintain until the first anniversary after issuance of Notice of Completion of Work pursuant to Section XXIX (Notice of Completion of Work), commercial general liability insurance with limits of liability of \$2 million per occurrence, automobile liability insurance with limits of liability of \$2 million per accident, and umbrella liability insurance with limits of liability of \$5 million in excess of the required commercial general liability and automobile liability limits, naming EPA as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondents pursuant to this Settlement. In addition, for the duration of the Settlement, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall resubmit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of workers' compensation insurance for all persons performing Work on behalf of Respondents in furtherance of this Settlement. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in a lesser amount, then, with respect to the contractor or subcontractor, Respondents need

provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor. Respondents shall ensure that all submittals to EPA under this Paragraph identify the West Lake Landfill Site in Bridgeton, Missouri, and the EPA docket number for this action.

## XXVII. FINANCIAL ASSURANCE

127. In order to ensure completion of the Work, Respondents and Settling Federal Agency shall secure financial assurance, initially in the amount of \$ 4,270,368 (“Estimated Cost of the Work”), for the benefit of EPA. The financial assurance must be one or more of the mechanisms listed below, in a form substantially identical to the relevant sample documents available from EPA or under the “Financial Assurance - Settlements” category on the Cleanup Enforcement Model Language and Sample Documents Database, available at <https://cfpub.epa.gov/compliance/models/>, and satisfactory to EPA.

- a. A surety bond guaranteeing payment and/or performance of the Work that is issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury;
- b. An irrevocable letter of credit, payable to or at the direction of EPA, that is issued by an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency;
- c. A trust fund established for the benefit of EPA that is administered by a trustee that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency;
- d. A policy of insurance that provides EPA with acceptable rights as a beneficiary thereof and that is issued by an insurance carrier that has the authority to issue insurance policies in the applicable jurisdiction(s) and whose insurance operations are regulated and examined by a federal or state agency;
- e. A demonstration by a Respondent that it meets the financial test criteria of Paragraph 129, accompanied by a standby funding commitment, which obligates the affected Respondent to pay funds to or at the direction of EPA, up to the amount financially assured through the use of this demonstration in the event of a Work Takeover; or
- f. A guarantee to fund or perform the Work executed in favor of EPA by a company: (1) that is a direct or indirect parent company of a Respondent or has a “substantial business relationship” (as defined in 40 C.F.R. § 264.141(h)) with a Respondent; and (2) can demonstrate to EPA’s satisfaction that it meets the financial test criteria of Paragraph 129.

128. Respondents shall, within 30 days of the Effective Date, obtain EPA’s approval of the form of Respondents’ financial assurance. Within 30 days of such approval, Respondents shall secure all executed and/or otherwise finalized mechanisms or other documents consistent

with the EPA-approved form of financial assurance and shall submit such mechanisms and documents to EPA's Regional Financial Management Officer at:

Alan Cooke  
Office of Policy and Management  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Boulevard  
Lenexa, Kansas 66219.

129. Respondents seeking to provide financial assurance by means of a demonstration or guarantee under Paragraph 127.e or 127.f, must, within 30 days of the Effective Date:

- a. Demonstrate that:
  - (1) the affected Respondent or Settling Federal Agency, or its guarantor, has:
    - i. Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and
    - ii. Net working capital and tangible net worth each at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
    - iii. Tangible net worth of at least \$10 million; and
    - iv. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; or
  - (2) The affected Respondent or Settling Federal Agency, or its guarantor, has:
    - i. A current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and
    - ii. Tangible net worth at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
    - iii. Tangible net worth of at least \$10 million; and

- iv. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and

b. Submit to EPA for the affected Respondent, or its guarantor: (1) a copy of an independent certified public accountant's report of the entity's financial statements for the latest completed fiscal year, which must not express an adverse opinion or disclaimer of opinion; and (2) a letter from its chief financial officer and a report from an independent certified public accountant substantially identical to the sample letter and reports available from EPA or under the "Financial Assurance-Settlements" subject list category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>.

130. Respondents providing financial assurance by means of a demonstration or guarantee under Paragraph 127.e or 127.f must also:

a. Annually resubmit the documents described in Paragraph 129.b within 90 days after the close of the fiscal year of the affected Respondent, or its guarantor;

b. Notify EPA within 30 days after the affected Respondent, or its guarantor, determines that it no longer satisfies the relevant financial test criteria and requirements set forth in this Section; and

c. Provide to EPA, within 30 days of EPA's request, reports of the financial condition of the affected Respondent or guarantor in addition to those specified in Paragraph 129.b; EPA may make such a request at any time based on a belief that the affected Respondent or guarantor may no longer meet the financial test requirements of this Section.

131. Respondents shall diligently monitor the adequacy of the financial assurance. If any Respondent becomes aware of any information indicating that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, such Respondent shall notify EPA of such information within 7 days. If EPA determines that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, EPA will notify the affected Respondent of such determination. Respondents shall, within 30 days after notifying EPA or receiving notice from EPA under this Paragraph, secure and submit to EPA for approval a proposal for a revised or alternative financial assurance mechanism that satisfies the requirements of this Section. EPA may extend this deadline for such time as is reasonably necessary for the affected Respondent, in the exercise of due diligence, to secure and submit to EPA a proposal for a revised or alternative financial assurance mechanism, not to exceed 60 days. Respondents shall follow the procedures of Paragraph 133 (Modification of Amount, Form, or Terms of Financial Assurance) in seeking approval of, and submitting documentation for, the revised or alternative financial assurance mechanism. The inability of Respondents to secure financial assurance in accordance with this Section does not excuse performance of any other obligation under this Settlement.

**132. Access to Financial Assurance**

a. If EPA issues a notice of implementation of a Work Takeover under Paragraph 108.b, then, in accordance with any applicable financial assurance mechanism, EPA is entitled to: (1) the performance of the Work; and/or (2) require that any funds guaranteed be paid in accordance with Paragraph 132.d.

b. If EPA is notified by the issuer of a financial assurance mechanism that it intends to cancel the mechanism, and the affected Respondent fails to provide an alternative financial assurance mechanism in accordance with this Section at least 30 days prior to the cancellation date, the funds guaranteed under such mechanism must be paid prior to cancellation in accordance with Paragraph 132.d.

c. If, upon issuance of a notice of implementation of a Work Takeover under Paragraph 108.b, either: (1) EPA is unable for any reason to promptly secure the resources guaranteed under any applicable financial assurance mechanism, whether in cash or in kind, to continue and complete the Work; or (2) the financial assurance is a demonstration or guarantee under Paragraphs 127.e or 127.f, then EPA is entitled to demand an amount, as determined by EPA, sufficient to cover the cost of the remaining Work to be performed. Respondents shall, within 15 days of such demand, pay the amount demanded as directed by EPA.

d. Any amounts required to be paid under this Paragraph 132 shall be, as directed by EPA: (1) paid to EPA in order to facilitate the completion of the Work by EPA or by another person; or (2) deposited into an interest-bearing account, established at a duly chartered bank or trust company that is insured by the FDIC, in order to facilitate the completion of the Work by another person. If payment is made to EPA, EPA may deposit the payment into the EPA Hazardous Substance Superfund or into the West Lake Landfill Superfund Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

e. All EPA Work Takeover costs not paid under this Paragraph 132 must be reimbursed as Future Response Costs under Section XVI (Payment of Response Costs).

**133. Modification of Amount, Form, or Terms of Financial Assurance.**

Respondents may submit, on any anniversary of the Effective Date or at any other time agreed to by the Parties, a request to reduce the amount, or change the form or terms, of the financial assurance mechanism. Any such request must be submitted to EPA in accordance with Paragraph 128, and must include an estimate of the cost of the remaining Work, an explanation of the bases for the cost calculation, and a description of the proposed changes, if any, to the form or terms of the financial assurance. EPA will notify Respondents of its decision to approve or disapprove a requested reduction or change pursuant to this Paragraph. Respondents may reduce the amount of the financial assurance mechanism only in accordance with: (a) EPA's approval; or (b) if there is a dispute, the agreement or written decision resolving such dispute under Section XVII (Dispute Resolution). Respondents may change the form or terms of the financial assurance mechanism only in accordance with EPA's approval. Any decision made by EPA on a request submitted under this Paragraph to change the form or terms of a financial

assurance mechanism shall not be subject to challenge by Respondents pursuant to the dispute resolution provisions of this Settlement or in any other forum. Within 30 days after receipt of EPA's approval of, or the agreement or decision resolving a dispute relating to, the requested modifications pursuant to this Paragraph, Respondents shall submit to EPA documentation of the reduced, revised, or alternative financial assurance mechanism in accordance with Paragraph 128.

**134. Release, Cancellation, or Discontinuation of Financial Assurance.**

Respondents may release, cancel, or discontinue any financial assurance provided under this Section only: (a) if EPA issues a Notice of Completion of Work under Section XXIX (Notice of Completion of Work); (b) in accordance with EPA's approval of such release, cancellation, or discontinuation; or (c) if there is a dispute regarding the release, cancellation or discontinuance of any financial assurance, in accordance with the agreement or final decision resolving such dispute under Section XVII (Dispute Resolution).

**XXVIII. MODIFICATION**

135. EPA's RPM may modify any plan or schedule or the SOW in writing or by oral direction. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of the RPM's oral direction. Any other requirements of this Settlement may be modified in writing by mutual agreement of the parties.

136. If Respondents seek permission to deviate from any approved work plan, schedule, or the SOW, Respondents' Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondents may not proceed with the requested deviation until receiving oral or written approval from EPA's RPM pursuant to Paragraph 135.

137. No informal advice, guidance, suggestion, or comment by EPA's RPM or other EPA representatives regarding any deliverable submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Settlement, or to comply with all requirements of this Settlement, unless it is formally modified.

**XXIX. NOTICE OF COMPLETION OF WORK**

138. When EPA determines that all Work has been fully performed in accordance with this Settlement, with the exception of any continuing obligations required by this Settlement (including payment of Future Response Costs, Record Retention, and land, water, or other resource use restrictions), EPA will provide written notice to Respondents. If EPA determines that any Work has not been completed in accordance with this Settlement, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the RI/FS Work Plan, if appropriate, in order to correct such deficiencies. Respondents shall implement the modified and approved RI/FS Work Plan and shall submit a modified draft RI Report and/or FS Report in accordance with the EPA notice. Failure by Respondents to implement the approved modified RI/FS Work Plan shall be a violation of this Settlement.

**XXX. INTEGRATION/APPENDICES**

139. This Settlement and its appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement. The parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Settlement. The following appendices are attached to and incorporated into this Settlement:

- a. "Appendix A" is a map of the Site.
- b. "Appendix B" is the SOW.

**XXXI. ADMINISTRATIVE RECORD**

140. EPA will determine the contents of the administrative record file for selection of the remedial action regarding this Operable Unit. Respondents shall submit to EPA documents developed during the course of the RI/FS upon which selection of the remedial action may be based. Upon request of EPA, Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports, and other reports prepared pursuant to this Settlement. Upon request of EPA, Respondents shall additionally submit any previous studies conducted under state, local, or other federal authorities that may relate to selection of the remedial action for this Operable Unit, and all communications between Respondents and state, local, or other federal authorities concerning selection of the remedial action for this Operable Unit.

**XXXII. EFFECTIVE DATE**

141. This Settlement shall be effective upon the date Respondents and Settling Federal Agency receive a fully executed copy of this Settlement.

EFFECTIVE DATE: February 6, 2019



In the Matter of West Lake Landfill Superfund Site, OU-3  
Bridgeton Landfill, LLC, Cotter Corporation (N.S.L.), and U.S. Department of Energy  
Administrative Settlement Agreement and Order on Consent for RI/FS

IT IS SO AGREED AND ORDERED.

**U.S. ENVIRONMENTAL PROTECTION AGENCY:**

2/6/2019  
Dated

Mary P. Peterson  
Mary P. Peterson, Director  
Superfund Division  
U.S. Environmental Protection Agency, Region 7

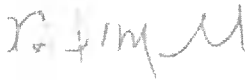
2/5/19  
Dated

Alyse Stoy  
Alyse Stoy  
Attorney, Office of Regional Counsel  
U.S. Environmental Protection Agency, Region 7



Signature Page for Settlement Regarding West Lake Landfill Superfund Site

**FOR COTTER CORPORATION (N.S.L.):**

A handwritten signature in black ink, appearing to read "R. J. Miller", is written above a horizontal line.

September 21, 2018

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

President

\_\_\_\_\_  
Title

In the Matter of West Lake Landfill Superfund Site, OU-3  
Bridgeton Landfill, LLC, Cotter Corporation (N.S.L.), and U.S. Department of Energy  
Administrative Settlement Agreement and Order on Consent for RI/FS

Signature Page for Settlement Regarding West Lake Landfill Superfund Site

FOR U.S. DEPARTMENT OF ENERGY:

2-1-19  
Date

  
Signature

Deputy Assistant C. C. for Environment  
Title

**APPENDIX A:  
OPERABLE UNIT 3  
SITE MAP**



**APPENDIX B:**  
**OPERABLE UNIT 3**  
**STATEMENT OF WORK**

**STATEMENT OF WORK  
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY  
SITE WIDE GROUNDWATER (OPERABLE UNIT 03)  
West Lake Landfill Site  
Bridgeton, Missouri**

**September 21, 2018  
FINAL**

## **I. INTRODUCTION**

The West Lake Landfill Site located in Bridgeton, Missouri, is one of several sites in the St. Louis area impacted by radiological wastes from the Manhattan Project. This Superfund Site is a 200-acre landfill complex located near the St. Louis Lambert International Airport and approximately 1.5 miles east of the Missouri River. The Site is surrounded mostly by commercial/industrial facilities; however, some residential developments are located less than a mile away from the landfill. The U.S. Environmental Protection Agency added the entire 200-acre landfill complex to the Superfund National Priorities List in 1990.

The Site currently consists of three operable units, or OUs, that contain several former industrial and municipal waste cells and groundwater. OU-1 primarily addresses two disposal areas at the West Lake Landfill, known as Areas 1 and 2, that contain radiologically impacted material, or RIM. The EPA is the lead agency for OU-1, and the EPA ID No. is MOD079900932. OU-2 consists of portions of the landfill complex that do not contain RIM, including the Bridgeton Landfill. In a 2008 Record of Decision, or ROD, the EPA deferred implementation of the remedy for portions of OU-2 to the Missouri Department of Natural Resources, or MDNR. The EPA is the lead agency for OU-3, which has been designated to address groundwater at the Site.

This Statement of Work, or SOW, is provided to Bridgeton Landfill, LLC; Cotter Corporation (N.S.L); and the U.S. Department of Energy, or OU-3 Respondents, for the development of a Remedial Investigation/Feasibility Study, or RI/FS, for OU-3. The OU-3 Respondents should develop the components found in this SOW to successfully meet the requirements of the RI/FS for OU-3.

## **II. PREVIOUS GROUNDWATER INVESTIGATIONS**

Limited groundwater investigations have been previously conducted at the Site, including sampling performed at OU-1 and OU-2 by the landfill operators and investigations conducted under the oversight of the EPA and the MDNR. Bridgeton Landfill, LLC conducts routine groundwater monitoring pursuant to the requirements of the MDNR's Solid Waste Management Program to address inorganic and organic hazardous substances detected in monitoring wells at the Bridgeton landfill. The U.S. Geological Survey, or USGS, working in conjunction with the EPA, also issued a report in December 2014 titled *Background Groundwater Quality, Review of 2012–14 Groundwater Data, and Potential Origin of Radium at the West Lake Landfill Site, St. Louis County, Missouri*. The study documented leachate effects in 47 of 83 on-site wells and 13 wells with average dissolved combined radium above the Maximum Contaminant Level, or MCL. While the existing data set provides important insight into



groundwater conditions at the Site, it is not adequate to sufficiently characterize the nature and extent of contaminants of concern in on-site and off-site groundwater.

### III. OBJECTIVE AND SCOPE

The OU-3 RI/FS shall document the nature and extent of releases of any hazardous substance from the Site in groundwater and determine the potential risk posed to human health and the environment. The objective of this RI/FS is to refine the current understanding of the hydrogeologic system, evaluate background groundwater quality near the Site, determine the extent of groundwater impacts occurring at and near the Site, provide predictive tools/models to evaluate potential future impacts, and, based on the information collected, identify potential groundwater remedies that may be implemented at the Site.

To meet the objectives of this SOW, the OU-3 RI/FS must determine the vertical and horizontal distribution of landfill contaminant/leachate effects in the subsurface geologic units at and/or near the Site. To accomplish this task work will be conducted to distinguish background groundwater quality, not affected by previous or existing site activities, from on-site groundwater quality that may be affected by site-associated waste or activities. This will require the collection of adequate near-site data (referring to locations, on and/or in proximity to the Site) that are representative of aquifer background conditions. Additionally, the use of existing and new on-site groundwater data will be used to support this work.

In addition, the groundwater monitoring program shall be designed to determine, in part, if Site contaminants have migrated in groundwater across Site boundaries at concentrations that exceed risk-based screening levels and/or MCLs or, if background concentrations exceed MCLs, Alternate Concentration Levels, or ACLs (if approved at the discretion of EPA). The groundwater monitoring program must, at a minimum, measure for radiological and non-radiological contaminants that have historically been detected at the Site (e.g., dissolved radium and total radium, benzene, chlorobenzene, dissolved lead, total lead, dissolved arsenic, and total arsenic), geochemical indicators (e.g., redox couples – Fe, Mn, N, S species, dissolved oxygen and ORP), major ion suite, landfill leachate indicators (e.g., bromide, iodide, tritium, and select human-waste indicators), and stable isotopes (e.g., oxygen, hydrogen, carbon, sulfur, strontium, and lead). Additionally, other broader indicators are needed to assess the site-specific natural attenuation processes (e.g., biodegradation, dispersion, dilution, sorption, transformation, radioactive decay, volatilization, etc.).

When applicable, this work shall build on existing information to fill data gaps from previous site work, including, but not limited to, the Remedial Investigation (April 2000); Feasibility Study (May 2006); the Records of Decision for OU-1 (May 2008) and OU-2 (July 2008); Supplemental Feasibility Study (Dec. 2011); USGS Background Groundwater Quality Report (Dec. 2014); OU-1 Remedial Investigation Addendum (Jan. 2018), and OU-1 Final Feasibility Study (Jan. 2018).

Identified potential data gaps remaining at the Site include the following:

- Adequacy, usability, and status of existing and abandoned on-site and perimeter monitoring wells and associated data;
- Aquifer properties, including recharge/discharge rates and hydraulic conductivities;
- Regional and localized hydraulic gradients and flow directions within and between the alluvial aquifer and shallow and deep units (upper and lower intervals) of the bedrock aquifer system (Mississippian age);

- Background groundwater quality of aquifers located at and near the Site;
- Occurrence and extent of groundwater contamination;
- Groundwater geochemistry parameters, redox couples, and organic content;
- Effects of the Bridgeton Landfill related infrastructure (leachate extraction system, EVOH cover, etc.) and hydraulic characteristics of landfill material on the groundwater system;
- Vapor intrusion;
- Temporal variability in groundwater levels and flow direction; and
- Temporal and spatial water elevation effects from nearby surface water features (Missouri River) and storm events.

In performing this work, the OU-3 Respondents shall follow the National Oil and Hazardous Substances Pollution Contingency Plan, or NCP, 40 CFR Part 300, as well as the EPA guidance including but not limited to: “Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA,” OSWER Directive No. 9355.3-01 (Oct. 1988); “Guidance for Data Usability in Risk Assessment,” OSWER Directive No. 9285.7-09A (Apr. 1992); “Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination,” OSWER Directive No. 9200.4-18 (Aug. 1997); “Clarification of the Role of Applicable, or Relevant and Appropriate Requirements in Establishing Preliminary Remediation Goals under CERCLA,” OSWER Directive No. 9200.4-23 (Aug. 1997); “Remediation Goals for Radioactively Contaminated CERCLA Sites Using the Benchmark Dose Cleanup Criteria in 10 CFR Part 40 Appendix A, I, Criterion 6(6),” OSWER Directive No. 9200.4-35P (Apr. 2000); “Use of Uranium Drinking Water Standards under 40 CFR 141 and 40 CFR 192 as Remediation Goals for Groundwater at CERCLA sites,” OSWER Directive No. 9283.1-14 (Nov. 2001); “Monitored Natural Attenuation of Inorganic Contaminants in Ground Water, Volume 3, Assessment for Radionuclides Including Tritium, Radon, Strontium, Technetium, Uranium, Iodine, Radium, Thorium, Cesium, and Plutonium-Americium,” EPA/600/R-10/093 (Sept. 2010); “Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at a Groundwater Monitoring Well,” (Aug. 2014); and “Groundwater Statistics Tool,” (Aug. 2014), OSWER Directive No. 9283.1-46.

#### **IV. TASKS**

The OU-3 Respondents shall perform work necessary to investigate groundwater at and in the vicinity of the Site as outlined in the tasks provided below. A summary of the primary deliverables and a preliminary schedule for submission are included as Section V of this SOW. Section V should be used by the OU-3 Respondents for the proposed deliverables and associated submission schedules to be included in the OU-3 RI/FS Work Plan. The OU-3 Respondents shall furnish personnel, services, materials, and equipment required to perform RI/FS activities.

##### **TASK 1 – PROJECT PLANNING AND RI/FS WORK PLAN**

The OU-3 Respondents shall plan the specific activities necessary to accomplish the objectives of the OU-3 RI/FS. These activities shall include:

- Compilation of information pertaining to existing surface water features, geology, hydrogeology, geochemistry, property access conditions, and the proximity of potential receptors to known or potential contaminants;
- Determine adequacy, usability and status of existing and abandoned Site-associated monitoring wells and associated data. Install additional monitoring wells/piezometers, as needed;

- Continuous coring at select locations (grain size, mineralogy, organic carbon content);
- Application of geophysical methods for characterization of the alluvial aquifer as necessary;
- Periodic gauging/sampling events with continuous water level measurements;
- Determine background radionuclide and other contaminate concentrations in aquifers located at and near the Site;
- Preparation of a geologic modeling database and perform groundwater modeling;
- Aquifer testing; and
- Collection and analysis of all appropriate field data to assist in the evaluation of viable groundwater remedies.

As part of this planning effort, the OU-3 Respondents will prepare and develop the following items:

- Proposed scope of investigative and analytical activities required to meet objectives;
- Sampling, analysis, and review of data sets to adequately scope the project and develop project plans;
- Preliminary remedial action objectives and preliminary or interim response actions, if warranted;
- Understanding and presentation of current and future risk posed by contaminants to human health;
- Potential methods and approach for scoping the groundwater modeling effort; and
- Potential ARARs associated with the location and contaminants of the Site and the potential for response actions.

The OU-3 Respondents shall utilize and build upon the findings of previous groundwater data, studies, sampling plans, quality plans, and associated reports to establish and support a robust remedial investigation process for characterization of groundwater for both radiological and non-radiological parameters at the Site. The OU-3 Respondents shall meet with the EPA to discuss the planning process and specific steps needed to conduct the investigation.

Based on this information, the OU-3 Respondents shall: (1) develop a set of specific project plans, as summarized below, to outline OU-3 RI/FS project objectives and the steps needed to meet those objectives; and (2) initiate contractor/subcontractor procurement and coordination with analytical laboratories to support the OU-3 RI/FS process. The project plans should include, at a minimum, a groundwater-specific RI/FS Work Plan; a Sampling and Analysis Plan, or SAP, composed of a Field Sampling Plan, or FSP, and the Quality Assurance Project Plan, or QAPP; a Health and Safety Plan, or HSP, which includes a Radiation Safety Plan; and other planning documents as appropriate to support the overall planning process. Required project planning documents are described further below:

- RI/FS Work Plan – The OU-3 Respondents shall prepare a RI/FS Work Plan that provides a project description, summary of site historical information, a site setting overview, and outlines the general technical approach to achieve the RI/FS objectives set forth in Section III. The RI/FS Work Plan shall detail corresponding personnel requirements, activity schedules, and deliverable due dates for each of the specified tasks and sub-tasks, and any related submittals. The RI/FS Work Plan will generally include the following items:
  - *Local/Regional Well Summary* – This item includes information summarizing pertinent OU-3 area boundary features, and general site physiography, hydrogeology, and geology; the location(s) of relevant nearby surface water features; an inventory of existing and abandoned wells (e.g., public water supply wells, monitoring wells, private wells, industrial

wells, or commercial wells) and intake structures and is also associated with Task 2 - Well Inventory and Well Repair. This portion of the RI/FS Work Plan will provide the details and methods for conducting any identified well repairs/replacements that are identified during the performance of Task 2.

- *Nature and Extent of Contamination* – A summary of potential on-site and off-site health and environmental effects posed by groundwater contamination. Develop a groundwater Conceptual Site Model, or CSM, which builds upon, as needed, the current CSM and that provides an understanding and summary of the potential and known sources of groundwater contamination; potential release mechanisms; potential routes of migration, including any known or suspected preferential pathways; groundwater flow (vertical and horizontal); Missouri River and groundwater interaction; factors that control contaminant distribution; and potential human and environmental receptors. See “Environmental Cleanup Best Management Practices: Effective Use of the Project Life Cycle Conceptual Site Model,” EPA 542-F-11-011 (July 2011). The CSM will be revised in the OU-3 RI Report to reflect newly collected information.
- *History of Investigative, Regulatory, and Response Actions* – A summary of previous relevant investigations, regulatory actions, and response actions conducted by local, state, federal or private parties. Specifically discuss previous OU-1/OU-2/regional groundwater investigations.
- *Preliminary OU-3 Boundary* – A preliminary boundary estimate of the OU-3 study area. This preliminary boundary estimate shall encompass groundwater at and in the vicinity of the Site and may also be used to define areas requiring additional efforts, such as access agreements, site control, and site security. A detailed and/or interactive area map demonstrating the proposed boundary and relevant features is a minimum anticipated requirement for this item. This initial estimate of the study area will be refined as the investigation proceeds.
- Sampling and Analysis Plan – The OU-3 Respondents shall prepare a SAP that consists of a FSP and a QAPP. These elements of the SAP are described further as follows:
  - *Field Sampling Plan* – The FSP will specify and outline necessary activities to obtain additional field data. The plan will explain what additional data are required to adequately characterize groundwater conditions including, but not limited to, vertical/lateral flow, extent of contaminants of concern, background levels of contaminants and naturally occurring materials to support evaluations conducted in the OU-3 Baseline Risk Assessment, and as warranted to support the evaluation of remedial technologies. The FSP should clearly state sampling objectives; sampling methods and necessary equipment; anticipated sample types, locations, and frequency; a field events schedule and when deliverables will be submitted to the EPA. General requirements related to site access and related site control measures should be clearly defined in the FSP.
  - *Quality Assurance Project Plan* – The QAPP should address the types of investigations and analysis to be conducted and should include the following discussions:

- A project description summary (duplicated from the RI/FS Work Plan);
  - A project organization chart illustrating the lines of responsibility of the personnel involved in the sampling and testing phases of the project;
  - Quality assurance objectives for data such as the required precision and accuracy, completeness of data, representativeness of data, comparability of data, and the intended use of collected data;
  - The type and frequency of calibration procedures for both field and laboratory instruments, internal quality control checks, and supporting quality assurance performance audits and system audits;
  - Preventative maintenance procedures and schedule, and corrective action procedures for field and laboratory instruments;
  - Specific procedures to assess data precision, representativeness, comparability, accuracy, and completeness of specific measurement parameters;
  - Data documentation, reporting, and tracking procedures; and
  - Standard Operating Procedures and other relevant information needed to properly document and conduct the work in a safe and efficient manner to reach the goals of the project.
- *Health and Safety Plan* – The OU-3 Respondents shall prepare a HSP on the basis of known or assumed conditions to protect personnel involved in work activities and the surrounding community. The HSP will include a Radiation Safety Plan for work conducted within the boundaries of OU-1 Areas 1 and 2. The plan should address applicable regulatory requirements, including those contained in 29 CFR § 1910.120(i), Occupational Health and Safety Administration, Hazardous Waste Operations and Emergency Response, Interim Rule (Dec. 19, 1986); U.S. EPA Order 1440.2 – Health and Safety Requirements for Employees Engaged in Field Activities; U.S. EPA Order 1440.3 – Respiratory Protection; U.S. EPA Occupational Health and Safety Manual; and U.S. EPA Interim Standard Operating Procedures (Sept. 1982). The HSP should provide a summary of personnel responsibilities, protective equipment, health and safety procedures and protocols, decontamination procedures, personnel training, and type and extent of medical surveillance. The plan should identify problems or hazards that may be encountered during performance of the remedial investigation and how these are to be addressed in the HSP. Additionally, procedures for protecting third parties, such as site visitors, vehicular or pedestrian traffic in the vicinity of sampling/investigative crews, and for the surrounding community in general, should also be described in the HSP.
- *Groundwater Modeling Plan* – Develop a plan that establishes the base parameters for a site-wide OU-3 geologic/hydrogeologic database and a groundwater modeling plan that incorporates relevant site data and identifies existing data gaps. The OU-3 Respondents shall develop a groundwater modeling plan based on the CSM that incorporates existing data and Site information to support a groundwater model. The database and modeling plan will provide the basis for filling data gaps, the development of a groundwater flow model with simulation of the alluvial aquifer, flow interactions with the bedrock aquifer, and effects of the leachate collection system on groundwater flow. The modeling plan should include the modeling software(s) to be used, the conceptual model of the flow system and how it will be represented in the modeling software to include, among others: the extent of the model area, model discretization (number of model layers, cell size, stress period lengths), model boundaries and boundary conditions (recharge, faults, streams, springs, lakes, no flow, head

dependent, etc.), model calibration (manual and/or parameter estimation, closure criteria, rules for comparison of simulated and measured head and flow targets), model stresses (historic and future pumping, recharge, river stage changes, lake stage changes, impervious surface changes, etc.), model aquifer and confining unit hydraulic properties, and future scenarios to be evaluated. The plan, once finalized and approved, should also detail how the model(s) will be used to simulate contaminant transport, describe the method(s) of determining calibration and predictive uncertainty in the model, and model archival processes. The groundwater model will be used to update the CSM and to evaluate current Site conditions, provide future prediction simulations on potential long-term groundwater impacts, and assist with the placement of additional monitoring wells for long-term understanding of groundwater.

The RI/FS Work Plan and the corresponding supporting plans shall be submitted to the EPA as specified in the Administrative Settlement Agreement and Order on Consent, or ASAOC, for OU-3.

## **TASK 2 – FIELD INVESTIGATION**

The OU-3 Respondents shall conduct investigations necessary to refine the current understanding of the hydrogeologic system and characterize the extent of impacts to groundwater. The OU-3 Respondents will collect and evaluate data to adequately support the development of the CSM. These efforts will support an evaluation of risks posed to human health and the environment by releases of contamination to Site groundwater. Investigation activities will focus on collection of data to adequately support and update the CSM with groundwater modeling efforts, and the evaluation of potential risks that support the development of remedial alternatives and their compliance with applicable or relevant and appropriate requirements, or ARARs. This effort should identify wells at the Site that may potentially be removed due to remedy implementation, as well as other potential future site-related work that could impact the overall existing groundwater monitoring well network.

Where appropriate, the RI will include a step-out investigation approach to ensure that additional data is collected in an efficient manner. Geophysical techniques (e.g., surface and borehole) and direct push technologies (electrical conductivity (EC)/hydraulic profiling tool (HPT)/membrane interface probe (MIP) logging) are appropriate in this geologic/hydrogeologic setting for evaluating adequate well placement, sampling intervals, and alluvial aquifer properties. Additionally, in order to provide a better understanding of the subsurface conditions, soil core alpha/gamma scanning, downhole gamma scanning, soil sampling, soil gas sampling, and other relevant techniques including real-time analysis/determinations, shall be evaluated for use in planning documents as appropriate to support the OU-3 investigations. The OU-3 Respondents shall conduct appropriate analyses to determine chemical speciation and potentially include thermogravimetric analysis and other relevant techniques. Radiological safety scanning of the drilling and sampling equipment as well as sampling of cores and borehole cuttings or other investigation derived waste will be implemented as appropriate for portions of the drilling/sampling locations.

All samples will be collected and analyzed in accordance with approved work plans, related project documents, and appropriate EPA methods and test procedures. The OU-3 Respondents will provide full data management and quality control reviews of field and laboratory activities conducted under this task. Proper chain-of-custody procedures will be followed, and all sample locations/depths will be geospatially rendered and properly identified on maps and supporting tables and figures. (See Tasks 3

and 4.) The OU-3 Respondents will incorporate information from this task into the RI/FS Report(s) and applicable appendices. (See Tasks 6 and 7.)

The field investigation activities currently anticipated are briefly summarized as follows:

- Surveying and Mapping of the Investigation Areas – The OU-3 Respondents shall develop relevant maps of the area that include topographic information and physical features on and near the Site. Aerial photographs should be used along with information gathered during previous investigations to identify physical features of the investigation area. Sample locations (wells, piezometers, sample points, etc.) will be surveyed by a licensed land surveyor and the geospatial information will be summarized and provided to the EPA in specified/acceptable formats. Additional information related to well construction diagrams, boring logs, field sampling sheets, field books, scanning, etc., will be retained and, as appropriate, included with other data to provide a holistic summary of pertinent field activities.
- Well Inventory and Well Repair – The OU-3 Respondents shall review the existing monitoring well network and, as needed, re-survey existing well locations and provide a narrative summary of each well's current condition. This information will be provided in a Well Inventory Summary Report, which will include survey and GPS coordinates, construction details on the existing Site wells, and recommendations for the redevelopment, repair, replacement, or abandonment of existing wells to support the OU-3 RI. The review of the existing well network shall also include a review of previous/historic data sets associated with the existing wells to determine if data quality issues may be present for any of the existing monitoring wells. Following the EPA review and approval of this report, the un-useful, damaged, or inoperative wells will be repaired, replaced, and/or abandoned per applicable state requirements. In addition, evaluate the adequacy and usability of data from site-associated former/abandoned wells. If data gaps exist at the former/abandoned well locations, provide recommendations to address identified data gaps as a part of the Well Inventory Summary Report.
- Hydrogeologic Investigation and Groundwater Characterization – The OU-3 Respondents shall perform groundwater characterization activities necessary to support the CSM, groundwater model, and other remedial investigation tasks at and near the Site. The investigation will identify existing wells and propose new wells and/or direct push locations to define the physical and geochemical characteristics of the hydrogeologic system, including bedrock units. Sampling and analysis of potential contaminants of concern and other relevant parameters will be performed to assess background groundwater quality, landfill impacts (e.g., geochemical redox indicators, landfill leachate indicators, trace anions, tritium, wastewater organic compounds, and radionuclide isotopic analysis). Development of groundwater recharge/flow and evaluation of natural attenuation processes shall be performed in accordance with approved planning documents. Results from the sampling program should provide a detailed estimate of the horizontal and vertical distribution of contaminants, the mobility of contaminants, estimates of attenuation rates from well transects, and prediction of long-term disposition of contaminants. This will include the collection of sufficient data in and near the Site to produce a statistically valid background range and a statistically valid baseline range of contaminant concentrations and geochemistry parameters. This effort may provide a means to potentially differentiate leachate-induced effects from background concentrations on-site and/or near the Site. A discussion of the leachate collection system (e.g., number and location of leachate risers, construction, operational

history, frequency of use, pumping rates, and influent & effluent concentrations) and its effect on groundwater flow shall also be determined and provided to the EPA.

- Groundwater Monitoring Network – The OU-3 Respondents shall establish a groundwater monitoring network to characterize the Site, its perimeter, and off-site areas. The network will monitor Site conditions (including, but not limited to, groundwater analytical results, geochemical parameters, natural attenuation processes, and leachate/RIM impacts) under a routine frequency until the investigation is complete and, as warranted, until a remedial action is selected and implemented at the Site. The monitoring shall occur under a routine frequency until the investigation is complete and, as warranted, until a remedial action is selected and implemented at the Site. The OU-3 Respondents will provide a field schedule that details proposed investigative work such as new well installations, direct push sampling locations, and/or piezometer installations. The OU-3 Respondents will indicate details regarding planned sampling events that will be included with the Field Sampling Plan or with other appropriate project documentation.
- Vapor Intrusion Investigation – The OU-3 Respondents shall investigate the potential for contaminant vapors to emanate from impacted vadose zone material and/or the partitioning of contaminants of concern from groundwater located beneath the Site and adjacent study area. This effort should assess the potential for completion of the vapor intrusion pathway in on-site or off-site occupied structures. When determining potential off-site actions, this investigation will consider the results of the background data and take into consideration appropriate EPA guidance, including the “OSWER Technical Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air,” OSWER Publication No. 9200.2-154 (June 2015), which emphasizes the use of multiple lines of evidence; “Technical Guidance For Addressing Petroleum Vapor Intrusion At Leaking Underground Storage Tank Sites,” EPA 510-R-15-001 (June 2015); the EPA Radon website, available at <https://www.epa.gov/radon>; and other appropriate guidance/documents that describe proper sampling methodology, data evaluation, and, if warranted by sampling results, installation of mitigation systems.
- Engineering and Institutional Controls – As characterization proceeds, the OU-3 Respondents shall review existing mechanisms, engineering controls, and other existing legal instruments to ensure appropriate actions are implemented in accordance with federal, state, and local regulatory requirements that mitigate human health exposures.

### **TASK 3 – DATA MANAGEMENT**

The OU-3 Respondents in conjunction with the EPA shall develop and utilize an inclusive data management system or use an existing approved data management system. The data management system will track and organize the project data sets including: field log data, boring log data, filed scans, GPS/survey data, sample management and tracking procedures, document control procedures, laboratory data, field measurements, and other relevant items to ensure that the data collected during the investigation are of adequate quality and quantity to support the investigation, the risk assessment, and remedial alternatives.

Collected data will be reviewed and, when appropriate, validated at the appropriate QC level(s) to determine whether it is appropriate for its intended use. Task management objectives and quality



control procedures and related findings will be provided by the OU-3 Respondents, consistent with the project planning documents (i.e., QAPP). The OU-3 Respondents will incorporate information from this task into the RI and FS reports, appendices, and other related project deliverables, as appropriate.

Additionally, an inclusive site-wide OU-3 database will be developed, provided for EPA review, and routinely updated as new data becomes available. The EPA will be notified in writing whenever new data has been uploaded to the site-wide OU-3 database. In general, the OU-3 database should include groundwater data and supporting information related to the Site including, but not be limited to: well construction details, well completion information, geospatial/survey information, geochemistry data, field data, laboratory results and field parameters (e.g. water level, temperature, pH, specific conductance, turbidity for GW samples), laboratory qualifiers, additional qualifiers, and summary information relevant to OU-3. Uploading sampling, monitoring, and spatial data to the EPA-accessible site-wide OU-3 database in the appropriate formats will be considered submittal once EPA is notified of its availability.

Sampling and monitoring data should be submitted in an appropriate Electronic Data Deliverable, or EDD format. Spatial data, including spatially-referenced data and geospatial data, should be submitted: (a) in the ESRI File Geodatabase format; and (b) as un-projected geographic coordinates in decimal degree format using North American Datum 1983, or NAD83. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee, or FGDC, Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor, or EME, complies with these FGDC and EPA metadata requirements. The EME is available at <https://edg.epa.gov/EME/>. Each file must include an attribute name for each site unit or sub-unit submitted. Spatial data that will be submitted related to this work does not and is not intended to define the boundaries of the Site.

#### **TASK 4 – DATA EVALUATION**

The OU-3 Respondents shall review and analyze the investigation data and present the results of the analyses to the EPA as follows. Summaries of the data shall be presented in a manner that describes (1) the locations, quantities, and concentrations of specific chemicals at the study area; (2) establishes background conditions/levels for the study area; (3) the number, locations and types of nearby populations and activities; and (4) the potential transport mechanism and the expected fate of the contaminant in the environment (modeling). Laboratory and independent data evaluation and validation processes will be performed and properly documented in accordance with the approved planning documents.

The OU-3 Respondents shall develop a geologic database that incorporates available and relevant data. The database will be used to support the groundwater modeling efforts including the modeling work plan and report. An objective for the modeling work plan will be to develop an appropriate and representative groundwater model(s) that simulates the groundwater flow and contaminant migration within the alluvial aquifer, interaction between it and the bedrock aquifer, and evaluate the influence/effects of the landfill leachate collection system on groundwater flow. The preliminary modeling work plan should identify the proposed groundwater modeling software, the general physical/hydrogeologic framework, the anticipated hydrologic budget and stresses, and the geochemical framework anticipated to be incorporated into the model(s) as deemed relevant to the CSM and the RI/FS process. Key components of the modeling plan will include model discretization and boundary

conditions, hydrogeology and hydraulic properties, important groundwater sources and sinks, and a description of the future scenarios to be evaluated using the model. The modeling work plan should also include a discussion of the anticipated calibration goals, uncertainty analyses, and model archival. Applicable data will be reviewed and compared to MCLs, and/or health based standards; values indicative of assessment monitoring performance standards for natural attenuation/geochemical parameters; and/or the background levels and the concentrations of contaminants of concern. Additionally, laboratory testing, contaminant modeling, and other relevant sources of site-specific or site-related data will be evaluated to develop a more in-depth understanding of the landfill's reducing conditions. Furthermore, the evaluation of the Site conditions should specify how these specific conditions may affect RIM located in Area 1 and Area 2, landfill waste in general, and naturally occurring materials located in the bedrock and alluvial deposits beneath the Site.

## **TASK 5 – RISK ASSESSMENT**

The OU-3 Respondents shall conduct a Baseline Risk Assessment to assess the potential human health and environmental risks posed by groundwater at and near the Site in the absence of any remedial action. This effort will involve four components: data collection and evaluation, exposure assessment, toxicity assessment, and risk characterization. These components are briefly summarized as follows:

- Data Collection and Evaluation – The OU-3 Respondents will analyze the Site data relevant to the human health evaluation and identify the substances present at the Site that are the focus of the risk assessment process. Contaminants of concern should be selected based on intrinsic toxicological properties because they are present at the Site and/or because they are currently in, or potentially may migrate into critical exposure pathways (e.g., drinking water). Previous studies and investigations conducted for the Site shall be used in conjunction with data from the OU-3 investigation to determine the specific contaminants of concern in groundwater.
- Exposure Assessment – The OU-3 Respondents will estimate the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways by which humans are potentially exposed.
- Toxicity Assessment – The OU-3 Respondents will provide a toxicity assessment of those chemicals found to be of concern for the Site. The toxicity assessment component of the Baseline Risk Assessment considers: (1) the types of adverse health effects associated with chemical exposures; (2) the relationship between magnitude of exposure and adverse effects; and (3) related uncertainties such as the weight of evidence of a particular chemical's carcinogenicity in humans.
- Risk Characterization – The OU-3 Respondents will summarize and combine outputs of the exposure and toxicity assessments to characterize baseline risk, both in quantitative expressions and qualitative statements. During risk characterization, chemical-specific toxicity information is compared against both measured contaminant exposure levels and those levels predicted through appropriate modeling to determine whether current or future levels at and/or near the Site are of potential concern.

Further, the Baseline Risk Assessment shall be separated into two components: (1) Human Health Risk Assessment; and (2) Ecological Risk Assessment. The Human Health Risk Assessment shall address the following:

- Hazard identification;
- Dose-response assessment;
- Exposure assessment;
- Risk characterization; and
- Limitations/uncertainties.

The Ecological Risk Assessment shall address the following:

- Definition of objectives;
- Characterization of site and potential receptors;
- Selection of chemicals, species and end points for risk evaluation;
- Exposure assessment;
- Toxicity assessment;
- Risk characterization; and
- Limitations/uncertainties.

The risk assessment will be submitted to the EPA as part of the RI Report. (*See* Task 6.) Additionally, the methods used to evaluate risks in this assessment will be consistent with current EPA guidelines for human health risk assessment at Superfund sites. A non-comprehensive list of guidance documents is provided below:

EPA. 1989. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A). United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC.

EPA. 1991. Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions. United States Environmental Protection Agency, Washington, DC. OSWER Directive No. 9355.0-30.

EPA. 1992. United States Environmental Protection Agency, Office of Solid Waste and Emergency Response. Supplemental Guidance to RAGS: Calculating the Concentration Term. United States Environmental Protection Agency. Publication 9285.7-081.

EPA. 2001. Risk Assessment Guidance for Superfund: Volume I Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments). Final. Publication 9285.7-47.

EPA. 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. United States Environmental Protection Agency, Office of Emergency and Remedial Response. OSWER Directive No. 9285.6-10. December.

EPA. 2004. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. United States Environmental Protection Agency, Office of Emergency and Remedial Response. EPA/540/R/99/005. July.

EPA. 2009. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment). Final. United States Environmental

Protection Agency, Office of Emergency and Remedial Response. EPA-540-R-070-002. OSWER Directive No. 9285.7-82. January.

EPA. 2014. Determining Groundwater Exposure Point Concentrations. United States Environmental Protection Agency, Washington, DC. OSWER Directive No. 9283.1-42.

EPA. 2014. Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. United States Environmental Protection Agency, Washington, DC. OSWER Directive No. 9200.1-120.

## **TASK 6 – RI REPORT**

This task includes work efforts related to the preparation of findings once data has been collected and fully evaluated as described in Tasks 4 and 5. The RI Report shall summarize the findings of the RI process and provide information to assess risks to human health and the environment and, as warranted, support the development, evaluation, and selection of appropriate response alternatives. The task includes all draft and final reports. The RI Report shall be written in accordance with “Guidance for Conducting Remedial Investigations/Feasibility Studies under CERCLA, Interim Final,” OSWER Directive No. 9355.3-01 (Oct. 1988), and “Guidance for Data Usability in Risk Assessment,” EPA/540/G-90/008 (Sept. 1990). The typical components of the RI Report include, but are not limited to, the following:

- Site Background
- Investigation
  - Field Investigation and technical approach
  - Chemical analyses and analytical methods
  - Field methodologies (direct push, drilling, monitoring well installation, groundwater sampling, hydrogeological assessments, mobile laboratory)
- Site Characteristics
  - Geology
  - Hydrogeology and geochemistry
  - Meteorology
  - Demographics and land use
  - Reuse assessment
- Nature and Extent of Contamination
  - Contaminant sources
  - Contaminant distribution and trends
  - Background groundwater quality
- Fate and Transport
  - Contaminant characteristics
  - Transport processes
  - Contaminant migration trends/rates
- Risk Assessment
- Summary and Conclusions

## TASK 7 – FS REPORT

Based upon the findings of the RI, the EPA will provide direction regarding the completion of this task. This work element includes the preparation and presentation of findings for remedial alternatives that have been screened and evaluated. The FS Report for OU-3 shall include, but is not limited to, a discussion of the following:

- Feasibility Study Objectives;
- Remedial Action Objectives;
- General Response Actions;
- Identification and Screening of Remedial Technologies;
- ARARs;
- Remedial Alternatives Description;
- Detailed Analysis of Remedial Alternatives (individual and comparative);
- Alternatives Analysis for Institutional Controls and Screening; and
- Summary and Conclusions.

## ADDITIONAL SUPPORT

In addition to the previously identified tasks, the OU-3 Respondents shall provide the personnel, services, materials, and equipment to assist the EPA with the community relations program. The OU-3 Respondents will, as requested, perform community involvement activities in support of the EPA in accordance with the NCP and *Community Relations in Superfund – A Handbook*, OSWER Directive No. 9230.0-3C (Jan. 1992). This program will be integrated closely with the remedial investigation activities to help ensure community understanding of the actions being taken and to obtain community input on the OU-3 RI/FS process. The EPA will provide additional information and direction regarding this item as the OU-3 investigation progresses and will largely focus on communications with community members and other stakeholders as OU-3 related milestones and associated submittals/information become available.

## V. SCHEDULE OF DELIVERABLES/MILESTONES

DELIVERABLE	DUE DATE
RI/FS Work Plan and Draft Sampling and Analysis Plan (FSP/QAPP/HASP)	Within 120 days after the Effective Date of the Administrative Settlement Agreement and Order on Consent to conduct an RI/FS.
Modeling Work Plan	In accordance with the schedule contained in the EPA approved RI/FS Work Plan.
Well Inventory Summary Report	In accordance with the schedule contained in the EPA approved RI/FS Work Plan.
Annual Hydrogeologic Investigation and Groundwater Characterization Report	On March 1 <sup>st</sup> of each calendar year.
Groundwater Modeling Report	In accordance with the schedule contained in the EPA approved Modeling Work Plan.
Baseline Risk Assessment Work Plan	Within 90 days after collection of last field sample required by the approved RI/FS Work Plan.

RI Report and Baseline Risk Assessment	Within 120 days after EPA approval of the Baseline Risk Assessment Work Plan.
FS Report (if required)	Within 120 days of EPA approval of the RI Report or such other time as specified by the EPA.