

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII

901 N. 5th STREET

KANSAS CITY, KANSAS 66101

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ENVIRONMENTAL PROTECTION
AGENCY-REGION VII
REGIONAL HEARING CLERK

IN THE MATTER OF:

Bridgeton Landfill, LLC,

Docket No. VII-94-F-0025

Respondent

THIRD AMENDMENT TO SETTLEMENT AGREEMENT AND ORDER ON CONSENT

WHEREAS, the United States Environmental Protection Agency, Region VII ("EPA") and Laidlaw Waste Systems (Bridgeton), Inc. ("Laidlaw" or "Respondent") collectively referred to as the "Parties" entered into an Administrative Order on Consent (AOC), docket number VII-94-F-0025, and;

WHEREAS, section XXVII, paragraph 92 of that AOC provides for amendments to the AOC by mutual agreement of the Parties and the Parties have previously amended this AOC; and,

WHEREAS, the Parties wish to amend the AOC.

The AOC is therefore amended as follows:

1. The term "Administrative Order on Consent" in the original document shall be amended to "Administrative Settlement Agreement and Order on Consent." The Administrative Settlement Agreement and Order on Consent shall also be known as the "Settlement Agreement."

2. Bridgeton Landfill, LLC (Bridgeton) is the successor in interest to Laidlaw Waste Systems (Bridgeton), Inc. and Bridgeton is substituted as the Respondent in this matter.

3. For purposes of this amendment: "Third Amendment" shall mean this amendment. "Work" shall mean all activities Respondent is required to perform pursuant to the Settlement Agreement, and "RD Work" shall mean all activities Respondent is required to perform pursuant to this Third Amendment. "Waste Material" shall mean (1) any "hazardous substance" under

Section 101(14) of CERCLA, 42 U.S.C. §9601(14); (2) any pollutant or contaminant under Section 101(33), 42 U.S.C. §9601(33); or, (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. §6903(27).

4. Section I. (Introduction), paragraph 1 of the AOC shall be enlarged to include the following: This Settlement Agreement further concerns the preparation of and performance of the design of the Remedial Action as described in the July 25, 2008 Record of Decision ("ROD") for the Westlake Landfill Site, Operable Unit 2 and the reimbursement of all costs incurred by EPA in connection with that remedial design.

5. Section IV. (Statement of Purpose), paragraph 6 shall be amended to insert: (d) to perform a design for the Remedial Action as described in the Record of Decision for OU2.

6. The following shall be inserted as new Paragraph 22.(g). in Section VIII (Work to Be Performed):

22.(f). Remedial Design Work Plan and Implementation.

1). Within 60 days after the Effective Date of this Third Amendment, Respondent shall submit to EPA and the State a work plan for the design of the Remedial Action at the Site ("Remedial Design Work Plan" or "RD Work Plan"). The RD Work Plan shall provide for design of the remedy set forth in the ROD, in accordance with the SOW and for achievement of the Performance Standards and other requirements set forth in the ROD, this Third Amendment to the Settlement Agreement and/or the SOW. Upon its approval by EPA, the RD Work Plan shall be incorporated into and become enforceable under this Third Amendment to the Settlement Agreement.

2). The RD Work Plan shall include plans and schedules for implementation of all remedial design and pre-design tasks identified in the SOW, including, but not limited to, plans and schedules for the completion of: (1) design sampling and analysis plan (including, but not limited to, a Remedial Design Quality Assurance Project Plan ("RD QAPP") as set forth below in paragraph 8 of this Second Amendment; (2) a preliminary design submittal; (3) an intermediate design submittal, if determined necessary by EPA; and (4) a pre-final/final design submittal. In addition, the RD Work Plan shall include a schedule for completion of the Remedial Action Work Plan.

3). Upon approval of the RD Work Plan by EPA, and after a reasonable opportunity for review and comment by the State, Respondent shall implement the RD Work Plan. Respondent shall submit to EPA and the State for review all plans, submittals, and other

deliverables required under the approved RD Work Plan in accordance with the approved schedule. Unless otherwise directed by EPA, Respondent shall not commence further Remedial Design activities at the Site prior to approval of the RD Work Plan.

4). The preliminary design submittal shall include, at a minimum, the following: (1) design criteria; (2) results of additional field sampling; (3) project delivery strategy; (4) preliminary plans, drawings, and sketches; (5) required specifications in outline form; and (6) a preliminary construction schedule.

5). The intermediate design submittal, if required by EPA or if independently submitted by Respondent, shall be a continuation and expansion of the preliminary design. Any value engineering proposals must be identified and evaluated during this review.

6). The pre-final/final design submittal shall include, at a minimum, the following: (1) final plans and specifications; (2) Operation and Maintenance Plan; (3) Field Sampling Plan (directed at measuring progress towards meeting Performance Standards); and (4) Contingency Plan.

7). Respondent shall conduct all Work in accordance with the SOW, the ROD, CERCLA, the NCP, and all applicable EPA guidance. The Project Coordinator shall use his or her best efforts to inform Respondent if new or revised guidances may apply to the Work.

8). Respondent shall perform the tasks and submit the deliverables that the SOW sets forth. EPA will approve, approve with conditions, modify, or disapprove each deliverable that Respondent submits under this Settlement Agreement and the SOW. Each deliverable must include all listed items as well as items that the RD Work Plan indicates Respondent shall prepare and submit to EPA for review and approval.

9). Upon approval by EPA, this Settlement Agreement incorporates any reports, plans, specifications, schedules, and attachments that this Settlement Agreement or the SOW requires. With the exception of extensions that EPA allows in writing or certain provisions within Section XXI of this Settlement Agreement (*Force Majeure*), any non-compliance with such EPA-approved reports, plans, specifications, schedules, and attachments shall be considered a violation of this Settlement Agreement and will subject Respondent to stipulated penalties in accordance with Section XX (Delay in Performance/Stipulated Penalties).

10). If any unanticipated or changed circumstances exist at the Site that may significantly affect the Work or schedule, Respondent shall notify the EPA Project Coordinator

by telephone within 24 hours of discovery of such circumstances. Such notification is in addition to any notification required by Section XXI *Force Majeure*).

11). If EPA determines that additional tasks, including, but not limited to, additional investigatory work or engineering evaluation, are necessary to complete the Work, EPA shall notify Respondent in writing. Respondent shall submit a work plan to EPA for the completion of such additional tasks within 30 days of receipt of such notice, or such longer time as EPA agrees. The work plan shall be completed in accordance with the same standards, specifications, and requirements of other deliverables pursuant to this Settlement Agreement. EPA will review and comment on, as well as approve, approve with conditions, modify, or disapprove the work plan. Upon approval or approval with modifications of the work plan, Respondent shall implement the additional work in accordance with the schedule of the approved work plan. Failure to comply with this paragraph, including, but not limited to, failure to submit a satisfactory work plan, shall subject Respondent to stipulated penalties as set forth in Section XX (Delay in Performance/Stipulated Penalties).

7. Section XI. (Quality Assurance) shall be deleted and the following shall be substituted:

XI. Quality Assurance and Sampling.

35.a. Respondent shall use quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance and monitoring samples in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R5)" (EPA/240/B-01/003, reissued May 2006) "Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA//R-02/009, December 2002), and subsequent amendments to such guidelines upon notification by EPA to Respondents of such amendment. Amended guidelines shall apply only to procedures conducted after such notification. Prior to the commencement of any monitoring project under this Third Amendment, Respondent shall submit to EPA for approval, a Quality Assurance Project Plan ("QAPP") that is consistent with the SOW, the NCP and applicable guidance documents. Respondent shall ensure that EPA personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondent in implementing this Third Amendment. In addition, Respondent shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring. Respondent shall ensure that the laboratories it utilizes for the analysis of samples taken pursuant to this Third Amendment perform all analyses according to accepted EPA methods. Accepted EPA methods consist of those methods which are documented in "USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration, ILM05.3," dated March, 2004 and the "USEPA Contract Laboratory Program, Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, SOM01.2," dated May, 2005,

and any amendments made thereto during the course of the implementation of this Third Amendment; however, upon approval by EPA, the Respondent may use other analytical methods which are as stringent as or more stringent than the CLP- approved methods. Respondent shall ensure that all laboratories it uses for analysis of samples taken pursuant to this Third Amendment participate in an EPA or EPA-equivalent QA/QC program. Respondent shall only use laboratories that have a documented Quality System which complies with ANSI/ASQ E4-2004 , "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, reissued May 2006) or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) as meeting the Quality System requirements. Respondent shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Third Amendment will be conducted in accordance with the procedures set forth in the QAPP approved by EPA.

b. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 30 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

c. Respondent shall summarize and submit to EPA two (2) copies of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondent with respect to the RD in the monthly progress reports required by the SOW, unless EPA agrees otherwise. Respondent shall maintain custody of all information and data that the Final Remedial Design Report and any deliverable relied upon or referenced. Upon EPA's request, Respondent shall provide such information and data to EPA.

d. If at any time during the Remedial Design process, Respondent becomes aware of the need for additional data beyond the scope of the approved Work Plans, Respondent shall have an affirmative obligation to submit to EPA's Project Coordinator, within 20 days, a memorandum documenting the need for additional data.

8. The following shall be inserted after paragraph 52 in Section XVI (Project Coordinators):

52.1. Emergency Response and Notification of Releases.

a. In the event of any action or occurrence during performance of the Work, which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release and shall immediately notify the EPA Project Coordinator, or, in the event of his/her unavailability, the EPA Region VII Spill Report line at 913-281-0991. Respondent shall take such actions in consultation with EPA's Project Coordinator, or other available authorized EPA officer, and in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP, pursuant to Section XXII (Reimbursement of Response and Oversight Costs).

b. In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the National Response Center at (800) 424-8802. Respondent shall submit a written report to EPA within 7 days after each release, setting forth the events that occurred and the measures taken, or to be taken, to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. 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 the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

9. Section XX (Delay in Performance/Stipulated Penalties) shall be amended as follows:

a. Paragraph 60 by adding the following deliverable items: RD Work Plan, design sampling and analysis plan, RD QAPP, preliminary design submittal, intermediate design submittal (if determined necessary by EPA), pre-final/final design submittal.

b. Paragraph 81 by deleting the last sentence and adding the following:

All payments to EPA under this Section shall be paid by official bank check or checks made payable to "EPA Hazardous Substances Superfund," shall be sent to U.S. Environmental Protection Agency, Fines and Penalties, Cincinnati Finance Center, PO Box 979077, St. Louis, MO 63197-9000, and shall indicate that the payment is for stipulated penalties, and shall reference EPA Region VII and Site/Spill ID Number 07/14, OU2, EPA

Docket Number VII-94-F-0025, and the name and address of the party/parties making payment. At the time of any payment required by this paragraph, Respondent shall send notice that payment has been made to the Region 7 Financial Management Office, 901 N. 5th Street, Kansas City, Kansas 66101.

10. Section XXII (Reimbursement of Response and Oversight Costs), paragraph 91, shall be substituted as follows:

All payments to EPA under this Section shall be paid by official bank check or checks made payable to "EPA Hazardous Substances Superfund," and shall be sent to U.S. EPA, Cincinnati Finance Center, Superfund Payments, PO Box 979076, St. Louis, MO 63197-9000. The payment shall reference EPA Region VII and Site/Spill ID Number 07/14, OU2, EPA Docket Number VII-94-F-0025, the name and address of the party/parties making payment. At the time of any payment required by this paragraph, Respondent shall send notice that payment has been made to the Region 7 Financial Management Office, 901 N. 5th Street, Kansas City, Kansas 66101.

11. The following section shall be added to the Settlement Agreement as Section XXIX:

XXIX. COVENANT BY EPA.

96. In consideration of the actions that Respondent will perform and the payments that Respondent will make under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a) for the Work and for Response Costs, including oversight costs, paid under this Settlement Agreement. This covenant not to sue shall take effect upon the Effective Date of this amendment and is conditioned upon Respondent's complete and satisfactory performance of all obligations under this Settlement Agreement. This covenant not to sue extends only to Respondent and does not extend to any other person.

12. The following section shall be added to the settlement agreement as Section XXX:

XXX. CONTRIBUTION.

97. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. §9613(f)(2) and that Respondent is entitled to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for

“matters addressed” in this Settlement Agreement. The “matters addressed” in this Settlement Agreement are the Work and the Response Costs, including oversight costs.

13. The following section shall be added to the Settlement Agreement as Section XXXI:

XXXI. COVENANT NOT TO SUE BY RESPONDENT

98. Covenant Not to Sue by Respondent: Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States or its contractors or employees with respect to the Work and Response Costs, including oversight costs, including but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substances Superfund established by 26 U.S.C. §9507, based on Section 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.

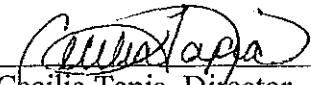
b. any claim arising out of response actions at, or in connection with, the Site, including any claim under the United States constitution the Tucker Act, 28 U.S.C. 28 § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

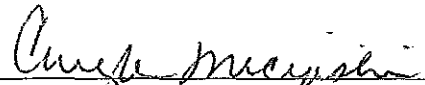
c. any claim against the United States pursuant to Section 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work or payment of Response Costs, including oversight costs.

14. EFFECTIVE DATE: This Third Amendment shall become effective upon signature by EPA. EPA will advise Respondent when EPA has signed.

For the United States Environmental Protection Agency:

10/15/08
Date


Cecilia Tapia, Director
Superfund Division, Region 7


Cheryl Micinski
Associate Regional Counsel

For Bridgeton Landfill, LLC:

J. White

Date 10/13/08

**JO LYNN WHITE
SECRETARY**

Amendment for Remedial Design
Docket No. VII-94-F-0025

**STATEMENT OF WORK
REMEDIAL DESIGN
WEST LAKE LANDFILL SITE
OPERABLE UNIT 2
BRIDGETON, MISSOURI**

I. PURPOSE

The purpose of this Statement of Work (SOW) is to set forth the requirements for the Remedial Design (RD), and its relationship to the Remedial Action (RA) and Operation and Maintenance (O&M) for the remedy set forth in the Record of Decision (ROD), signed by the Director of the Superfund Division on July 25, 2008, for the West Lake Landfill Site, Operable Unit 2 (OU2). This SOW is incorporated into and made a part of the Third Amendment to the Administrative Settlement Agreement and Order on Consent (AOC) entered into by the Respondent and the United States Environmental Protection Agency Region VII (EPA) for the RD for OU2. The Respondent shall follow the ROD, the AOC, the final approved RD Work Plan, and the most recent revisions of appropriate EPA guidance in submitting deliverables for and implementing the RD at OU2.

A. Remedial Design (RD)

The RD process begins with the preparation of the RD Work Plan which sets forth plans and schedules for those activities to be undertaken by the Respondent and shall address the submittal of the final plans, drawings, specifications, general provisions, and special requirements necessary to implement the remedy selected in the ROD. Standard remedial design operations include project planning, field data acquisition and sample analysis, data evaluation, design support activities, preliminary design, intermediate design, pre-final/final design, value engineering (VE) during design, community relations, and project design completion. The RD Work Plan shall be prepared as set forth in Section V of this SOW and Paragraph 22(g) of the Settlement Agreement.

B. Remedial Action (RA)

Following completion of the RD phase, although not covered by this SOW, the RA process begins with preparation of the RA Work Plan (RAWP) which sets forth plans and schedules for the actual implementation of the remedy.

C. Operation and Maintenance (O&M)

O&M begins during the RA and continues after RA implementation has been completed. The RD shall make provisions for O&M activities which include: 1) inspection and maintenance; 2) long-term monitoring; 3) maintenance and enforcement of use restrictions; 4) preparation and submission of reports on monitoring, inspection and maintenance activities.

II. DESCRIPTION OF THE REMEDIAL DESIGN ACTIVITIES

The Respondent shall conduct the RD process to design the Selected Remedy identified in the OU2 ROD. The remedy will be designed to meet the performance standards, criteria and specifications set forth in the OU2 ROD, this SOW and the Settlement Agreement, unless subsequently modified in accordance with the procedures set forth in the Settlement Agreement. The performance standards, criteria and specifications shall include the substantive requirements set forth in applicable or relevant and appropriate requirements (ARARs) identified in Section 13.2 of the ROD.

A. Description of the Selected Remedy

The remedy for OU2 was developed to protect human health and the environment by providing source control for the landfilled waste materials. The source control methods prevent human receptors from contacting the waste material and control contaminant migration to air or groundwater:

1. Landfill Cap: Install landfill cover system to control and minimize the migration of contaminants from the Inactive Sanitary Landfill and prevent direct contact with landfilled wastes.
2. Groundwater Monitoring: Implement long-term groundwater monitoring program to demonstrate groundwater protection.
3. Institutional Controls: Implement land use restrictions to ensure future uses do not impact the effectiveness or the integrity of the remedy.
4. Surveillance and Maintenance: Implement periodic inspection and maintenance program for all components of the remedy.

B. Performance Standards for the Selected Remedy

The Respondent shall design the remedy to meet the performance standards and specifications set forth in the OU2 ROD and this SOW. The performance standards for the major components of the remedy are identified below. Alternative standards or requirements may be approved if it can be demonstrated that the alternative design is at least equivalent in performance.

1. Landfill Cap: The landfill cover system shall be designed to meet, at a minimum, the closure requirements for sanitary landfills. Consistent with the OU2 ROD, these requirements are identified below.

The Missouri Department of Natural Resources (MDNR) rules for sanitary landfill caps are in 10 CSR 80-3.010(17). These rules require that the final cover shall consist of at least two feet (2') of compacted clay with a coefficient of permeability of 1×10^{-5} cm/sec or less and overlaid by at least one foot (1') of soil capable of sustaining vegetative growth. The minimum sloping requirement of 5% need not be

met in this case; however, the design shall include provisions for slope stability and optimize the need to promote runoff and minimize the potential for erosion.

The design will incorporate plans for decomposition gas monitoring and control consistent with 10.CSR 80-3.010(14).

2. Groundwater Monitoring: The RD shall provide for the design and implementation of a long-term groundwater monitoring program. The ground water monitoring program shall include the collection of data necessary to track the movement and direction of flow of the ground water and to monitor changes in chemical constituents and chemical concentrations in the ground water over time. The monitoring plans shall include specific monitoring objectives, monitoring locations, data quality objectives, sampling frequencies and procedures, and analytical parameters and methods. The plans shall describe the approach to data evaluation and trend analysis. The monitoring program will be designed to meet the objectives in OU2 ROD Section 12.2.1 and will be consistent with the monitoring requirements and groundwater protection standards found in the Missouri Solid Waste Rules for Sanitary Landfills [10 CSR 80-3.010 (11)].
3. Institutional Controls: The RD shall provide for the design and implementation of institutional controls meeting the land and resource use requirements and objectives identified in the OU2 ROD Section 12.2.2.
4. Surveillance and Maintenance: The RD shall provide for surveillance and maintenance of the remedy. Plans shall be developed describing the procedures for inspection and maintenance of all engineering controls, access controls and monitoring structures. Plans shall also address procedures for maintenance, inspection and enforcement of land and groundwater use restrictions.

III. PROJECT PLANNING AND SUPPORT

A. Project Planning/Management

1. Designation of Project Coordinator: Respondent has identified its Project Coordinator as Ward Herst and Alternate Project Coordinator as Victoria Warren pursuant to Paragraph 50, Section XVI (Project Coordinators) of the Settlement Agreement.
2. Review and Approval of Supervising Contractor: Respondent shall propose a Supervising Contractor within 30 days of the effective date of the amended Settlement Agreement pursuant to Paragraph 21, Section VIII (Work to be Performed).

IV. DATA ACQUISITION ACTIVITIES

A. Data Collection

For all sampling activities conducted in preparation for or in support of the RD, Respondent shall prepare a sampling and analysis plan. At a minimum, the plan shall describe the purpose, the data quality objectives, and the procedures for collection and evaluation of the analytical data.

B. Analytical Quality Assurance

1. **Sample Analysis:** The Respondent shall ensure that analytical tests are performed in accordance with the EPA-approved Quality Assurance Project Plan (QAPP). EPA standard operating procedures (SOPs) may be incorporated by reference.
2. **Analytical Support and Data Validation:** The Respondent shall arrange for the validation of environmental sampling results to ensure the data are accurate and defensible. Sample management and data validation activities shall be performed in accordance with the EPA-approved QAPP.
3. **Data Evaluation:** The Respondent shall organize and evaluate data for submittal in the form of a Data Evaluation Summary Report. Specifically, data evaluation efforts shall include:
 - Data usability evaluation and Field QA/QC
 - Data reduction, tabulation and evaluation
 - Data Evaluation Summary Report submitted to EPA for review and approval

V. REMEDIAL DESIGN TASKS

In accordance with Paragraph 22(g) of the Third Amendment to the Settlement Agreement, the Respondent shall submit to EPA the design deliverables described below.

A. Remedial Design Work Plan

The Respondent shall submit a draft Remedial Design Work Plan (RD Work Plan) for the remedy set forth in the OU2 ROD within 60 days of the effective date of the Third Amendment of the Settlement Agreement. The RD Work Plan shall describe the approach and the schedules for implementation of the RD and any field activities necessary to support the RD. Elements addressed by the RD Work Plan include the following:

1. Composition of the design team.
2. Health and Safety Plan (HSP): Respondent shall develop the site-specific HSP that specifies employee training, protective equipment, standard operating procedures, and contingency planning in accordance with 40 CFR § 300.150 of the NCP and 29 CFR § 1910.120. This plan need not be submitted to EPA for review and approval but should be made available to EPA upon request.

3. Description of additional studies that will be conducted during the design phase to supplement available data or support design activities, including development of the SAP/QAPP, as necessary.
4. Identification of all the substantive requirements for the ARARs identified in Section 13.2 of the ROD. All required permits for other activities associated with implementation of the remedy shall also be identified.
5. Conceptual design and the design basis for the components of the remedy.
6. Progress reporting.
7. Proposed schedule of design phase activities consistent with the schedule in Section VI of this SOW.

B. Design Reviews

Upon receipt of EPA approval of the RD Work Plan, the Respondent shall implement design activities for the remedy in accordance with the Schedule in Section VI of this SOW and in the approved RD Work Plan.

1. Preliminary Design Report: The preliminary design submittal corresponds to approximately 30% design completion and shall include the following:
 - a. Design criteria – this shall document the design basis for the elements of the remedy and verify that the performance standards in the ROD are met, including compliance with ARARs and best professional engineering practices.
 - b. Results of additional study – this shall interpret the results of design studies and identify any additional studies necessary to support design.
 - c. Project delivery plans – this shall present the strategy for timely product delivery and shall focus on the management necessary to carry out the design and implement the remedy. The plans should address such things as phasing construction, health and safety considerations, review requirements, and contractor and equipment availability.
 - d. Preliminary plans, drawings and sketches.
 - e. Outline of required specifications.
 - f. Preliminary implementation schedule.
2. Intermediate Design Report: The intermediate design submittal corresponds to approximately 60% complete and consists of the continuation and expansion of the preliminary design. This submittal should include the preliminary O&M plan and preliminary plans for the long-term groundwater monitoring program that includes information such as well locations and construction details. Any value engineering proposals should be identified and evaluated at this review. Based on review of the Preliminary Design Report, EPA may determine that the Intermediate Design Report is

not necessary and this submittal shall be limited to the draft O&M Plan and the Groundwater Monitoring Plan.

3. Pre-Final/Final Design Report: The pre-final submittal is what the Respondent considers the final design pending EPA review and comment. Upon resolution of comments and EPA approval consistent with the Settlement Agreement, this submittal becomes the final design. The final design submittal shall include the following:
- a. Final design analysis detailing design compliance with performance standards and addressing all issues and comments as resolved during the design process. This analysis shall clearly address any modification of the designs as resolved during the preliminary, intermediate and pre-final design submittal review.
 - b. Final plans, construction drawings and specifications.
 - c. Construction schedules.
 - d. O&M Plan – The O&M requirements for the landfill cover system and all engineering components of the remedy shall include: 1) schedules and requirements for performing routine maintenance activities; 2) schedules and criteria for performing periodic and follow-up inspections; 3) provisions for performing unplanned maintenance and repair; 4) provisions for a data management system that will accommodate field logs, inspection reports, document control and inventory procedures; 5) provisions for the 5-Year Reviews; 6) contact lists; 7) reporting requirements; 8) procedures for updating or modifying the O&M Plan, and; 9) procedures for community involvement.

The O&M requirements for the groundwater monitoring component shall include: 1) schedules and requirements for performing long-term monitoring; 2) a data management system that will accommodate field logs, sample tracking, quality assurance and analytical data, and; 3) methods for data evaluation and interpretation.

The O&M requirements for the institutional controls (ICs) component shall include: 1) provisions for maintaining, reporting on and enforcing the ICs; 2) provisions to verify that land and resource uses are consistent with the requirements in Section 12.2.2 of the OU2 ROD; 3) provisions to respond to activities that are inconsistent with the use restrictions or the effectiveness of the ICs; 4) provisions to notify EPA and MDNR of any proposed or actual changes in land or resource use on property subject to these restrictions, and; 5) provisions to notify EPA and MDNR of any planned or actual transfer, sale, or lease of property subject to these restrictions.

- e. Field Sampling Plan(s) - This plan shall define in detail the purpose, the data quality objectives, data gathering methods, sampling equipment, sample types locations, frequencies, analytes, sample handling and documentation. This plan is developed in conjunction with an EPA-approved QAPP.

- f. Construction Quality Assurance Plan (CQAP) – This plan shall describe the components of the construction quality assurance program which will ensure that the completed project meets or exceeds all design criteria, plans and specifications. The CQAP shall address the following elements:
- Responsibilities and authorities of all organizations and key personnel involved in the design and construction of the remedy.
 - Qualifications of the Quality Assurance Official demonstrating the training and experience necessary to fulfill the identified responsibilities.
 - Testing and sampling protocols used to monitor construction.
 - Identification of sampling activities such as sample size, sample locations, frequency of testing, acceptance and rejection data sheets, problem identification and corrective measures reports, and evaluation and acceptance reports.
- g. Contingency Plan – This shall be written for the local affected population in the event of accident or emergency at the Site. Respondent shall incorporate into the Contingency Plan an Air Monitoring Plan and a Spill Prevention, Control and Countermeasures Plan, as applicable.
- h. Community Relations Plan – These provisions shall support EPA in providing appropriate updates and information to the affected community and other stakeholders or interested parties.

VI. SCHEDULE FOR REMEDIAL DESIGN

<u>SUBMITTAL</u>	<u>DUE DATE</u>
Draft RD Work Plan	Within 60 days of the effective date of the amended Settlement
Final RD Work Plan	Within 30 days of receipt of EPA's comments on Draft RD Work Plan
Draft SAP/QAPP	As part of the Draft RD Work Plan Submittal and/or as provided for in the RD Work Plan
Preliminary Design Report	Within 60 days of approval of the RD Work Plan or completion of data evaluation summary report (whichever is later)
Intermediate Design Report (if necessary)	Within 60 days after receipt of EPA's comments on the Preliminary Design
Pre-Final Design Report	Within 60 days after receipt of EPA's comments on the Intermediate Design
Final Design Report	Within 30 days after receipt of EPA's comments on the Pre-Final Design
Progress Reports during RD	Monthly by the tenth day of each month beginning in the first month following the effective date of the amended Settlement Agreement

VII. REFERENCE DOCUMENTS

"EPA Superfund Remedial Design and Remedial Action Guidance", Interim Final, US EPA, Office of Solid Waste and Emergency Response, OSWER Directive 9355.0-4A, June, 1986.

"EPA Oversight of Remedial Designs and Remedial Actions Performed by PRP", Office of Emergency and Remedial Response, EPA Publication No. 9355.5-01FS, February 1990.

"Scoping the Remedial Design", Draft, US EPA, Office of Solid Waste and Emergency Response, EPA Publication No. 9355.0-43, EPA/540/F-93/026, May, 1993.

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