

STATE OF MISSOURI

**DEPARTMENT OF NATURAL RESOURCES**



**MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY  
PART I PERMIT**

**PERMIT NUMBER: MOD000624452**

**PERMITTEE**

Owner: Missouri City Landfill, LLC  
8501 Stillhouse Road  
Liberty, MO 64068

Owner and Operator: BFI Waste Systems of North America, LLC  
8501 Stillhouse Road  
Liberty, MO 64068

**FACILITY LOCATION**

BFI Missouri City Landfill  
8501 Stillhouse Road  
Liberty, MO 64068  
T51N, R30W, Clay County  
North Latitude – 39°15'0"  
West Longitude – 94°17'50"

**FACILITY DESCRIPTION**

The BFI Missouri City Landfill is a former hazardous waste treatment and disposal facility. American Container Service Company was incorporated in Missouri in 1959, acquired by Browning-Ferris Industries, Incorporated on April 15, 1970; and changed its name to Browning-Ferris Industries (BFI) of Kansas City, Incorporated on December 29, 1972. In August 1972,

Lincoln Brothers Land, Incorporated began operating a sanitary landfill at the site. In November 1972, BFI, who later became BFI Waste Systems of North America, LLC (BFINA), leased the property and continued to operate the sanitary landfill, which accepted municipal wastes and certain industrial wastes, such as petroleum refining sludge, until 1974.

In 1974, BFINA began building additional facilities to dispose bulk liquid sludge. The hazardous waste management units included a Chemical Processing Center, two LiqWaCon™ processing units, a chemical landfill, two LiqWaCon™ gelation basins, three sludge drying beds, seven bulk sludge disposal trenches, a wastewater treatment pond, and a storm water retention pond. In September 1983, BFINA accepted the last shipment of hazardous wastes. At least 160 million pounds of industrial wastes were disposed at the facility.

EPA approved a closure plan for the hazardous waste management units at the facility on December 4, 1984. The sanitary landfill and each hazardous waste management unit were closed separately, with waste in place. One multicomponent final cap was installed over all the waste management units, addressing the entire site as one unit, collectively called the closed landfill. BFINA submitted a Certification of Closure for the facility, dated November 25, 1987, which was received by the Missouri Department of Natural Resources (Department) on December 1, 1987. The Department accepted BFINA's closure certification on February 15, 1988. Since hazardous waste remained in place after closure, the closed landfill, now known as the BFI Missouri City Landfill, became subject to post-closure care requirements. As part of the post-closure care, BFINA is required to perform long-term groundwater and surface water monitoring, operate waste containment/collection systems, and maintain the final cover on the closed landfill.

BFINA implemented several closure and corrective action activities at the facility, designed to reduce the migration of contaminants and minimize risks to human health and the environment. These activities include acquiring adjacent property and installing a multicomponent final cap, leachate collection systems, gelation basin consolidation fluid sump collection system, groundwater interceptor trench (Sumps 1, 2, and 3), a seep collection trench (Sump 4), a stream bank interceptor trench (Sump 5), an active gas extraction system, and facility fencing. BFINA purchased two properties, the property south of the facility in September 1989 and property west of the facility in November 1990, in order to create a buffer zone and limit accessibility to areas of potential contamination. In November 2003, Missouri City Landfill, LLC purchased the portion of the property where waste management occurred. This portion of the property and the surrounding "buffer zone" properties represent the contiguous facility property which is subject to this permit. Therefore, this permit is issued to BFINA and Missouri City Landfill, LLC as the facility "owners" and BFINA as the facility "operator." The general facility location is shown in Figure 1. The facility property boundaries are shown in Figure 2.

**PERMITTED ACTIVITIES**

This Permit requires BFINA to perform post-closure care for the closed hazardous waste landfill. This Permit also requires implementation of a facility-wide corrective action program to address known releases to the environment from Solid Waste Management Units and Areas of Concern. In addition, this Permit contains contingent corrective action conditions to address any newly-identified releases to the environment from previously- or newly-identified Solid Waste Management Units and Areas of Concern, as necessary and appropriate. This Permit also contains a Remedial Action Plan (RAP) provisions to facilitate construction of an on-site remediation waste system to treat, store and dispose hazardous waste leachate and contaminated groundwater.

EFFECTIVE DATES OF PERMIT: \_\_\_\_\_ to \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Steve Sturgess, Director  
HAZARDOUS WASTE PROGRAM

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## **INTRODUCTION**

After public notice, according to Code of State Regulations 10 CSR 25-8.124, and review of BFI Waste Systems of North America, LLC (BFINA)'s Missouri Hazardous Waste Management Facility Permit Application (hereafter referred to as the application), the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application conforms to the provisions of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA) and regulations promulgated thereunder by the U.S. Environmental Protection Agency (hereafter referred to as EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations) and the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. Pursuant to Section 260.375.13, RSMo, and the Solid Waste Disposal Act, the Department hereby approves the application and issues Permit Number MOD000624452 to BFINA and Missouri City Landfill, LLC, as the facility owners, and BFINA, as the facility operator (hereafter collectively referred to as the Permittee), for post-closure care and "active" corrective action activities, including construction, operation and maintenance of a remediation waste management site at the hazardous waste management facility, as described in the application and this Permit. This Permit also includes "contingent" corrective action requirements that may be triggered, if necessary, for Solid Waste Management Units and Areas of Concern pursuant to the state equivalent requirements of the federal Hazardous and Solid Waste Amendments of 1984 (HSWA) of RCRA, as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 260 through 264, 266, 268, and 270, and 10 CSR 25-7, as specified in this Permit. The Department is issuing this Missouri Hazardous Waste Management Facility (MHWMF) Part I Permit (hereafter referred to as the Permit) under state authority.

All citations to federal regulations throughout this Permit are for the sake of convenient reference. The federal regulations are adopted by reference in 10 CSR 25. In instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

The provisions of this Permit are severable. If any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

All permit application information, including the Remedial Action Plan (RAP) application information, shall be available to the public unless the Permittee requests nondisclosure in writing, as described in Section 260.430, RSMo and 10 CSR 25-7.270(2)(B)2. This Permit and accompanying materials shall be available for review by the public at the Department's central office in Jefferson City, Missouri; and the EPA Region 7 office in Lenexa, Kansas.

Any appeals of this Permit, or specific permit conditions based on state authority, shall be filed according to 10 CSR 25-8.124(2). Any parties adversely affected or aggrieved by this decision may be entitled to pursue an appeal before the Administrative Hearing Commission (AHC). To appeal, the party shall file a petition with the AHC within 30 calendar days after the date this Permit was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, then it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC can be found online at <http://ahc.mo.gov>, or by calling (573) 751-2422. The Department also requests that a copy of the appeal request be provided to the Director of the Department's Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176.

The following shall collectively be referred to as the “approved permit application”:

- Missouri Hazardous Waste Management Facility Permit Application, dated July 30, 2010, with revisions dated September 23, 2014, in response to the draft technical comment letter submitted by the Department via email April 4, 2014.
- The Permittee's response to the Department's comment letter, dated May 28, 2015.
- The Remedial Action Plan application, dated July 24, 2013, and the response to comments to the revised application, dated June 10, 2014.

The “consolidated permit application” is defined as the approved permit application and all additional documents required to be submitted under the Schedule of Compliance contained in this Permit. The Permittee shall maintain a copy of all documents outlined above with the original consolidated permit application at the facility.

Any inaccuracies found in information submitted by the Permittee may be grounds for the termination, revocation and reissuance, or modification of this Permit according to 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1), and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information in the application, which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

When the Department receives any information, such as inspection results, information from the Permittee, or requests from the Permittee, it may decide whether cause exists to modify, revoke and reissue, or terminate this Permit. All such changes to this Permit shall be handled according to 10 CSR 25-8.124 and 40 CFR Part 270 Subpart D, as incorporated by reference in 10 CSR 25-7.270(1).

Post-closure operation of this hazardous waste facility and any required corrective action program activities shall be according to the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 to 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the date of this Permit, all final engineering plans, petitions, specifications, and operating procedures that were submitted to the Department during the permit application review process, which are included in the final version of the permit application, and any other conditions, changes, or additions to the engineering plans, specifications, and operating procedures as specified in this Permit. The consolidated permit application, which includes the final engineering plans, specifications, and operating procedures, is therefore incorporated by this reference into the conditions of this Permit. All conditions specified in this Permit supersede any conflicting information in the consolidated permit application. Where conflicts arise between documents, the latest revision shall be effective.

This Permit is for post-closure care and corrective action activities for the closed hazardous waste landfill, including treatment, storage, and disposal of the remediation wastes as contemplated in the RAP portion of the permit application, and is issued only to the Permittees named above. This Permit is issued for a period of ten years and expires at midnight on \_\_\_\_\_ . This Permit is subject to review and modification by the Department according to Section 260.395.12, RSMo, 40 CFR 270.41 and/or 40 CFR 270.175. According to 40 CFR 270.51, as incorporated in 10 CSR 25-7.270(1), if a timely and complete application is submitted, the conditions of this Permit will continue in force until the effective date or denial of a new permit.

On July 6, 1999, Missouri received final authorization for revisions to its hazardous waste management program, including the corrective action portion of the HSWA Codification Rule (July 15, 1985, 50 FR 28702), which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of EPA are incorporated into this Permit and are under state authority.

40 CFR 264.101(a), as incorporated by reference in 10 CSR 25-7.264(1), requires all owners or operators of facilities seeking a Permit for the treatment, storage, or disposal of hazardous waste to institute corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous constituents from any Solid Waste Management Unit, regardless of the time at which waste was placed in such unit.

40 CFR 264.101(b), as incorporated by reference in 10 CSR 25-7.264(1), requires that permits issued under the Hazardous Waste Management Law contain a schedule of compliance for corrective action (where corrective action cannot be completed before permit issuance) and assurances of financial responsibility for completing such corrective action.

40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. 40 CFR 264.101(c) further stipulates that the owner or operator is not relieved of any responsibility to cleanup a release that has migrated beyond the facility boundary where off-site access is denied. In addition, assurances of financial responsibility for completing such corrective action shall be provided, according to 40 CFR 264.101.

40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395.12, RSMo, requires that each permit issued under that section contain terms and conditions as the Department determines necessary to protect human health and the environment.

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Department. These environmental laws and regulations are administered by the Air Pollution Control Program, Hazardous Waste Program, Land Reclamation Program, Solid Waste Management Program, and Water Protection Program. Failure to comply with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the permit holder to civil and criminal liability.

## **DEFINITIONS**

For purposes of this Permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 260, 261, 264, 266, 268, and 270, and 10 CSR 25, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, this Permit, or EPA guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

“Alternate Concentration Limit” means a Department-approved maximum concentration limit or risk-based threshold for a hazardous constituent, facility-related contaminant, or combination thereof, in the groundwater that will not pose an unacceptable present or potential future risk to human health or the environment, as long as that concentration limit or risk-based threshold is not exceeded at defined compliance points, so as to ensure acceptable risk at exposure monitoring points.

“Approved Permit Application” means the original permit application and all subsequent revisions or addenda to the permit application, and any completeness and technical information submitted as referenced in the Introduction of this Permit.

“Area of Concern (AOC)” means any area where an actual or potential release of hazardous wastes or hazardous constituents that is not from a Solid Waste Management Unit has occurred or is occurring and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of AOCs may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

“Consolidated Permit Application” means the approved permit application, any changes resulting from the public comment period, and all additional documents required to be submitted under the Schedule of Compliance contained in this Permit.

“Corrective Action” means the investigation and remediation of hazardous wastes and hazardous constituents from any past and present release(s), including contamination that may have migrated beyond the boundaries of the permitted property.

“Director” means the Director of the Missouri Department of Natural Resources or authorized delegate.

“Effectiveness wells” means the wells installed at various locations to evaluate the efficacy of the corrective action(s) and/or evaluate the remedy(s) implemented at the site.

“Facility” means:

- (1) All contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing hazardous waste; and
- (2) All contiguous property under the control of the owner or operator, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1) and as specified in this Permit.

“Hazardous constituent” means any chemical compound listed in 40 CFR Part 261 Appendix VIII, as incorporated by reference in 10 CSR 25-4.261.

“Hazardous waste” means any waste, or combination of wastes, as defined by or listed in 10 CSR 25-4, which, because of its quantity, concentration, physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or which may pose a threat to the health of humans or other living organisms.

“Interim/Stabilization Measures” means actions to control or abate threats to human health and/or the environment from releases at RCRA facilities and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

“Investigation wells” means the wells used to evaluate the rate and extent of groundwater contamination and assess any newly-identified release(s) or any exceedance(s) of the risk limits observed at the site.

“Perimeter wells” means the wells installed at various depths at or just beyond the known extent of groundwater contamination, which serve as an early-warning system to detect changes in groundwater quality and potential contaminant migration.

“Release” means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes or hazardous constituents into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

“Remediation Waste” means all solid and hazardous wastes and all media (including groundwater, surface water, soils, and sediments) and debris that are managed for implementing cleanup.

“Remediation Waste Management Site” means a facility where an owner or operator is or will be treating, storing or disposing of hazardous remediation wastes. A remediation waste management site is not a facility that is subject to corrective action under 40 CFR 264.101, but is subject to corrective action requirements if the site is located in such a facility.

“Remediation Waste Treatment System” means a system consisting of aqueous/non-aqueous phase liquid separation, particulate metal removal, and organic compound removal treatment units.

“Solid Waste Management Unit (SWMU)” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

**SCHEDULE OF COMPLIANCE**

- I. Within 60 calendar days after the effective date of this Permit, the Permittee shall:
  - A. Submit to the Department two paper copies of any changes resulting from public participation comments on the draft Permit, and one searchable electronic copy of the consolidated permit application, as required by 10 CSR 25-7.270(2)(B)7. and defined in the Introduction of this Permit.
  - B. Submit to the Department a certification by the Permittee that the Permittee has read this Permit in its entirety and understands all permit conditions contained in this Permit.
  - C. Submit to the Department, to the attention of the Hazardous Waste Program, Permits Section, a check or money order payable to “State of Missouri” for any outstanding engineering review costs.
  - D. Submit to the Department, to the attention of the Hazardous Waste Program, Permits Section, a check or money order payable to “State of Missouri” for \$1000 for each year this Permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a \$1000 deposit with the permit application and paid a \$1000 permit continuation fee for the current year, the remaining balance to be submitted by the Permittee is calculated as:

$$\text{Remaining balance} = \$9000.00 - \frac{\$1000.00}{365 \times \text{days}} \times N_d$$

where  $N_d$  equals the number of calendar days from the expiration date of the continued permit (which coincides with the anniversary date of the original permit issuance) to the date of permit reissuance. An invoice is included with this Permit based on the foregoing formula.

- E. If the conditions in the most currently approved Sampling and Analysis Plan (SAP) do not adequately reflect the conditions in this Permit, submit to the Department for approval, a revised SAP to incorporate all groundwater monitoring conditions outlined in this Permit, as required in Special Permit Condition III.E.2. of this Permit.
- F. If the conditions in the most currently approved surface water monitoring program do not adequately reflect the conditions in this Permit, submit to the

Department for approval, a revised surface water monitoring program to incorporate any changes in the surface water monitoring program outlined in this Permit, as required in Special Permit Condition IV.A. of this Permit.

- G. Submit to the Department for evaluation, an updated post-closure care and corrective action cost estimate, in current dollars, of the cost of hiring a third party to perform the post-closure care and corrective action activities required by this Permit, as required in Corrective Action Condition XVII.A. of this Permit. This cost estimate shall include the long-term costs associated with operation and maintenance of the remediation waste treatment site and any capitalized costs of treatment site construction that are expected to take longer than 12 months from the effective date of this Permit to complete.
- II. Within 60 calendar days after receipt of the Department's written final response of the review of the updated post-closure care and corrective action cost estimate and updated RAP cost estimate, the Permittee shall submit all documentation necessary to demonstrate that the Permittee satisfies the financial assurance criteria, as required in Corrective Action Condition XVII.B. of this Permit.
- III. Within 90 calendar days after completing construction of the remediation waste treatment system, the Permittee shall submit to the Department for approval, a Construction Completion Report. The report shall include "as-built" drawings of the remediation waste treatment system. These drawings shall be certified by a professional engineer registered in Missouri.
- IV. The Permittee shall comply, as necessary, with all planned and contingent corrective action requirements of this Permit, as specified in the Special Permit Conditions and Corrective Action Conditions of this Permit and as summarized in Tables 3 and 4.
- V. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit to the Department a covenant(s) on any buffer land purchased by the Permittee and not currently covered by the existing environmental covenants, as required in Corrective Action Condition XIII.I.2.

## **SUBMITTAL OF REQUIRED INFORMATION**

- I. Unless otherwise requested, the Permittee shall submit two paper copies and one searchable electronic copy of all reports, documents, plans/specifications, consolidated permit application, and RAP application required under the terms of this Permit to:

Chief, Permits Section  
Missouri Department of Natural Resources  
Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 65102-0176

- II. The Permittee shall submit one paper copy and one searchable electronic copy of all reports, documents, plans/specifications, consolidated permit application, and RAP application required under the terms of this Permit to:

Chief, Waste Remediation and Permitting Branch  
U.S. Environmental Protection Agency Region 7  
Air and Waste Management Division  
11201 Renner Boulevard  
Lenexa, KS 66219

- III. If the Permittee requires additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall submit a written extension request to the Department in accordance with Corrective Action Condition XIX. of this Permit.

## **STANDARD PERMIT CONDITION**

- I. The Permittee shall comply with the requirements set forth in the Missouri Hazardous Waste Management Law and all corresponding standards, rules, and regulations adopted under this Law, Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR 264.101, 40 CFR 270.10, 40 CFR 270.30, 40 CFR 270.40, 40 CFR 270.42, and 40 CFR 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

## **GENERAL PERMIT CONDITIONS**

- I. The Permittee shall comply with the applicable requirements described in 40 CFR Part 264 Subparts B, C, D, E, G, and H, 40 CFR Part 268, and 40 CFR Part 270, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

- II. Notification of an Emergency Situation [Chapter 260.505.4, RSMo]

The Permittee shall, at the earliest practical moment upon discovery of an emergency involving the hazardous waste under the Permittee's control, implement the facility contingency plan, including notifying the Department's emergency response hotline at (573) 634-2436 and the National Response Center at 1-800-424-8802.

Within 15 calendar days of the incident occurrence, the Permittee shall submit a written report to the Department providing details. The content of the written report shall conform to 40 CFR 264.56(j), as incorporated in 10 CSR 25-7.264, and be provided to the addressees listed in "Submittal of Required Information" provision.

- III. This Permit does not authorize the management of any non-hazardous solid waste outside of the hazardous waste management processes and units described herein. Handling of non-hazardous solid waste outside of the requirements of this Permit is subject to regulation under the state of Missouri's Solid Waste Management Law and regulations and is not authorized by this Permit.

## **SPECIAL PERMIT CONDITIONS**

In accordance with 40 CFR 270.32, as incorporated in 10 CSR 25-7.270(1), the Department has established the following permit conditions for the Permittee and the hazardous waste facility at the location specified in this Permit.

### **I. 100-Year Floodplain Requirements [40 CFR 264.18(b)]**

The Permittee has submitted information, as required in 40 CFR 270.14(b)(11)(iii) and 40 CFR 270.28, that identifies the facility as not being located in a 100-year floodplain. The Permittee shall maintain this information in the facility operating record.

### **II. Post-Closure [40 CFR Part 264 Subpart G]**

The Permittee shall comply with all applicable requirements of 40 CFR Part 264 Subpart G, as incorporated by reference in 10 CSR 25-7.264(1), and all provisions of this Permit.

#### **A. Post-Closure Care and Use of Property [40 CFR 264.117]**

1. According to 40 CFR 264.117(a)(1), post-closure care begins after the acceptance of the closure certification of the hazardous waste management unit and continues for 30 years after that date, unless modified according to 40 CFR 264.117(a)(2). The Department accepted the closure certification for the closed landfill on February 15, 1988.
2. Post-closure care shall be extended until such time as the following have occurred:
  - a. The on-property risk-based groundwater protection standard (alternate concentration limit) established pursuant to 40 CFR 264.92, are met for a period of three consecutive years at and beyond the point of compliance monitoring points; and
  - b. The maximum concentration limits (MCLs) contained in Table 1 of this Permit, or additional approved alternate concentration limits, as applicable, are met for a period of three consecutive years at and beyond the boundaries of the permitted facility property.

3. During the post-closure care period, the Permittee shall comply with the applicable maintenance, monitoring, and reporting requirements of 40 CFR Part 264 Subparts F, G, and N, as incorporated by reference in 10 CSR 25-7.264.
4. During the post-closure care period, the Permittee shall comply with the requirements of 40 CFR 264.310, including, but not limited to:
  - a. Maintaining the integrity and effectiveness of the final cover;
  - b. Continuing to operate the leachate collection system as outlined in the approved permit application;
  - c. Maintaining and monitoring the groundwater monitoring system and complying with all applicable requirements of 40 CFR Part 264 Subpart F;
  - d. Preventing run-on and runoff from eroding or otherwise damaging the final cover; and
  - e. Protecting and maintaining surveyed benchmarks used to comply with 40 CFR 264.309.
5. In the event that a significant ground subsidence or collapse occurs anywhere on the Permittee's property, the Permittee shall notify the Department verbally or in writing within five calendar days of becoming aware of a subsidence or collapse feature. The Permittee shall allow the Department to inspect the feature in order to evaluate the subsidence or collapse prior to conducting any repairs. The Permittee shall, within 30 calendar days of the Department's written request, prepare and submit a plan for repair of the feature to the Department for review and approval. Any repair plan submitted to the Department shall contain post-repair reporting provisions that include providing detailed documentation of the location, repair work conducted, before and after photographs, etc., in a final report to the Department.
6. The Permittee shall continue to provide for the proper operation and maintenance of any engineering controls implemented as part of the approved permit application and any previously approved plans. These actions are necessary to prevent human exposure to soils and/or

groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable regulatory risk-based criteria. The engineering controls shall not be disturbed and shall remain in place and be effective unless or until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation and maintenance of such controls.

7. Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover on the landfill and to prevent damage to the monitoring systems. The Department may approve a use of the property that disturbs the integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment. The Permittee shall submit a request to the Department before any activities that disturb the integrity of the final cover.
8. The Permittee may submit a request to the Department to shorten the post-closure care period. Justification for shortening the post-closure care period shall accompany any such request. The Department may approve the request if it determines that a shortened post-closure care period is sufficient to protect human health and the environment. Approval to shorten the post-closure care period shall be according to the applicable permit modification procedures in 40 CFR Part 270, 10 CSR 25-7, and 10 CSR 25-8.124.

B. Post-Closure Plan and Amendments [40 CFR 264.118]

1. Post-closure care shall be conducted according to the post-closure care plan included in the approved permit application and all conditions of this Permit.
2. The post-closure care plan may be amended at any time during the active life of the facility or the post-closure care period. Amendments are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124. Written requests for amendments shall be submitted at least 60 calendar days before the proposed change in site operations, or not later than 60 calendar days after the occurrence of an unexpected event that has affected the post-closure care plan. The Department may request

modifications to the post-closure care plan if changes in site operations affect the approved post-closure care plan. The Permittee shall submit the modified post-closure care plan no later than 60 calendar days after receipt of the Department's request. Any modifications requested by the Department are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124.

3. During the post-closure care period, the facility contact shall keep the approved post-closure care plan for the post-closure care period, as required by 40 CFR 264.118(c).

C. Future Removal of Hazardous Wastes [40 CFR 264.119(c)]

Except as required to facilitate corrective actions approved by the Department, including operation of the remediation waste treatment system, if the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils, or contaminated sludge from within the boundaries of the closed landfill, the Permittee shall request a modification of this Permit, according to the applicable requirements in 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124. The modification request shall include a demonstration that the proposed action(s) will not increase potential hazards to human health or the environment, or the action(s) is necessary to reduce threats to human health or the environment, in accordance with 40 CFR 264.117(c). By removing contaminants, the Permittee may become a generator of hazardous waste and shall manage any removed material according to all applicable laws, regulations, and ordinances.

D. Certification of Completion of Post-Closure Care [40 CFR 264.120]

No later than 60 calendar days after the completion of the post-closure care period (including any necessary extensions), the Permittee shall submit to the Department, by certified mail, a certification that the post-closure care period was performed according to the approved post-closure plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri, and shall include documentation supporting the certification.

III. Groundwater Monitoring and Corrective Action Program [40 CFR 264 Subpart F]

A. Groundwater Protection Standard (GPS), Hazardous Constituents, and Concentration Limits [40 CFR 264.92, 264.93 and 264.94]

Groundwater protection standards (GPS) are established to limit groundwater degradation and to ensure that the public health and the environment are not adversely affected or endangered by the presence of hazardous waste or hazardous constituents in groundwater above acceptable risk-based levels. Risk-based alternate concentration limits (ACLs) are the GPS relative to the on-property compliance monitoring points and points of exposure established pursuant to this Permit. The MCLs contained in Table 1 of this Permit are applicable to groundwater at and beyond the facility property boundary.

The Permittee shall perform risk assessment calculations for carcinogenic risk and non-carcinogenic risk (hazard indices) for each sampling point at and beyond the point of compliance exhibiting detectable levels of any hazardous constituent outlined in Table 1 of this Permit, with a corresponding published slope factor for calculating carcinogenic risk and/or with published oral reference doses for calculating the hazard index for non-carcinogenic risk. These calculations shall be performed after the validated analytical data has been obtained by the Permittee following each sampling event. The calculation results shall be submitted as part of the Semi-Annual Corrective Action Report required by Corrective Action Condition XIV of this Permit. The Permittee's calculations for cumulative carcinogenic and non-carcinogenic risk shall be performed according to the appropriate procedures outlined in the most recent version of the EPA guidance document entitled, Risk Assessment Guidance for Superfund. If these risk calculations lead to the determination that there is an unacceptable risk to human health or the environment (i.e., exceedance of the variable risk-based thresholds previously established in the Corrective Measures Study for the compliance monitoring points or  $>1 \times 10^{-5}$  risk for carcinogens or hazard index  $>1.0$  for non-carcinogens at a designated point of exposure), the Permittee shall notify the Department and prepare an Interim/Stabilization Measures Work Plan to address the unacceptable risk. The Interim Stabilization Measures Work Plan shall be submitted to the Department within 90 calendar days of the Permittee's determination of an unacceptable carcinogenic or non-carcinogenic risk to human health or the environment.

Notwithstanding establishment of the risk-based approach to determine if additional corrective action is necessary as described above, the Permittee shall

sample and analyze groundwater from wells at and beyond the point of compliance during the compliance period for the constituents identified in Table 1 of this Permit. Those analyses must achieve the analytical reporting limits identified in Table 1. This monitoring shall be designed to ensure continued delineation of groundwater impacts and ensure protection of groundwater quality to levels at or below the MCLs listed in Table 1 beyond the permitted facility property boundaries.

The hazardous constituents and groundwater contaminants to which the risk-based calculations and groundwater concentration limits of 40 CFR 264.94 apply are listed in Table 1 of this Permit. The listed hazardous constituents and contaminants either have been detected in the groundwater beneath and beyond the closed landfill and/or are reasonably expected to be in or derived from wastes managed at the landfill.

1. Risk-based ACLs, as presented in the table below, have previously been established pursuant to 40 CFR 264.94(b) for monitoring conducted at the points of compliance at this facility.

<b>Point of Compliance Wells</b>	<b>Hazard Index ACL</b>	<b>Carcinogenic Risk Level ACL</b>
P-02L	1.5	1.E-04
P-03L	1.75	5.E-04
P-05AL	1.5	1.E-04
P-10L	1.5	1.E-04
P-11L	1.0	1.E-05
P-02AW	1.5	1.E-04
P-03W	1.75	5.E-04
P-10W	1.5	1.E-04
P-11W	1.0	1.E-05
P-02F	1.5	1.E-04
P-03F	1.75	5.E-04
P-05AF	1.5	1.E-04
P-10F	1.5	1.E-04
P-11F	1.0	1.E-05
P-13F	1.5	1.E-04
GMW-03MCL	1.0	1.E-05
GMW-11MCL	1.0	1.E-05

<b>Point of Compliance Wells</b>	<b>Hazard Index ACL</b>	<b>Carcinogenic Risk Level ACL</b>
GMW-03LUS	1.0	1.E-05
GMW-04LUS	1.0	1.E-05
GMW-11LUS	1.0	1.E-05
GMW-03LLS	1.0	1.E-05
GMW-04LLS	1.0	1.E-05
GMW-11LLS	1.0	1.E-05
P-21LLS (P-21K)	1.5	1.E-04
P-22LLS (P-22K)	1.5	1.E-04
P-23LLS (P-23K)	1.5	1.E-04

2. The MCLs for individual hazardous constituents listed in Table 1 are applicable at and beyond the facility property boundaries and were derived from several different sources as explained by the footnotes to Table 1.
3. The MCL for some hazardous constituents and related contaminants is below the lowest, reasonably achievable analytical detection limit due to limitations in current analytical technology. In these cases, the constituent shall be analyzed at the lowest reasonably achievable detection limit.
4. The allowable maximum detection limit shall never be greater than the MCL. If the maximum detection limit for specific hazardous constituents cannot be achieved due to matrix interferences or other analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analysis shall be exempted from this requirement. However, such an exemption does not in any way relieve the Permittee from complying with the GPS MCLs for groundwater contamination at or beyond the facility property boundaries.
5. The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents and related contaminants covered by Special Permit Condition III.A.2. of this Permit, which allow for adequate comparison with appropriate health- or environmental protection-based concentration limit(s) indicated in the footnotes to Table 1.

6. The Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishment of ACLs in lieu of the MCLs specified in Table 1 or in lieu of the previously established risk-based ACLs. Any such demonstration shall ensure that any and all ACLs are protective of human health and the environment, according to the requirements of 40 CFR 264.94(b)(1) and (2). In proposing an ACL(s), the Permittee shall consider and formally address these factors listed in 40 CFR 264.94(b)(1) and (2) and EPA's Interim Final Alternate Concentration Limit Guidance, Part I, OSWER Directive 9481.00-6C, EPA 530/SW-87-017, July 1987. Any modification of this Permit to incorporate ACL(s) proposed by the Permittee shall require a Class 3 Permit Modification, in accordance with 40 CFR 270.42. Any final decision/approval by the Department regarding the Permittee's proposed ACLs shall be processed following completion of the public notice and comment period for the Class 3 Permit Modification.
7. The Permittee shall incorporate any additional hazardous constituent(s) identified in 40 CFR Part 261, Appendix VIII, that are identified in the groundwater and their presence confirmed, into the risk calculations described above and into Table 1 of this Permit, if such constituents are reasonably attributable to releases from the closed landfill, SWMUs/AOCs and/or the degradation of hazardous constituents known to be present in the groundwater. The Appendix IX. (40 CFR Part 264) groundwater sampling and analysis requirements contained in Special Permit Condition III.E.6. of this Permit shall be used as the basis for determining if the addition of hazardous constituents to the risk calculations and list of constituents in Table 1 is necessary. The Permittee may demonstrate that a source other than facility-related releases caused the presence of such hazardous constituent(s) or that the apparent presence was a result of an error in sampling, analysis, or evaluation. For the demonstration under this paragraph to be considered, the Permittee shall:
  - a. Within seven calendar days of determining that an additional hazardous constituent has been discovered, notify the Department in writing that the Permittee intends to make a demonstration under this paragraph.
  - b. Within 90 calendar days, submit a report to the Department that demonstrates a source other than the facility operations caused the

hazardous constituent presence or that the presence resulted from an error in sampling, analysis, or evaluation.

Any addition of hazardous constituents to the risk calculations and Table 1 of this Permit as a result of the above determination shall require a Class 1 Permit Modification with prior Director’s approval. Any other changes to the Table 1 list of hazardous constituents shall require a permit modification, in accordance with 40 CFR 270.42.

**Table 1 - Groundwater Protection Standards**

Hazardous Constituent	CAS No. <sup>1</sup>	Maximum Concentration Limit	Maximum Method Detection Limit <sup>2</sup>	Unit <sup>3</sup>
<b>Chlorinated Herbicides</b>				
D, 2,4-	94-75-7	70 (a)	10	µg/L
Dicamba	1918-00-9	200 (b)	1	µg/L
MCPA	94-74-6	10 (b)	100	µg/L
MCPP	93-65-2	16 (c)	37	µg/L
T, 2,4,5-	93-76-5	70 (b)	2	µg/L
TP, 2,4,5-	93-72-1	50 (a)	2	µg/L
<b>Dioxin/ Furan Compounds</b>				
TCDD, 2,3,7,8-*	1746-01-6	0.00003 (a)	0.01	µg/L
Tetrachlorodibenzo-p-dioxin equivalents, 2,3,7,8-*	1746-01-6	0.00003 (a)	-- **	µg/L
<b>Inorganics</b>				
Cyanide	57-12-5	0.2 (a)	0.04	mg/L
Sulfide	18496-25-8	-- **	1	mg/L
<b>Metals</b>				
Antimony	7440-36-0	0.006(a)	0.002	mg/L
Arsenic	7440-38-2	0.01 (a)	0.01	mg/L
Barium	7440-39-3	2 (a)	0.02	mg/L
Beryllium	7440-41-7	0.004 (a)	0.004	mg/L
Cadmium	7440-43-9	0.005 (a)	0.002	mg/L
Chromium	7440-47-3	0.1 (a)	0.01	mg/L

Hazardous Constituent	CAS No. <sup>1</sup>	Maximum Concentration Limit	Maximum Method Detection Limit <sup>2</sup>	Unit <sup>3</sup>
Cobalt	7440-48-4	1 (b)	0.01	mg/L
Copper	7440-50-8	1.3 (a)	0.06	mg/L
Lead	7439-92-1	0.015 (a)	0.005	mg/L
Manganese	7439-96-5	0.05 (b)	0.03	mg/L
Nickel	7440-02-0	0.1 (b)	0.04	mg/L
Thallium	7440-28-0	0.002(a)	0.002	mg/L
Vanadium	7440-62-2	0.086 (c)	0.01	mg/L
Zinc	7440-66-6	5 (b)	0.02	mg/L
<b>Organochlorine Pesticides</b>				
Aldrin	309-00-2	0.00013 (b)	0.05	µg/L
DDD, 4,4-	72-54-8	0.00083 (b)	0.05	µg/L
Endosulfan I	959-98-8	100 (c)	0.05	µg/L
Endrin	72-20-8	2 (a)	0.1	µg/L
Heptachlor	76-44-8	0.4 (a)	0.05	µg/L
Lindane	58-89-9	0.2 (a)	0.1	µg/L
Methoxychlor	72-43-5	40 (a)	2	µg/L
Toxaphene	8001-35-2	3 (a)	2	µg/L
<b>Organophosphorus Pesticides</b>				
Demeton total	126-75-0	0.42 (c)	0.4	µg/L
Naled	300-76-5	40 (c)	0.5	µg/L
Phorate	298-02-2	3 (c)	1	µg/L
Tetrachlorvinphos	961-11-5	2.8 (c)	1	µg/L
<b>Semi-Volatile Organic Compounds</b>				
Bis(2-ethylhexyl) Phthalate	117-81-7	6 (a)	10	µg/L
Chloro-3-Methylphenol, 4-	59-50-7	1,400 (c)	20	µg/L
Chlorophenol, 2-	95-57-8	0.1 (b)	10	µg/L
Dichlorophenol, 2,4-	120-83-2	93 (b)	10	µg/L
Dichlorophenol, 2,6-	87-65-0	-- **	10	µg/L

Hazardous Constituent	CAS No. <sup>1</sup>	Maximum Concentration Limit	Maximum Method Detection Limit <sup>2</sup>	Unit <sup>3</sup>
Diethyl Phthalate	84-66-2	23,000 (b)	10	µg/L
Disulfoton	298-04-4	0.3 (b)	10	µg/L
Methylnaphthalene, 2-	91-57-6	36 (c)	10	µg/L
Methylphenol, 2-	95-48-7	930 (c)	10	µg/L
Methylphenol, 3&4-	-- **	-- **	10	µg/L
Naphthalene	91-20-3	20 (b)	10	µg/L
Phenol	108-95-2	300 (b)	10	µg/L
Trichlorophenol, 2,4,5-	95-95-4	2,600 (b)	10	µg/L
Trichlorophenol, 2,4,6-	88-06-2	2 (b)	10	µg/L
Triethylphosphorothiolate, o,o,o-	126-68-1	0.0269 (d)	10	µg/L
<b>Volatile Organic Compounds</b>				
Acetone	67-64-1	14,000 (c)	50	µg/L
Benzene	71-43-2	5 (a)	5	µg/L
Bromodichloromethane	75-27-4	80 (a)	5	µg/L
Bromoform	75-25-2	80 (a)	5	µg/L
Bromomethane	74-83-9	48 (b)	10	µg/L
Butanone, 2-	78-93-3	5,600 (c)	100	µg/L
Carbon Disulfide	75-15-0	810 (c)	5	µg/L
Carbon Tetrachloride	56-23-5	5 (a)	5	µg/L
Chlorobenzene	108-90-7	100 (a)	5	µg/L
Chloroethane	75-00-3	21,000 (c)	10	µg/L
Chloroform	67-66-3	5.7 (b)	5	µg/L
Chloroethylvinyl ether, 2-	110-75-8	-- **	100	µg/L
Chloromethane	74-87-3	5 (b)	5	µg/L
Dibromochloromethane	124-48-1	80 (a)	5	µg/L
Dichlorodifluoromethane	75-71-8	200 (c)	5	µg/L
Dichloroethane, 1,1-	75-34-3	2.8 (c)	5	µg/L
Dichloroethane, 1,2-	107-06-2	5 (a)	5	µg/L

Hazardous Constituent	CAS No. <sup>1</sup>	Maximum Concentration Limit	Maximum Method Detection Limit <sup>2</sup>	Unit <sup>3</sup>
Dichloroethene, 1,1-	75-35-4	7 (a)	5	µg/L
Dichloroethene, cis-1,2-	156-59-2	70 (a)	5	µg/L
Dichloroethene, trans-1,2-	156-60-5	100 (a)	5	µg/L
Dichloropropane, 1,2-	78-87-5	5 (a)	5	µg/L
Dichloropropene, 1,3-	542-75-6	0.47 (c)	5	µg/L
Dioxane, 1,4-	123-91-1	0.46 (c)	100/3	µg/L
Ethylbenzene	100-41-4	700 (a)	5	µg/L
Methylene Chloride	75-09-2	5.0 (a)	5	µg/L
Methyl-2-pentanone, 4-	108-10-1	6,300 (c)	20	µg/L
Tetrachloroethane, 1,1,2,2-	79-34-5	0.17 (b)	1	µg/L
Tetrachloroethylene	127-18-4	5 (a)	5	µg/L
Toluene	108-88-3	1,000 (a)	5	µg/L
Trichloroethane, 1,1,1-	71-55-6	200 (a)	5	µg/L
Trichloroethane, 1,1,2-	79-00-5	5 (a)	5	µg/L
Trichloroethene	79-01-6	5 (a)	5	µg/L
Trichlorofluoromethane	75-69-4	2,000 (b)	10	µg/L
Vinyl Chloride	75-01-4	2 (a)	2	µg/L
Xylenes, total	1330-20-7	10,000 (a)	5	µg/L

1 Chemical Abstracts Service Registry Number.

2 Detection limit based on the lowest achievable practical quantitation limit available from the lower of Method Detection Limits (MDLs) contained in the latest version of the EPA publication, Test Methods for Evaluating Solid Waste- Physical/Chemical Methods (SW-846), or method specific detection limits routinely achieved by the Permittee's contract laboratory.

3 mg/L - milligrams per liter, µg/L - micrograms per liter

\* For the purpose of estimating equivalent concentrations of 2,3,7,8-TCDD to allow risk comparisons, toxicity equivalence factors (TEFs) of complex mixtures of chlorinated dibenzo-p-dioxins and dibenzofurans will be multiplied by the respective congener concentrations. The TEF values to be used should be obtained from the EPA publication, Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds (EPA/100/R 10/005), December 2010, or the latest revision of this document.

\*\* No values assigned.

(a) Denotes limits derived from National Primary Drinking Water Regulations.

(b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031, dated January 29, 2014) for protection of groundwater.

- (c) Denotes limits derived from risk-based concentration values for tap water as contained in EPA Regional Screening Level Tables, dated May 2016.
- (d) Denotes limits derived from the Missouri Risk-Based Corrective Action Table B-1 Lowest Default Target Levels for all soil types and all pathways, dated April 2006 with updates published in June 2006 and June 2008.

B. Point of Compliance [40 CFR 264.95]

The point of compliance is defined as “a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.” For the purposes of this Permit, the waste management area is described by an imaginary line circumscribing the closed landfill. Groundwater contamination at and beyond the point of compliance that exceeds the previously established risk-based ACLs shall be subject to corrective action pursuant to 40 CFR 264.100. The point of compliance is defined by the following wells:

- Soil Zone Wells: P-02L, P-03L, P-05AL, P-10L, and P-11L.
- Winterset Limestone Wells: P-02AW, P-03W, P-10W, and P-11W.
- Bethany Falls Wells: P-02F, P-03F, P-05AF, P-10F, P-11F, and P-13F.
- Middle Creek Limestone Wells: GWM-03MCL, and GMW-11MCL.
- Ladore Upper Sandstone Wells: GWM-03LUS, GWM-04LUS, and GMW-11LUS.
- Ladore Lower Sandstone Wells: GW-03LLS, GWM-04LLS, GMW-11LLS, P-21LLS, P-22LLS, and P-23LLS.

Should the Permittee’s ongoing groundwater monitoring program indicate that the above sampling points do not adequately monitor groundwater at and beyond the point of compliance, the Permittee shall propose a permit modification in accordance with 40 CFR 270.42, to install or establish new compliance monitoring points and/or exclude existing compliance monitoring points.

C. Compliance Period [40 CFR 264.96]

The compliance period for the closed landfill is the number of years equal to the active life of the waste management area, including any waste management activity prior to permitting, and the closure period. The hazardous waste portion

of Missouri City Landfill started accepting waste in 1972. The Department accepted the closure certification in 1988. Therefore, the original compliance period was 16 years.

The compliance period began when the Permittee initiated a compliance monitoring program, no later than in 1985, with submission of Quarterly Groundwater Assessment Reports, meeting the requirements of 40 CFR 264.99. The compliance period was to expire in 2000; however, in 2000 and continuously since, the Permittee has been engaged in a groundwater corrective action program. If the Permittee is engaged in a corrective action program at the end of the compliance period, the compliance period is extended until the Permittee demonstrates the groundwater protection standards have not been exceeded for a period of three consecutive years.

D. General Groundwater Monitoring Requirements [40 CFR 264.97]

The Permittee shall comply with applicable sections of 40 CFR 264.97 for compliance and corrective action groundwater monitoring programs, as specified in 40 CFR 264.99, 40 CFR 264.100, and the following additional requirements.

1. The Permittee's groundwater monitoring systems shall be designed, installed, operated, and maintained during the compliance period in a manner that ensures:
  - a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination at and beyond the point of compliance, including beyond the facility property boundaries;
  - b. Determination of representative concentrations of hazardous constituents and contaminant plume indicator parameters in the groundwater, and
  - c. Determination of the effectiveness of any groundwater corrective action activities in terms of contaminant removal, destruction, and/or containment (plume stability).
2. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit to the Department for approval, a revised Sampling and Analysis Plan (SAP) to reflect any revised and additional requirements contained in this Permit. All SAP procedures and techniques used in

groundwater sampling, sampling frequency, analysis, and measurement of groundwater-related parameters shall be designed to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1) and this Permit. The Permittee's sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results. The Department shall review and approve the SAP according to the procedures described in Corrective Action Condition XVIII. of this Permit.

3. The Permittee shall retain a copy of the approved groundwater SAP with the local facility representative and/or at the facility and comply with the sampling and analysis procedures. The groundwater SAP shall describe sample collection, preservation, and shipment methodology; chain-of-custody procedures; and analytical methodology for field samples, trip blanks, and other quality control samples.
4. The number, location, and depth of the Permittee's monitoring wells shall be sufficient to define the horizontal and vertical extent of groundwater contamination beneath the Permittee's property and beyond the facility property boundaries. If, at any time during the compliance period, including any necessary extensions, the Permittee or the Department determines that the existing monitoring system fails to define the horizontal and vertical extent of groundwater contamination, the Permittee shall submit, within 30 calendar days of such determination by the Permittee or written notification by the Department, a proposal for the installation of additional monitoring wells to define such extent.

At such time as the Department determines that the Permittee has adequately redefined the horizontal and/or vertical extent of groundwater contamination, the wells defining such extent shall be incorporated into the groundwater monitoring system and designated for continued monitoring in the Permittee's SAP. The Department shall notify the Permittee in writing regarding this determination. Within 30 calendar days of receipt of this notification, the Permittee shall submit appropriate SAP revisions to the Department for review and approval.

5. Any new groundwater monitoring well(s) installed by the Permittee to meet the requirements of this Permit shall be designed and constructed according to the requirements of 40 CFR 264.97, applicable portions of the Missouri Well Construction Rules 10 CSR 23-1 through 10 CSR 23-4

(Monitoring Well Construction Code) and/or well-specific plans and specifications approved by the Department.

The Permittee shall submit to the Department, a copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for any new monitoring wells installed pursuant to this Permit. This information shall be reported as part of the Semi-Annual and Annual Corrective Action Reports, described in Corrective Action Condition XIV. of this Permit.

6. Plugging and abandonment of any groundwater monitoring well(s) operated by the Permittee pursuant to the requirements of this Permit shall meet the requirements of 10 CSR 23-4.080.
  - a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080, for any monitoring wells abandoned and plugged pursuant to this Permit. This information shall be reported as part of the Semi-Annual and Annual Corrective Action Reports, described in Corrective Action Condition XIV. of this Permit.
  - b. At such time as the Permittee's well registration has been accepted by the Department's Missouri Geology Survey (MGS), the plugged wells shall be removed from the Permittee's SAP. Within 30 calendar days of MGS' registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department for review and approval.
7. A Class 2 Permit Modification is required, in accordance with 40 CFR 270.42, for any change in the number, location, depth, or design of upgradient or downgradient groundwater monitoring wells of the facility groundwater monitoring system. Replacement of any well without changing the location, depth, or design of that well shall require a Class 1 Permit Modification without prior Director approval, in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual permit modification request to address these changes collectively in lieu of a modification for each individual change. Installation of additional investigation wells does not require a Class 2 Permit Modification. These

wells may be installed upon the Department's review and approval of associated work plans, according to the procedures described in Corrective Action Condition XVIII. of this Permit.

8. The Permittee shall contact the Department at least seven calendar days before conducting any field work associated with the construction or modification of the groundwater monitoring system or installation of any additional groundwater monitoring wells required by this Permit or approval hereunder. The Department shall then have the option of observing any part of this field work. This notification requirement applies to major work such as new wells, retrofitting of existing wells, or abandonment of wells. It does not apply to minor repairs, minor maintenance, or other minor changes.
9. A monitoring well inspection and maintenance program shall be implemented for the duration of groundwater monitoring conducted pursuant to this Permit. This program shall be designed to ensure the ongoing structural integrity of all monitoring well installations. The Permittee's revised SAP shall specify the details of this program relative to the following requirements.
  - a. Surface well integrity inspections shall be performed at the time of each sampling event and shall be documented on a well inspection log sheet. Surface integrity evaluations for each monitoring well shall include a visual inspection of the outer protective casing, inner casing riser, surface well seal, well cap, and locking mechanism, to document any damage or deterioration. The ground surface in the immediate vicinity of each monitoring well and the annular space between the outer protective casing and casing riser shall be inspected for visible anomalies (e.g., collection or ponding of water, ground subsidence, etc.).
  - b. Subsurface well integrity inspections shall be performed annually on all wells, according to the provisions contained in the Permittee's SAP, and shall be documented on a well inspection log sheet. Subsurface well integrity inspections may consist of a combination of elements, including total well depth measurements, groundwater turbidity measurements, in-situ hydraulic conductivity tests, casing caliper logs, down-hole television

camera surveys, and/or other methods capable of verifying the subsurface integrity of the well casing and screen.

- c. Wellbore siltation evaluations shall be conducted annually on all monitoring wells. The Permittee's SAP shall specify performance standards for this evaluation to assess down-well siltation and well screen occlusion in all monitoring wells. This evaluation shall be designed to ensure the representative nature of the Permittee's groundwater sample analysis and field measurement results through minimization of sampling and measurement interferences (e.g., turbidity, excessive well screen occlusion, etc.).

The Permittee's SAP shall specify a well redevelopment trigger criterion based on a percentage of well screen occlusion and the potential of such occlusion to compromise the representative nature of the Permittee's groundwater sample analysis and field measurement results. Wells demonstrating well screen occlusion equal to or in excess of the selected criterion shall be redeveloped before the next regularly scheduled sampling event.

- d. The Permittee shall perform well-specific surface and subsurface integrity inspections within seven calendar days following any naturally-occurring event (contact of wells by flood waters, tornado, etc.) or man-made event (vehicular contact, vandalism, etc.) that has the potential to compromise the structural integrity of the well.
- e. Monitoring well repairs shall be completed within 60 calendar days of identifying any surface or subsurface well integrity problem(s). If adverse weather or site conditions preclude the Permittee from gaining access to and/or repairing flood-impacted monitoring wells within 60 calendar days, then the Permittee shall take appropriate action as soon as possible. A written justification for any delay, completed well inspection log sheets, a narrative description of any well repairs, and before and after repair photographic documentation (in the case of visible surface well repairs) shall be provided to the Department as part of the Semi-Annual and Annual Corrective Action Reports, as described in Corrective Action Condition XIV. of this Permit.

E. Corrective Action Program [40 CFR 264.100]

The facility is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit, until such time as these regulatory and permit requirements have been satisfied.

1. The Permittee's corrective action program for the closed landfill shall consist of groundwater and surface water monitoring according to Special Permit Conditions III. and IV. of this Permit. Any further investigation, evaluation, and/or implementation of remedial alternatives necessary to address facility-wide groundwater contamination shall be in accordance with Corrective Action Conditions V. through X. of this Permit. The corrective action program shall address any groundwater contamination that has migrated beyond the facility property boundaries. The corrective action program is based on:
  - a. The inability to differentiate groundwater contamination related to releases from the individual closed landfill cells versus that potentially related to nearby SWMUs and AOCs, which are subject to corrective action according to 40 CFR 264.101.
  - b. The use of ongoing risk-based groundwater calculations to be used as a "trigger" for additional investigation, evaluation and/or implementation of additional groundwater remedial or interim/stabilization measures.
  - c. The desirability of implementing a holistic, facility-wide approach to groundwater investigation, monitoring, and remediation given the foregoing circumstances.
2. The Permittee shall perform groundwater sampling and analysis and field measurement of groundwater-related parameters to monitor releases at the facility according to the schedule presented in Table 2.
  - a. Sampling and analysis in accordance with this schedule shall begin during the next regularly scheduled sampling event following approval of the revised SAP required by Special Permit Condition III.E.2. of this Permit. Given the potential lag time between the effective date of this Permit and approval of the revised SAP, the Permittee shall continue sampling and analysis

according to the latest version of the approved SAP, until such time as the revised SAP is approved.

- b. Sampling and analysis of groundwater from any newly-installed well(s) required by 40 CFR Part 264 Subpart F or this Permit shall be performed no later than the next regularly scheduled sampling event following their installation and according to the latest version of the approved SAP.
  - c. Groundwater samples from wells monitored to ensure adequate delineation of the horizontal and vertical extent of groundwater contamination (hereafter referred to as investigation wells) shall be analyzed semi-annually according to Table 2.
  - d. Specific perimeter wells to be monitored shall be specified in the Permittee's revised SAP required by Special Permit Condition III.E.2. of this Permit.
  - e. Installation of additional perimeter wells during the compliance period, including any extensions, may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table 2. The addition of new perimeter wells to the groundwater monitoring system is subject to the permit modification procedures outlined in Special Permit Condition III.D.7. of this Permit.
  - f. Any future changes to the list of perimeter wells established as part of the groundwater monitoring well network shall be approved, in writing, by the Department. Within 30 calendar days of installation and development of the wells, the Permittee shall submit SAP revisions to incorporate the approved changes.
3. Wells monitored to assess the effectiveness of the Permittee's corrective action program (hereafter referred to as effectiveness wells) shall be sampled and the samples analyzed annually, according to Table 2.

- a. Specific effectiveness wells to be monitored shall be specified in the Permittee's SAP required by Special Permit Condition III.E.2. of this Permit.
  - b. Installation of additional effectiveness wells during the term of this Permit, including any continuation or reissuance, may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table 2. Installation of effectiveness wells does not require a permit modification, but does require prior approval from the Department.
  - c. Any future proposal(s) by the Permittee to install additional effectiveness wells as a result of the ongoing risk-based groundwater calculations shall be approved, in writing, by the Department prior to well installation.
4. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table 2, with the exception of duplicate samples taken for Quality Assurance (QA)/Quality Control (QC) purposes.
  5. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
    - a. Down-well measurement of non-aqueous phase liquid thickness, static water level, and total well depth shall be taken before well purging.
    - b. Specific conductance, pH, and temperature measurements reported to the Department shall be those taken upon stabilization of these parameters during well purging. Any additional field parameter measurements shall be recorded in the field logbook.
  6. Within one year before the second year of this Permit, the Permittee shall sample and analyze groundwater from three historically contaminated wells and one surface water location for all parameters contained in Appendix IX of 40 CFR Part 264, as specified in Table 2.

- a. The wells and one surface water location sampled to meet this requirement are left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination, one well containing moderate levels of dissolved phase contamination, and one well demonstrating the presence of free phase contamination. The sample to be analyzed from the free phase contaminated well shall be the groundwater (aqueous phase), not the non-aqueous phase liquid.
- b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR Part 261, Appendix VIII) or contamination indicator parameters are present in the groundwater that may be attributable to a release(s) at the facility or degradation of currently known hazardous constituents.
- c. If hazardous constituents and/or contamination indicator parameters are identified in the groundwater, which are not currently specified in the Table 1 constituent list, the Permittee may resample the groundwater, according to 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 Permit Modification with prior Director's approval, in accordance with 40 CFR 270.42, to add the confirmed hazardous constituent(s) or contamination indicator parameter(s) to the list of constituents specified in Table 1 and the monitoring program schedule specified in Table 2 if the constituent/indicator is not already covered by the analysis methods specified in the footnotes to Table 2.
- d. The Permittee may submit a proposal to modify the above Appendix IX testing program, including, but not limited to, the number of wells sampled, the frequency of the sampling, and/or the suite of chemicals being analyzed in association with this Appendix IX testing requirement. Any modified Appendix IX testing program shall be proposed through submission of a revised Groundwater SAP. The proposed modified Appendix IX testing program shall be reviewed and approved according to the procedures described in Corrective Action Condition XVIII. of this

Permit. The modified Appendix IX testing program shall be implemented only after Departmental approval.

- e. The Permittee shall use the Toxicity Equivalence Factor (TEF) method, as defined in the Table 1 footnotes, in the evaluation of analytical results for dioxins in groundwater. The methodology for this approach shall be specified in the Permittee’s revised SAP required by Special Permit Condition III.E.2. of this Permit.

**Table 2 - Groundwater Monitoring, Sampling, Analysis, and Parameter Measurement Schedule**

Parameters	CAS No. <sup>(a)</sup>	Maximum Method Detection Limit <sup>(b)</sup>	Frequency
Appendix IX <sup>(1)</sup>		PQLs <sup>(c)</sup> per SW-846 <sup>(2)</sup>	Biennially
Field Parameters			
pH	Not Applicable	Not Applicable	Semi-annually
Specific Conductance	Not Applicable	Not Applicable	Semi-annually
Temperature	Not Applicable	Not Applicable	Semi-annually
Static Groundwater Elevation <sup>(3)</sup>	Not Applicable	Not Applicable	Semi-annually
Turbidity	Not Applicable	Not Applicable	Semi-annually
Total Well Depth	Not Applicable	Not Applicable	Annually
Chlorinated Herbicides <sup>(4)</sup>			
D, 2,4-	94-75-7	Per Table 1*	Semi-annually
Dicamba	1918-00-9	Per Table 1*	Semi-annually
MCPA	94-74-6	Per Table 1*	Semi-annually
MCPP	93-65-2	Per Table 1*	Semi-annually
T, 2,4,5-	93-76-5	Per Table 1*	Semi-annually
TP, 2,4,5-	93-72-1	Per Table 1*	Semi-annually
Dioxin/Furan Compounds <sup>(5)</sup>			
TCDD, 2,3,7,8-	1746-01-6	Per Table 1*	Annually
Tetrachlorodibenzo-p-dioxin equivalents, 2,3,7,8-	1746-01-6	Per Table 1*	Annually
Inorganics			
Cyanide <sup>(6)</sup>	57-12-5	Per Table 1*	Annually
Sulfide <sup>(7)</sup>	18496-25-8	Per Table 1*	Semi-annually
Metals <sup>(8)</sup>			
Antimony	7440-36-0	Per Table 1*	Semi-annually

Parameters	CAS No. <sup>(a)</sup>	Maximum Method Detection Limit <sup>(b)</sup>	Frequency
Arsenic	7440-38-2	Per Table 1*	Semi-annually
Barium	7440-39-3	Per Table 1*	Semi-annually
Beryllium	7440-41-7	Per Table 1*	Semi-annually
Cadmium	7440-43-9	Per Table 1*	Semi-annually
Chromium	7440-47-3	Per Table 1*	Semi-annually
Cobalt	7440-48-4	Per Table 1*	Semi-annually
Copper	7440-50-8	Per Table 1*	Semi-annually
Lead	7439-92-1	Per Table 1*	Semi-annually
Manganese	7439-96-5	Per Table 1*	Semi-annually
Nickel	7440-02-0	Per Table 1*	Semi-annually
Thallium	7440-28-0	Per Table 1*	Semi-annually
Vanadium	7440-62-2	Per Table 1*	Semi-annually
Zinc	7440-66-6	Per Table 1*	Semi-annually
<b>Organochlorine Pesticides<sup>(9)</sup></b>			
Aldrin	309-00-2	Per Table 1*	Semi-annually
DDD, 4,4-	72-54-8	Per Table 1*	Semi-annually
Endosulfan I	959-98-8	Per Table 1*	Semi-annually
Endrin	72-20-8	Per Table 1*	Semi-annually
Heptachlor	76-44-8	Per Table 1*	Semi-annually
Lindane	58-89-9	Per Table 1*	Semi-annually
Methoxychlor	72-43-5	Per Table 1*	Semi-annually
Toxaphene	8001-35-2	Per Table 1*	Semi-annually
<b>Organophosphorus Pesticides<sup>(10)</sup></b>			
Demeton total	126-75-0	Per Table 1*	Semi-annually
Naled	300-76-5	Per Table 1*	Semi-annually
Phorate	298-02-2	Per Table 1*	Semi-annually
Tetrachlorvinphos	961-11-5	Per Table 1*	Semi-annually
<b>Semi-Volatile Organic Compounds<sup>(11)</sup></b>			
Bis(2-ethylhexyl) Phthalate	117-81-7	Per Table 1*	Semi-annually
Chloro-3-Methylphenol, 4-	59-50-7	Per Table 1*	Semi-annually
Chlorophenol, 2-	95-57-8	Per Table 1*	Semi-annually
Dichlorophenol, 2,4-	120-83-2	Per Table 1*	Semi-annually
Dichlorophenol, 2,6-	87-65-0	Per Table 1*	Semi-annually

Parameters	CAS No. <sup>(a)</sup>	Maximum Method Detection Limit <sup>(b)</sup>	Frequency
Diethyl Phthalate	84-66-2	Per Table 1*	Semi-annually
Disulfoton	298-04-4	Per Table 1*	Semi-annually
Methylnaphthalene, 2-	91-57-6	Per Table 1*	Semi-annually
Methylphenol, 2-	95-48-7	Per Table 1*	Semi-annually
Methylphenol, 3&4-	--**	Per Table 1*	Semi-annually
Naphthalene	91-20-3	Per Table 1*	Semi-annually
Phenol	108-95-2	Per Table 1*	Semi-annually
Trichlorophenol, 2,4,5-	95-95-4	Per Table 1*	Semi-annually
Trichlorophenol, 2,4,6-	88-06-2	Per Table 1*	Semi-annually
Triethylphosphorothiolate, o,o,o-	126-68-1	Per Table 1*	Semi-annually
Volatile Organic Compounds <sup>(12)</sup>			
Acetone	67-64-1	Per Table 1*	Semi-annually
Benzene	71-43-2	Per Table 1*	Semi-annually
Bromodichloromethane	75-27-4	Per Table 1*	Semi-annually
Bromoform	75-25-2	Per Table 1*	Semi-annually
Bromomethane	74-83-9	Per Table 1*	Semi-annually
Butanone, 2-	78-93-3	Per Table 1*	Semi-annually
Carbon Disulfide	75-15-0	Per Table 1*	Semi-annually
Carbon Tetrachloride	56-23-5	Per Table 1*	Semi-annually
Chlorobenzene	108-90-7	Per Table 1*	Semi-annually
Chloroethane	75-00-3	Per Table 1*	Semi-annually
Chloroform	67-66-3	Per Table 1*	Semi-annually
Chloroethylvinyl ether, 2-	110-75-8	Per Table 1*	Semi-annually
Chloromethane	74-87-3	Per Table 1*	Semi-annually
Dibromochloromethane	124-48-1	Per Table 1*	Semi-annually
Dichlorodifluoromethane	75-71-8	Per Table 1*	Semi-annually
Dichloroethane, 1,1-	75-34-3	Per Table 1*	Semi-annually
Dichloroethane, 1,2-	107-06-2	Per Table 1*	Semi-annually
Dichloroethene, 1,1-	75-35-4	Per Table 1*	Semi-annually
Dichloroethene, cis-1,2-	156-59-2	Per Table 1*	Semi-annually
Dichloroethene, trans-1,2-	156-60-5	Per Table 1*	Semi-annually
Dichloropropane, 1,2-	78-87-5	Per Table 1*	Semi-annually
Dichloropropene, 1,3-	542-75-6	Per Table 1*	Semi-annually
Dioxane, 1,4- ***	123-91-1	Per Table 1*	Semi-annually
Ethylbenzene	100-41-4	Per Table 1*	Semi-annually
Methylene Chloride	75-09-2	Per Table 1*	Semi-annually
Methyl-2-pentanone, 4-	108-10-1	Per Table 1*	Semi-annually

Parameters	CAS No. <sup>(a)</sup>	Maximum Method Detection Limit <sup>(b)</sup>	Frequency
Tetrachloroethane, 1,1,2,2-	79-34-5	Per Table 1*	Semi-annually
Tetrachloroethylene	127-18-4	Per Table 1*	Semi-annually
Toluene	108-88-3	Per Table 1*	Semi-annually
Trichloroethane, 1,1,1-	71-55-6	Per Table 1*	Semi-annually
Trichloroethane, 1,1,2-	79-00-5	Per Table 1*	Semi-annually
Trichloroethene	79-01-6	Per Table 1*	Semi-annually
Trichlorofluoromethane	75-69-4	Per Table 1*	Semi-annually
Vinyl Chloride	75-01-4	Per Table 1*	Semi-annually
Xylenes, total	1330-20-7	Per Table 1*	Semi-annually

- (a) CAS = Chemical Abstracts Service Registry Number.
- (b) Detection limit based on the lowest achievable practical quantitation limit available from the lower of Method Detection Limits (MDLs) contained in the latest version of the EPA publication, Test Methods for Evaluating Solid Waste- Physical/Chemical Methods (SW-846), or method specific detection limits routinely achieved by the Permittee’s contract laboratory.
- (c) PQL = Practical Quantification Limit.
- \* Maximum Method Detection Limit (MDL) reported from the Permittee’s laboratory.
- \*\* No values assigned.
- \*\*\* EPA SW-846 Method 8260 and/or 8270C Selective Ion Monitoring or equivalent.
- (1) Appendix IX. (40 CFR 264) on samples collected from three wells and one surface water location only or an alternate number of wells and surface water location if approved by the Department.
  - (2) Current EPA SW-846 versions at time of sampling.
  - (3) Potentiometric measurements shall be obtained at the time of each regularly scheduled sampling event from all monitoring wells at the facility, including those which are not being sampled regularly. Elevations shall be measured to the nearest 0.01 foot.
  - (4) EPA SW-846 Method 8151A or equivalent.
  - (5) EPA SW-846 Method 8280A or 8290 or equivalent.
  - (6) EPA SW-846 Method 9012B or equivalent.
  - (7) EPA SW-846 Method 9034 or equivalent.
  - (8) EPA SW-846 Method 6010B or 6020 for total metals.
  - (9) EPA SW-846 Method 8081 or equivalent.
  - (10) EPA SW-846 Method 8141A or equivalent.
  - (11) EPA SW-846 Method 8270C or equivalent.
  - (12) EPA SW-846 Method 8260B or equivalent.

IV. Surface Water Monitoring [10 CSR 25-7.270(1)]

- A. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit to the Department for approval, revisions to the surface water monitoring program to reflect any modifications contained in this Permit and the requirements of 10 CSR 25-7.270(1). Surface water monitoring shall continue throughout the life of the permit, including any extensions, or until such time as

the Permittee makes a successful demonstration for exemption from these requirements. Compliance with this monitoring program is for the purposes of this Permit only and does not relieve the Permittee of the obligation to comply with any other federal, state, or local water monitoring requirements. The Permittee's surface water monitoring program shall be performed as described in the approved permit application, this Permit, and the approved SAP.

1. The Permittee's surface water monitoring program shall be incorporated directly into, and be submitted as part of, the groundwater SAP required by Special Permit Condition III.E.2. of this Permit.
  2. The Permittee's surface water sampling locations shall be sufficient to yield representative data on background and downgradient surface water quality and shall be depicted in the SAP. Sampling and analysis methods for hazardous constituents shall be consistent with those specified in Tables 1 and 2.
  3. The Permittee shall perform surface water sampling on a schedule consistent with the Permittee's state operating permit and the approved SAP.
  4. Reporting and analysis of data and information collected as part of the surface water monitoring program shall be sufficient to ensure that the requirements of this Permit are met, and shall be included as part of the Semi-Annual and Annual Corrective Action Reports, as defined in Corrective Action Condition XIV. of this Permit. In addition to other reporting requirements for the surface water monitoring program, the Permittee shall include with the Semi-Annual and Annual Corrective Action Reports a discussion of any exceedances of the effluent limits in the Missouri State Operating Permit.
- B. The Permittee may, at any time during the life of this Permit, including any extensions, make a demonstration to the Department for a surface water monitoring exemption. A successful demonstration for such an exemption shall, at a minimum, address the elements of 40 CFR 264.94(b), as applied to potentially affected surface water bodies. This demonstration shall be certified by a geologist or professional engineer registered in Missouri. Any proposed surface water monitoring exemption shall necessitate a permit modification, according to 40 CFR 270.42. If the modification is approved, the Permittee shall submit for Department's approval a revised SAP to reflect the changed conditions. In

addition, any exemption shall not affect any obligation on the part of the Permittee to apply for and obtain a Missouri State Operating Permit from the Department's Clean Water Commission and Water Protection Program for discharges to waters of the State.

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## **CORRECTIVE ACTION CONDITIONS**

The Permittee shall comply with all applicable post-closure care, groundwater monitoring, surface water monitoring, and corrective action requirements contained in 40 CFR Part 264 Subparts F and G, as incorporated by reference in 10 CSR 25-7.264(1), and all provisions of this Permit and previously-approved plans, for the closed landfill, and all previously- and any newly-identified SWMUs, AOCs, and releases identified pursuant to the provisions of this Permit.

### **I. Identification of SWMUs and AOCs [40 CFR 264.101]**

A. On January 3, 1989, the Permittee and EPA entered into an Administrative Order on Consent, Docket No. VII-88-H-0024, which required a RCRA Facility Investigation and Corrective Measures Study. In March 1989, EPA conducted a RCRA Facility Assessment (RFA) to identify and gather information on releases or potential releases from SWMUs and AOCs at the facility. The RFA report identified the following 16 SWMUs and 5 AOCs. Figure 3 shows the approximate locations of the SWMUs and AOCs at the facility. The SWMUs and AOCs identified in the RFI report are as follows:

#### **1. Sanitary Landfill (SWMU 1)**

Sanitary landfill operations began in 1972, near the southwest corner of the facility property. The landfill expanded in a northeasterly direction until operations were discontinued on September 9, 1983. The sanitary landfill accepted municipal wastes and certain industrial wastes, such as petroleum refining sludges, until 1974, after which the industrial wastes were segregated, processed, and disposed in separate on-property landfill cells. A total of 31 acres had been permitted for sanitary landfill operations; however, only approximately 15 acres were actually used for this purpose. The sanitary landfill did not include an engineered base liner. All portions of the sanitary landfill were covered with an average of three feet of soil, a multicomponent final cap, and vegetated in accordance with the closure requirements in the approved Closure Plan.

#### **2. Chemical Landfill (SWMU 2)**

The chemical landfill covered approximately 1.5 acres and operated from 1976 until its closure in July 1979. According to the facility's Closure and Post Closure Plans (1984 and 1986), the landfill was used to dispose bulk and containerized industrial solid and liquid and semi-solid hazardous wastes approved by the Department. The landfill was operated as an area

type fill, with individual cells segregated by berms on all sides. The chemical landfill liner consisted of a minimum 2-foot thickness of in-place, low-permeability soil overlain by 12 inches of sand and gravel containing a french drain at the lowest point for leachate collection. The sand and gravel layer was overlain by a minimum 2-foot thickness of re-compacted clay. Daily cover consisted of a minimum of 12 inches of compacted soil. The final cover consisted of an average of 24 inches of compacted clay with an average of one foot of topsoil to support vegetation. At final closure, a multicomponent final cap was installed over the chemical landfill, in accordance with the requirements in the approved Closure Plan.

3. Sludge Drying Beds (SWMU 3)

Three sludge drying beds were operated from September 1977 to September 1978, on top of the southeast corner of the sanitary landfill. The beds were used to separate solids from bulk liquid sludges consisting of nonhazardous bio-treater waste from a Kansas City, Kansas refinery. The beds were each 24 feet by 50 feet in dimension, with a base of 4 to 10 feet of re-compacted clay. The base was overlain by 30-mil Hypalon synthetic liner and a 1-foot thick sand layer. A 6-inch non-perforated pipe/french drain was installed 6 feet below the top of clay in order to transfer liquids from the drying beds to the Chemical Processing Center for treatment. During active operations, the filtered solids were placed in the sludge trenches and the filtrate drained to the liquid reception area for LiqWaCon™ treatment. At closure, the sludge drying beds were capped with a minimum of two feet of compacted clay graded for optimum drainage, and vegetated to minimize erosion. Concrete slurry was pumped into the under-drain system to seal the piping and sump. At final closure, a multicomponent final cap was installed over the chemical landfill, in accordance with the requirements in the approved Closure Plan.

4. Sludge Trench 1 (SWMU 4), Sludge Trench 2 (SWMU 5), Sludge Trench A (SWMU 7), Sludge Trench C (SWMU 8), Sludge Trench D (SWMU 9), and Sludge Trench E (SWMU 10)

Sludge Trenches 1, 2, A, C, D, and E were used to dispose industrial sludges that were approved for receipt on an individual basis by the Department. Sludge Trench B never existed. These SWMUs were closed in accordance with the requirements in the approved Closure Plan,

including covering with a multicomponent final cap. With the exception of Sludge Trenches A and C, these SWMUs were constructed with leachate collection systems.

5. Sludge Trench 3 (SWMU 6)

Sludge Trench 3 was used to dispose manganese dioxide, which was/is considered a non-hazardous waste. Manganese dioxide is not a listed hazardous waste nor does it meet the characteristics pursuant to 40 CFR Part 261. This SWMU was closed in the same manner as the other sludge trenches. Sludge Trench 3 was not constructed with a leachate collection system.

6. Chemical Processing Center (SWMU 11)

The Chemical Processing Center (CPC), also known as the Liquid Reception Center, consisted of a tank farm, three clay-lined surface impoundments, and two LiqWaCon™ processing units. The tank farm was comprised of three 8,700-gallon railroad tank cars, two 10,000-gallon upright tanks, and four 6,000-gallon concrete open tanks. Bulk liquid sludges were unloaded from the tank trucks and stored in the tanks and surface impoundments prior to the LiqWaCon™ processing. The surface impoundments were constructed with compacted clay liners and leachate collection systems. During final closure, the CPC was decommissioned and the impoundments were backfilled with uncontaminated on-property soil and covered with a multicomponent low-permeability final cap.

7. Old Gelatin Basin (SWMU 12) and New Gelatin Basin (SWMU 13)

From July 1979 to November 1980, wastes fixed by the LiqWaCon™ process were disposed in Gelation Basin No. 1 (Old Gelation Basin), located on top of the eastern third of the closed chemical landfill. The bottom liner of this basin was constructed of compacted clay. In December 1980, Gelation Basin No. 2 (New Gelation Basin) was opened directly east of Gelation Basin No. 1 and bordered on the north by sludge Trench A. Gelation Basin No. 2 was constructed with a compacted clay liner in the bottom of the cell. When the LiqWaCon™ treated material was processed, the resulting residue was pumped from the LiqWaCon™ treatment unit as a slurry. A specially prepared sluiceway directed the flow of the treated material to the gelation basins where the waste would

spread out, layer on layer of thin waste deposits. The treated residue would solidify completely within 2 to 3 weeks after treatment. At final closure, both gelation basins were equipped with consolidation fluid collection systems and covered with a multicomponent final cap.

8. Storm Water Retention Pond (SWMU 14)

On June 9, 1982, the Department notified BFINA that leaving accumulated rainwater in the LiqWaCon™ gelation basin was not within the boundaries of the permit granted by the agency. In order to address this issue, a storm water retention basin was constructed between Gelation Basins 1 and 2. Rainwater from the gelation basins was collected in the storm water retention pond and shipped to the Rock Creek Wastewater Treatment facility where it was accepted for treatment. The storm water retention pond was originally designed to contain 2,790,000 gallons of rainwater. At final closure, the basin was backfilled with on-property uncontaminated soil and covered with a multicomponent, low-permeability final cap.

9. Wastewater Treatment Pond (SWMU 15)

The wastewater treatment pond, also known as Shelton's Pond, was a small oxidation pond installed south of Trench D in July 1981. The pond was used to collect contaminated groundwater emanating from a hand-dug cistern by separating the floating oil and removing the trace volatile organics dissolved in the water. The wastewater treatment pond used the hand-dug cistern as the collection point, which discharged into the inlet structure to the pond. A baffle separated the oil trapped in the inlet structure and let the water flow to the pond. An outlet structure served as the discharge into the southern-most ravine exiting the property to the east. At closure, all waste and contaminated soil were removed from the pond. The pond was backfilled with uncontaminated soil and covered with a multicomponent final cap.

10. Methane Gas Collection System (SWMU 16)

During closure, passive gas collection systems were installed in the final cover for the sanitary landfill. These systems consisted of vents installed in collection grids. In April 1988, an active gas extraction system became operational. The vents located in the former sanitary landfill were plugged

to prevent air intrusion. The active gas extraction system consists of a total of 23 wells, 3 of which are located inside the sanitary landfill. After one month of operation, methane was no longer detected in the gas monitoring probes. In 2003, the active gas extraction system was taken out of service due to the lack of methane necessary to operate the candlestick flare. The system is currently operational.

11. Seep 1 (AOC 1)

Seep 1 was located at the northern toe of the sanitary landfill. During a facility visit by EPA and the Department on November 6, 1986, the water from this seep appeared slightly discolored with an oily sheen on the surface. On December 19, 1986, this seep was observed to flow continuously, exhibiting an average flow rate of approximately 6 gallons per hour. Sampling of this seep was performed as part of BFI's second quarter 1987 groundwater assessment. There was no organic or inorganic contamination found in this seep at that time. This seep location was eliminated during the September 1991 site maintenance activities. The groundwater coming from this location is collected in a culvert and carried through a pipe to a small collection area. This groundwater is monitored through the sampling of seep 12 (SS-12). Seep SS-12 is currently addressed by an interim measure, which includes collecting the water from seep SS-12 and pumping it to on-site above ground storage tanks.

12. Seep 2 (AOC 2)

Seep 2 is located in the drainage channel directly north of the sanitary landfill. During a facility visit by EPA and the Department on November 6, 1986, the water from this seep was observed to be black in color with an oily sheen on the surface. During the second quarter of 1987, samples showed the following organic compounds to be present: vinyl chloride, chloroethane, 1,1-dichloroethane, trans-1,2-dichloroethylene, 1,2-dichloroethane, and trichloroethylene ranging from 12 to 47 micrograms per liter. Seep SS-2 was added to the facility's monitoring program. This AOC is being addressed by an interim measure, which includes collecting the water from seep SS-2 and pumping it to on-site above ground storage tanks.

13. Seep 3 (AOC 3)

Seep 3 is located in the ravine east of the New Gelation Basin (SWMU 13). During a facility visit by EPA and the Department on November 6, 1986, the water from this seep was observed as slightly discolored with an oily sheen on the surface. On December 19, 1986, this seep had a flow rate of approximately 30 gallons per hour, but was reported to flow only during periods of wet weather. Sampling of this seep was conducted as part of BFI's second quarter 1987 groundwater assessment. There was no organic or inorganic contamination found in this seep. This seep is not accessible due to the stream collapse in the area where the letdown structure discharges; therefore, a stream sample is collected downgradient of the stream collapse (surface water sampling location S-8). An investigation of the upgradient area adjacent to the landfill is ongoing. An Interim Measure is anticipated to address surface water location S-8.

14. Ravine Bordering Southeast Corner of Facility (AOC 4)

In 1986, BFI sampled soil and sediment from nine points in the ravine that borders the southeast corner of the facility property. Samples were taken in areas where soils/sediments had been stained from seeps discharging into the ravine from the north bank of the ravine. Analytical results showed detections of organic and inorganic constituents. In the second quarter of 2010, the presence of non-aqueous phase liquid was identified in the basal scour pools in the ravine (intermittent stream). A groundwater investigation was performed between the disposal cells and the stream, which led to the installation of a groundwater interceptor trench and a stream bank interceptor trench.

15. Access Road Soils (AOC 5)

According to specifications in BFI's approved closure plan (April 23, 1984), BFI sampled soils from 14 locations along the access road. Sampling results suggested the soils were impacted with volatile organic compounds associated with landfill gas migration. A landfill gas recovery system was installed to address these impacts, as well as landfill gas migration.

The RFA stated that because the Permittee had chosen to treat all SWMUs as one unit, and had completed a RCRA closure addressing the cells as

one unit, (collectively called the closed landfill), further characterization of individual SWMUs was not necessary at that time. This determination was based on information available for those SWMUs, and specified that in the event any additional information became available in the future to indicate the SWMU or groundwater conditions previously identified during the RFA underestimated the amount of contamination present, additional evaluation may be required.

- B. Based on EPA's approval of the RFI and Corrective Measures Study (CMS) Work Plan, approved February 11, 1992, and CMS Report, approved November 1, 1995, it was determined that the interim measures implemented at the facility at that time were protective of human health and the environment, and will serve as the approved Final Remedy. On April 5, 2001, EPA terminated their Administrative Order on Consent, Docket No. VII-88-H-0024, following issuance of the original Missouri Hazardous Waste Management Facility Part I and EPA Hazardous and Solid Waste Amendments Part II permits on December 19, 2000. The findings of the November 1, 1995, approved CMS Report are incorporated herein by reference.
- C. The information regarding the above SWMUs and AOCs is based on available information at the time of issuance of this Permit. In the event new information becomes available, indicating that human health or the environment may be adversely impacted, the Permittee may be required to conduct additional investigations and evaluations, as necessary, to determine the need for additional corrective action for the previously-identified SWMUs and AOCs or any newly-identified SWMUs and AOCs, including off-site release(s), as specified in Corrective Action Conditions V. and VI. of this Permit.
- D. The Permittee shall conduct additional investigation(s) and/or take corrective action as deemed appropriate by the Department for previously-identified SWMUs and AOCs or any newly-identified SWMUs and AOCs, including off-property release(s), demonstrating releases of hazardous waste or hazardous constituents to soil, surface water, sediment, groundwater, and/or air in excess of applicable regulatory thresholds, as specified in Corrective Action Conditions V. and VI. of this Permit. Any off-property impacts to surface water, soil/sediment, or groundwater shall be addressed to the extent that these media are impacted by releases to surface water, soil/sediment, or groundwater originating from SWMUs, AOCs or other releases on the facility property.

II. Notification Requirements for, and Assessment of, Newly-Identified SWMUs and AOCs

- A. The Permittee shall notify the Department and EPA, in writing, no later than 15 calendar days after discovery (e.g., visual observations, laboratory test results, or information not previously available) or after discovery should have been made, of any new SWMU(s) or AOC(s) identified after the issuance of this Permit.
- B. The Department may require the Permittee to conduct an investigation of any newly-identified SWMU(s) or AOC(s). The Department shall notify the Permittee, in writing, of this decision. Within 30 calendar days after receipt of the Department's request to conduct an investigation, the Permittee shall prepare and submit a SWMU/AOC Assessment Work Plan to the Department and EPA for review and approval. The SWMU/AOC Assessment Work Plan shall include, but not be limited to, the following:
1. A discussion of past hazardous wastes management practices related to the unit(s);
  2. A detailed investigation approach for surface and subsurface soils, surface water, groundwater, and air as necessary to:
    - a. Determine if a release of hazardous wastes or hazardous constituents has occurred or is occurring at the unit(s);
    - b. Yield reliable, representative samples and results;
    - c. Determine impacts or potential impacts to human health and the environment; and
    - d. Sufficiently assess all hazardous wastes and hazardous constituents related to the unit(s).
  3. A proposed schedule for implementing the SWMU/AOC Assessment Work Plan, which is predicated on the date of Departmental approval of the plan; and
  4. Identification of all data to be collected necessary to provide for a complete SWMU/AOC Assessment Report, as specified below.

- C. The Department shall review and approve the SWMU/AOC Assessment Work Plan according to the procedures described in Corrective Action Condition XVIII. of this Permit. The Permittee shall complete all activities described in the SWMU/AOC Assessment Work Plan according to the schedule contained in the approved plan.
- D. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained under the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU or AOC:
1. The location of the newly-identified SWMU or AOC in relation to other SWMU(s) and AOC(s);
  2. The type and function of the SWMU or AOC;
  3. The general dimensions, capacities, and structural description of the SWMU or AOC;
  4. The period during which the SWMU or AOC was operated;
  5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU or AOC, to the extent possible;
  6. The results of any sampling and analysis conducted;
  7. Past and present operating practices;
  8. Previous uses of the area occupied by the SWMU or AOC;
  9. Amounts of waste handled;
  10. Drainage areas and/or drainage patterns near the SWMU or AOC; and
  11. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the SWMU/AOC Assessment Report shall include a proposal for additional investigation or corrective action, as appropriate.

- E. The Department shall review and approve the SWMU/AOC Assessment Report according to the procedures described in Corrective Action Condition XVIII. of this Permit. Based on the findings of this report and any other available information, the Department shall determine the need for additional investigation, including interim/stabilization measures or a RCRA Facility Investigation (RFI), at specific unit(s) identified in the SWMU/AOC Assessment Report.
- F. If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a work plan for such investigations according to the applicable Corrective Action Conditions of this Permit. The Department shall review and approve any such work plan according to the procedures described in Corrective Action Condition XVIII. of this Permit. The Permittee shall complete all activities described in the work plan according to the schedule contained in the approved plan.

III. Notification Requirements for, and Assessment of, Newly-Identified Releases from Previously-Identified SWMUs and AOCs

- A. The Permittee shall notify the Department and EPA, in writing, no later than 15 calendar days after discovery (e.g., visual observations, laboratory test results, or information not previously available) or after discovery should have been made, of any newly-identified release(s) of hazardous wastes or hazardous constituents from any previously-identified SWMU(s) or AOC(s) discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit. The Department may examine the Facility's inspection records to determine if the Permittee should have known that a release occurred.
- B. The Department may require the Permittee to conduct an investigation of the newly-identified release(s). The Department shall notify the Permittee, in writing, of this decision. Within 30 calendar days after receipt of the Department's request to conduct an investigation, the Permittee shall prepare and submit a Newly-Identified Release Work Plan to the Department and EPA for review and approval. The Newly-Identified Release Work Plan shall include, but not be limited to, the following:
  - 1. A discussion of the hazardous waste/chemical management practices related to the release(s);

2. A detailed investigation approach for groundwater, land surface and subsurface soils, surface water, and air as necessary to:
    - a. Define the extent of the release area(s);
    - b. Yield reliable, representative samples and results;
    - c. Determine impacts or potential impacts to human health and the environment; and
    - d. Sufficiently assess all hazardous wastes and hazardous constituents related to the release(s).
  3. A proposed schedule for implementing the Newly-Identified Release Work Plan, which is predicated on the date of Departmental approval of the plan; and
  4. Identification of all data to be collected necessary to provide for a complete Newly-Identified Release Report, as specified below.
- C. The Department shall review and approve the Newly-Identified Release Work Plan according to the procedures described in Corrective Action Condition XVIII. of this Permit. The Permittee shall complete all activities described in the Newly-Identified Release Work Plan according to the schedule contained in the approved plan.
- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and discuss the information obtained under the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:
1. The location of the newly-identified release in relation to the SWMU(s) or AOC(s) under investigation and to any other SWMU(s) and AOC(s);
  2. The general dimensions of the release;
  3. The period during which the release is suspected to have occurred;

4. The physical and chemical properties of all wastes that have been determined to comprise the release;
  5. The results of any sampling and analysis conducted;
  6. Past and present operating practices near and at the location of the release;
  7. Previous uses of the area(s) occupied near and at the location of the release;
  8. Amounts of waste handled near and at the location of the release;
  9. Drainage areas and/or drainage patterns near and at the location of the release; and
  10. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the Newly-Identified Release Report shall include a proposal for additional investigation or corrective action, as appropriate.
- E. The Department shall review and approve the Newly-Identified Release Report according to the procedures described in Corrective Action Condition XVIII. of this Permit. Based on the findings of the report and any other available information, the Department shall determine the need for additional investigation, including interim/stabilization measures or an RFI, at specific releases(s) identified in the Newly-Identified Release Report.

IV. Interim/Stabilization Measures

- A. In addition to the closure activities undertaken at the facility, a number of interim/stabilization measures (ISMs) have been completed. The ISMs that have occurred since 2000 include: (i) excavation and reinstallation of the fluid collection trench and Sump 4; (ii) modifications and upgrades to Sump 3 and Sump 4; (iii) installation of three 30,000-gallon above ground storage tanks to store fluids from Sump 3 and Sump 4; (iv) conversion of the existing 5,250-gallon above ground storage tank to store fluids from Trench D; and (v) installation of a stream bank interceptor trench and new sump (Sump 5). Details of these ISMs are provided in Appendix A of the Annual Progress Report – Third and Fourth Quarters 2014 Groundwater Assessment Herst & Associates, Inc., February 2015. These ISMs have been completed to prevent migration of hazardous waste and

hazardous constituents into underlying groundwater, collect leachate and impacted groundwater emanating from the closed landfill, and collect non-aqueous phase liquid (NAPL) to mitigate the impact of contaminated groundwater to surface water. These ISMs were previously reviewed and approved by the Department and are consistent with the objectives of the final remedy implemented pursuant to the 1989 EPA Administrative Order on Consent, Docket No. VII-88-H-0024, and the 2000 MHWMF Part I Permit. These ISMs will continue under this Permit.

- B. The Permittee shall notify the Department and EPA within 24 hours after becoming aware or should have become aware of a situation that may require ISMs to protect human health or the environment. The Department may examine the Facility's inspection records to determine if the Permittee should have known that ISMs might be required and notification should have occurred.
- C. If, during the course of any activities initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous wastes or hazardous constituents poses a threat to human health or the environment, the Department may require ISMs to slow or stop the further spread of contamination until final corrective action measures are implemented. The Department shall determine the specific action(s) that shall be taken to implement ISMs, including potential permit modifications, and the schedule for implementing the ISMs. The Department shall notify the Permittee, in writing, of decisions regarding the action(s). This requirement shall not preclude the Permittee from responding to an emergency situation without direction from the Department.
- D. The Permittee shall notify the Department and EPA, in writing, no later than ten calendar days after determining or after a determination should have been made, that the ISMs are not effectively limiting or stopping the further spread of contamination. The Department may require the ISMs be revised to make them effective in limiting or stopping the spread of contamination, or require additional corrective measures to address the contaminated media.
- E. In cases where releases or potential releases present minimal exposure concerns and/or the remedial solution is relatively uncomplicated, the Permittee may propose ISMs to the Department for review and approval. These ISMs shall be consistent with and may supplement or satisfy the requirements for a final remedy(s) in specific areas. Proposed ISMs that are determined by the Department to be significant (e.g., those which are anticipated to make up a substantial part of the final remedy) may be subject to public review and comment

before final approval by the Department. Proposed ISMs that are determined by the Department not to be significant will be reviewed and approved according to the procedures described in Corrective Action Condition XVIII. of this Permit.

V. RCRA Facility Investigation (RFI) Work Plan

- A. In compliance with the 1989 EPA Administrative Order on Consent, Docket No. VII-88-H-0024, BFINA submitted an RFI Work Plan. EPA approved the RFI Work Plan on January 3, 1989.
- B. If the Department determines that additional investigations are needed, the Department may require the Permittee to conduct a supplemental RFI. The Department shall notify the Permittee, in writing, of this decision. Within 60 calendar days after receipt of the Department's request to conduct a supplemental RFI and meeting with the Department to discuss the content of the Work Plan, the Permittee shall prepare and submit a supplemental RFI Work Plan to the Department and EPA for review and approval.
- C. The supplemental RFI Work Plan shall be designed to investigate releases of hazardous wastes and hazardous constituents to all appropriate media of concern including surface and subsurface soils, surface water, sediment, groundwater, and air, as necessary. In order to substantiate future corrective action decisions, the supplemental RFI Work Plan shall contain provisions that are sufficient to meet the following objectives and a proposed schedule for implementing the supplemental RFI Work Plan, which is predicated on the date of Departmental approval of the plan:
  1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous wastes and hazardous constituents from SWMUs and AOCs, or groups of SWMUs and AOCs, or newly-identified release(s) at the facility and the actual or potential receptors of such releases; and
  2. Collection of any other pertinent data that may be utilized to substantiate future corrective action decisions.
- D. The supplemental RFI Work Plan shall be appropriate for facility-specific conditions and shall be consistent with and address all applicable investigation elements described in the EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version. At

a minimum, the supplemental RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility, including, but not limited to, the following:

1. A description of current conditions;
  2. The schedule for implementing and completing such investigations and for submission of reports (including the supplemental RFI Report);
  3. The qualifications of personnel performing or directing the investigations, including contractor personnel; and
  4. The overall management of the RFI activities.
- E. The supplemental RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the supplemental RFI. It shall include, at a minimum, the supplemental RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures, and data review, validation, and reporting procedures. The Permittee shall follow the EPA document entitled, EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, March 2001 (reissued May 2006), or the most recent version.
- F. The Permittee shall prepare and maintain a Health and Safety Plan during the project that assures the supplemental RFI activities are conducted in a manner that is protective of human health and the environment.
- G. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach that requires the submittal of additional supplemental RFI Work Plans.
- H. The Department shall review and approve the supplemental RFI Work Plan(s) according to the procedures described in Corrective Action Condition XVIII. of this Permit. The Permittee shall complete all activities described in the supplemental RFI Work Plan(s) according to the schedules contained in the approved plan(s).

VI. RCRA Facility Investigation (RFI) Report

- A. The Permittee submitted the RFI Report to the Department and EPA in January 1990. EPA approved the final RFI Report on February 11, 1992. The findings and conclusions of the approved final RFI report are incorporated herein by reference.
- B. Should additional investigations become necessary, the Permittee shall submit a supplemental RFI Report to the Department and EPA according to the schedule specified in the approved supplemental RFI Work Plan described in Corrective Action Condition V. of this Permit. The supplemental RFI Report shall present all information obtained under the approved supplemental RFI Work Plan along with a brief facility description and map showing the property boundary and all SWMUs and AOCs. The supplemental RFI Report shall contain adequate information to support additional corrective action decisions at the facility. Information contained in the supplemental RFI Report shall be presented in a format that is consistent with Section 5 of the EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version.
- C. The supplemental RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional ISMs or a Corrective Measures Study (CMS) may be necessary. The supplemental RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs and AOCs and associated releases, including, but not limited to, the following, as appropriate:
1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of migration of releases from SWMUs and AOCs at the facility;
  2. Characterization of the environmental setting of the facility, including:
    - a. Hydrogeological conditions;
    - b. Climatological conditions;
    - c. Soil and bedrock characteristics;
    - d. Surface water and sediment quality; and

- e. Air quality and meteorological conditions.
3. Characterization of SWMUs and AOCs from which releases have been or may be occurring, including unit and waste characteristics;
  4. Descriptions of human and environmental receptors and associated risks to the receptors which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs and AOCs;
  5. Assessment of potential risks to the human and environmental receptors exposed to release(s) from SWMUs and AOCs;
  6. Extrapolations of future contaminant migration including description of contaminant fate and transport mechanisms, and pathways for human and environmental exposure;
  7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility;
  8. Statistical analyses to aid in the interpretation of data;
  9. Results of any interim/stabilization measures previously implemented; and
  10. Evaluation of data quality that may affect the nature and scope of a CMS, as well as the evaluation of corrective measures alternatives thereunder (e.g., identification of any potential bias in the supplemental RFI data and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.)
- D. The Department shall review and approve the supplemental RFI Report according to the procedures described in Corrective Action Condition XVIII. of this Permit. If the Department determines that the objectives of the supplemental RFI have not been met, the Department may require additional investigation. Upon approval of the supplemental RFI Report, the Department shall notify the Permittee of the next step in the corrective action process, which may include the submittal of a CMS Work Plan, described in Corrective Action Condition VII. of this Permit.

VII. Corrective Measures Study (CMS) Work Plan

- A. In compliance with the 1989 EPA Administrative Order on Consent, Docket No. VII-88-H-0024, the Permittee submitted an initial facility-wide CMS Work Plan to the Department and EPA. The Department and EPA approved the final CMS Work Plan on February 11, 1992.
- B. If the Department determines that there has been a release of hazardous waste or hazardous constituents from newly- or previously-identified SWMUs or AOCs that may pose a threat to human health or the environment, the Department may require the Permittee to conduct a supplemental CMS or remedy evaluation. The Department shall notify the Permittee, in writing, of this decision. The notice shall identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee.
- C. As part of the supplemental CMS or remedy evaluation, the Department may require the Permittee to evaluate one or more specific potential remedies for removal, containment, and treatment of hazardous wastes and hazardous constituents in contaminated media based on the objectives established for the corrective action. These remedies may include a specific technology or combination of technologies that, in the Department's judgment, may be capable of achieving standards for protecting human health and the environment.
- D. Within 45 calendar days after receipt of the Department's request to conduct a supplemental CMS or remedy evaluation, and after meeting with the Department to discuss the nature and scope of the supplemental CMS or remedy evaluation, the Permittee may be required to submit a supplemental CMS Work Plan or Remedy Evaluation Plan to the Department and EPA for approval. If required, the supplemental CMS Work Plan or Remedy Evaluation Plan shall be consistent with the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994, or the most recent version. At a minimum, the supplemental CMS Work Plan or Remedy Evaluation Plan shall provide the following information, as appropriate, and a proposed schedule for implementing the elements of the plan:
1. A description of the general approach to investigating and evaluating potential remedial alternatives or combinations of alternatives.
  2. A definition of the specific objectives of the study/evaluation.

3. A description of the remedial alternatives or combinations of alternatives that will be studied/evaluated.
  4. A description of those potentially viable remedial alternatives that were initially considered, but were dropped from further consideration, including the rationale for elimination.
  5. The specific plans for evaluating remedial alternatives or combinations of alternatives to ensure compliance with applicable remedy selection threshold/balancing criteria and cleanup standards.
  6. A schedule predicated on the date of Departmental approval of the CMS Work Plan or Remedy Evaluation Plan for conducting the study/evaluation and submitting a CMS Report and/or a preferred remedy proposal.
  7. The proposed format for ranking remedial alternatives or a combination of alternatives in support of a preferred remedial alternative or combination of alternatives.
  8. Identification of laboratory, bench-scale, pilot-scale and/or other appropriate tests or studies that will be used to determine the feasibility or effectiveness of treatment technologies, or other technologies that may be appropriate in implementing remedial alternatives at the facility.
- E. The Department shall review and approve the supplemental CMS Work Plan or Remedy Evaluation Plan according to the procedures described in Corrective Action Condition XVIII. of this Permit. The Permittee shall complete all activities described in the supplemental CMS Work Plan or Remedy Evaluation Plan according to the schedule contained in the approved plan.

VIII. Corrective Measures Study (CMS) Report

- A. In April 1992, the Permittee submitted a CMS Report to EPA. EPA approved the Permittee's final CMS Report on November 1, 1995. The findings and conclusions of the approved final CMS Report are incorporated herein by reference.
- B. If the Department determines that an additional CMS or Remedy Evaluation Report is necessary to address a releases (s) of hazardous waste or hazardous

constituents from newly- and/or previously-identified SWMUs/AOCs, the Permittee shall submit a supplemental CMS or Remedial Alternatives Evaluation Report to the Department and EPA according to the schedule specified in the approved supplemental CMS Work Plan or Remedy Evaluation Plan described in Corrective Action Condition VII. of this Permit. The CMS or Remedy Evaluation Report shall present all information obtained under the approved supplemental CMS Work Plan or Remedy Evaluation Plan and shall be consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994, or the most recent version.

- C. The supplemental CMS Report shall describe the results of the investigations for each remedial alternative or combination of alternatives that was evaluated, including any bench-scale or pilot tests conducted. The CMS Report shall include, but not be limited to, the following information:
1. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedial alternative or combination of alternatives, including safety impacts, cross media impacts, overall carbon footprint, and control of exposure to any residual contamination;
  2. Assessment of the effectiveness of each remedial alternative or combination of alternatives in terms of achieving adequate control of contaminant sources and cleanup of hazardous waste and/or hazardous constituents released from the SWMU(s) and AOC(s);
  3. Estimation of the time required to begin and complete implementation of each remedial alternative or combination of alternatives, and an estimate of the time required to meet the proposed remediation objectives contained in the CMS or Remedial Alternatives Evaluation Report;
  4. Estimation of the costs to implement, operate, monitor and maintain each remedial alternative or combination of alternatives;
  5. Recommendation of a preferred remedial alternative or combination of alternatives, and rationale for the proposed selection; and
  6. Assessment of institutional requirements that may be needed (e.g., state or local permits), discussion of other environmental or public health requirements or institutional controls that may substantially affect implementation of the preferred remedial alternative or combination of

alternatives (e.g., local ordinances), and a draft of any facility-specific institutional controls that are proposed as part of the preferred remedial alternative or combination of alternatives (e.g., a draft environmental covenant containing specific activity and use limitations prepared pursuant to the Missouri Environmental Covenants Act).

- D. The supplemental CMS or Remedial Alternatives Evaluation Report shall contain information that is sufficient to facilitate the Department's development of a Statement of Basis in support of the final remedy decision-making process.
- E. The Department shall review and approve the supplemental CMS or Remedial Alternatives Evaluation Report according to the procedures described in Corrective Action Condition XVIII. of this Permit. Upon approval of the supplemental CMS or Remedial Alternatives Evaluation Report, the Department shall approve a final remedy as specified in Corrective Action Condition IX. of this Permit.

IX. Final Remedy Selection and Approval

- A. Following EPA's approval of the final CMS Report on November 1, 1995, the Department and EPA issued the proposed final remedy decision, which identified the remedy contained in the CMS Report and Statement of Basis as the final remedy. The Statement of Basis and supporting documents were made available for public review and comment on February 16, 2000. The original final remedy was approved on September 29, 2000. The current final remedy consists of the following elements, as specified in the original final remedy plus additional ISMs approved by the Department and implemented since the time of approval of the original final remedy:
  - 1. Inspecting and maintaining a multicomponent cap, surface water drainage systems and leachate collection systems for the closed landfill.
  - 2. Operating groundwater and stream bank interceptor trenches and related collection appurtenances.
  - 3. Operating an active gas collection and destruction system, which is currently operational.
  - 4. Inspecting and maintaining facility security, including fencing, signage, and on-site supervision, and acquiring adjacent property as a "buffer."

5. Inspecting, sampling, and maintaining a facility-wide groundwater monitoring system and surface water monitoring points.
  6. Establishing enforceable property/parcel-specific activity and use limitations by executing multiple environmental covenants pursuant to the Missouri Environmental Covenants Act.
- B. This Corrective Action Condition may apply to additional activities undertaken in response to newly-identified SWMUs and AOCs, newly-identified release(s) from previously-identified SWMUs and AOCs, and any increasing trends in levels of contamination identified through long-term monitoring under Corrective Action Condition I. and/or II. of this Permit.
1. If a supplement to the final remedy is determined to be necessary, following the approval of the supplemental CMS or Remedial Alternatives Evaluation Report as described in Corrective Action Condition VIII. of this Permit, the Department shall prepare a Statement of Basis summarizing the remedial alternatives evaluated by the Permittee and the Department's basis of support for the proposed final remedy.
  2. Following the Department's preparation of the Statement of Basis, a permit modification shall be initiated in accordance with 40 CFR 270.41 or 270.42(c), as applicable, to facilitate public review and comment on the Statement of Basis and proposed final remedy. When and if required, the Permittee shall provide assurances of financial responsibility for any approved revised or supplemental corrective action final remedy pursuant to 40 CFR 264.101(b) and as specified in Corrective Action Condition XVII. of this Permit.
  3. Upon completion of the public participation activities associated with the permit modification to implement the proposed final remedy, the Department shall approve a final remedy that shall:
    - a. Be protective of human health and the environment;
    - b. Control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that may pose a threat to human health and the environment; and

- c. Meet all applicable federal, state, and local laws and regulations.

X. Corrective Measures Implementation (CMI) Work Plan

- A. If the Department determines that revision of the current final remedy is necessary to address a release(s) of hazardous waste or hazardous constituents from newly- and/or previously-identified SWMUs/AOCs:
  1. The Permittee shall submit a CMI Work Plan to the Department and EPA according to the schedule established in conjunction with any permit modification to implement a revision to the current final remedy as specified by Corrective Action Condition IX. of this Permit. The CMI Work Plan shall provide detailed design specifications, construction plans, and a schedule for implementation of the revised final remedy. The CMI Work Plan shall provide detailed plans for remedy implementation consistent with all applicable CMI components as specified in the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994, or the most recent version, and shall be consistent with the objectives specified in the approved CMS or Remedial Alternatives Evaluation Report.
  2. The Department shall review and approve the CMI Work Plan according to the procedures described in Corrective Action Condition XVIII. of this Permit. The Permittee shall implement the approved CMI Work Plan in accordance with the schedule contained in the approved plan.
  3. In the event that new SWMU(s), AOC(s), or release(s) are identified as a result of excavation activities, the Permittee shall comply with Corrective Action Conditions II. and III. as appropriate. New SWMU(s), AOC(s), or release(s) that are identified shall be reported to the Department and EPA.

XI. Certification of Completion of Construction of Final Remedy

- A. This Permit and the Corrective Action Conditions contained herein are based on the previously-approved CMS Report referenced in Corrective Action Condition VIII.A. above, the associated EPA final remedy decision, and additional post-remedy actions taken by the Permittee. This includes the implementation of several additional interim/stabilization measures and execution of Environmental Covenants for five separate property plats comprising the then-current entire facility, which were filed with the Clay County Recorder's Office

on September 24, 2008. If the Department or Permittee determines that a new or revised final remedy is necessary, all current Corrective Action Conditions shall continue to be in force, unless and until appropriate permit modifications are reviewed and approved.

- B. Within 60 calendar days of completion of all construction activities associated with implementation of any new or revised approved final remedy, the Permittee shall submit a written certification to the Department and EPA, by certified mail, stating that the final remedy has been constructed according to the approved CMS or Remedy Evaluation Report, final remedy decision, and CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

This certification shall be part of a Construction Completion (CC) Report. The CC Report shall contain a summary of all final remedy construction activities implemented at the facility (including any previously-implemented ISMs), the location(s) and design of any new wells, and discussion of any deviations from the approved CMI Work Plan. The CC Report shall also address the information described in Chapter V, Section VI of the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994, or the most recent version.

## XII. Certification of Completion of Corrective Measures

- A. When the Permittee decides to verify completion of corrective measures at a SWMU, or group of SWMUs, the Permittee shall submit documentation to demonstrate the following:
1. Groundwater contaminant levels do not exceed the applicable groundwater protection standards established pursuant to 40 CFR 264.92 at and beyond the point of compliance and beyond the permitted facility property boundaries,
  2. Any groundwater contamination plume(s) are stable or shrinking, and
  3. Any approved ACLs for groundwater on the permitted facility property do not exceed applicable risk-based thresholds based on protection of human health and the environment.

The Permittee's groundwater corrective action program shall continue until the Permittee demonstrates, individually or collectively, that these limits have not been exceeded for a period of three consecutive years at each SWMU, or group of SWMUs. Groundwater corrective action may stop at any individual SWMUs, or group of SWMUs, once this three year criterion has been met. Modifications of this Permit under 40 CFR 270.42 or 270.41, as appropriate, shall be required to address changes in the groundwater corrective action status of individual SWMUs, or group of SWMUs. Documentation related to the certification of completion of corrective measures shall be included in the Semi-Annual and Annual Corrective Action Reports submitted according to Corrective Action Condition XIV. of this Permit.

- B. The Department shall review and approve the documentation verifying completion of all corrective action at each SWMU, or group of SWMUs, according to the procedures described in Corrective Action Condition XVIII. of this Permit.
- C. Within 60 calendar days of receipt of the Department's approval of the documentation verifying completion of all corrective action under Corrective Action Condition XI.B. of this Permit, the Permittee shall submit a written certification to the Department and EPA, by certified mail, stating that the final remedy has been completed according to the approved CMS or Remedy Evaluation Report, approved final remedy decision and CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri. The Certification of Completion of Corrective Measures shall also include a Class 3 Permit Modification request, in accordance with 40 CFR 270.42, proposing to discontinue active corrective action activities.

XIII. Activity and Use Limitations (AULs)

AULs are legal or physical restrictions or obligations with respect to the facility property. AULs place a legal or physical restriction or limitation on the use of, or access to, the facility property. The following AULs apply to the Permittee and the facility property subject to the jurisdiction of this Permit:

- A. Non-residential Use with Engineered Controls

The property currently meets the Department's standards for restricted non-residential or construction worker users. The contaminants present pose no unacceptable present or future risk to human health or the environment based on

restricted non-residential or construction worker uses of the property. The Department requires no further response action for the property, as long as the property is not used for residential or other purposes constituting unrestricted use. The property is protective for restricted commercial or industrial uses, as long as the multi-component clay cap and the chain-link fence surrounding the waste area are maintained to prevent exposure. If any owner desires to use the property for residential or other purposes constituting unrestricted use in the future, the Department must be notified 120 calendar days in advance and further analyses and, as necessary, response actions will be required prior to such use. The property may not be used in a manner that conflicts with this restriction.

B. No Drilling or Use of Groundwater

The groundwater beneath the property contains contaminants at concentrations exceeding applicable risk-based standards. The owner of the property shall prevent use of and exposure to the groundwater; any artificial penetration of the groundwater-bearing unit(s) containing contaminants that could result in cross-contamination of clean groundwater-bearing units; installation of any new groundwater wells on the property, except those used for investigative purposes; use of groundwater for drinking or other domestic purposes or for purposes other than domestic purposes; and release of groundwater to surface water bodies, whether such release is the result of human activities or is naturally occurring. Should a release of contaminated groundwater occur, the owner must take action to contain and properly dispose such groundwater.

C. No Disturbance of Soil

Soil at the property contains contaminants at concentrations exceeding the Department's risk-based standards for non-residential or construction worker use in areas of the property covered by the multi-component clay cap. Therefore, soil in such areas shall not be excavated or otherwise disturbed in any manner without written permission from the Department. Should the owner desire to disturb soil at the property in one or more of the areas covered by the multi-component clay cap, the owner shall request approval to do so from the Department at least 30 calendar days before the soil disturbance activities are to begin, except in the event of an emergency, in which case the owner shall give the Department notice of excavation or disturbance that is reasonable under the circumstances. Based on the potential hazards associated with the soil disturbance activities, the Department may deny the request to disturb the soils or may require specific protective or remedial actions before allowing such soil disturbance activities to

occur. This requirement does not supersede other state and federal requirements, and may require other permits (e.g., water protection land disturbance).

D. Construction Restrictions

Soil at the property contains contaminants at concentrations exceeding the Department's risk-based standards for non-residential or construction worker use in areas of the property covered by the multi-component clay cap. Therefore, no buildings may be constructed in such areas, except with written approval from the Department. Should the owner desire to construct a building in one or more areas covered by the multi-component clay cap, the owner shall request permission to do so from the Department at least 30 calendar days before construction is anticipated to begin. Based on the potential hazards associated with the construction activities, the Department may deny the request to construct or may require specific protective or remedial actions before allowing such construction activities to occur.

E. Transfer of Interest of Permitted Property

1. The Permittee shall notify the Department at least 90 calendar days before the transfer of any interest in any portion of the permitted property. The Permittee shall comply with all requirements of 40 CFR 270.40, as related to any transfer of ownership or operational control of any portion of the permitted facility.
2. Any proposal by the Permittee to remove any parcel of the permitted property from the jurisdiction of this Permit shall require submission of a demonstration that all contamination on that portion of the property proposed for removal is below applicable regulatory standards and/or that any residual contamination will be addressed in the future through implementation of enforceable institutional and/or engineering controls contained in an environmental covenant for that portion of the property.
3. Any parcel of the permitted property proposed to be removed from the jurisdiction of this Permit shall require a legal survey for that portion of the property, execution of an environmental covenant, if needed and if such a covenant is not already in place at the time of the proposal, and successful completion of a Class 3 Permit Modification, in accordance

4. with 40 CFR 270.42, as incorporated by reference in 10 CSR 25-7.270(1), and 10 CSR 25-8.124, to remove the proposed portion of the property from the jurisdiction of this Permit.

F. Change of Use of Property

The Permittee shall notify the Department at least 30 calendar days before any proposed change in the use of the facility property, of any applications for building permits for work on the facility property, or proposals for work that could potentially affect the contamination on or off the facility property, and/or compliance with the requirements of this Permit, in accordance with 40 CFR 270.30(h).

G. Deed Notice

The Permittee filed a Certification of Recording of a Notation on Land Use Restrictions for the portions of the facility associated with the closed landfill, as described below. Details on the deed restrictions and the specific locations can be found with the Recorder of Deeds of Clay County in Missouri.

1. Deed notices for the nine permitted landfill sites, prepared by Land Information Services, dated May 4, 1993, were filed September 24, 1993, with the Recorder of Deeds of Clay County, Missouri. The Solid Waste Management Program approved the survey for filing with the Recorder of Deeds on August 23, 1993.

H. Missouri Environmental Covenants Act

Property AULs are currently governed by five Environmental Covenants, covering five separate land parcels comprising the permitted facility property. If and when the Department determines an additional Environmental Covenant(s) is appropriate, the Permittee shall develop and execute the Environmental Covenant(s) in compliance with the Missouri Environmental Covenants Act, Section 260.1000 through 260.1039, RSMo, and Departmental guidance provided to the Permittee.

1. Environmental Covenants for five separate parcels of the permitted facility property were filed September 24, 2008, with the Recorder of Deeds of Clay County, Missouri. These Environmental Covenants restrict the owner or operator of the property from disturbing the hazardous waste

disposal unit described in a survey plat attached to the notice. The covenants can be found on Page 143 of Book 6048 (Instrument Number 2008033208), Page 144 of Book 6048 (Instrument Number 2008033209), Page 145 of Book 6048 (Instrument Number 2008033210), Page 146 of Book 6048 (Instrument Number 2008033211), and Page 147 of Book 6048 (Instrument Number 2008033212), in the Recorder of Deeds' Office in Clay County, Missouri.

- I. Environmental Covenant Provision Requirements Before Permit Termination
  1. If the Permittee desires to rescind or modify all or part of a previously executed Environmental Covenant, the Permittee shall submit a proposal to the Department at least 180 calendar days before the effective date of any proposed permit transfer or termination. The proposal shall contain a demonstration signed by the Permittee that evaluates the residual levels of contamination in comparison with then-current risk-based thresholds/standards. The Permittee shall demonstrate that residual contaminant levels have decreased to less than the applicable risk-based thresholds/standards in support of rescinding and/or modifying established AULs. The demonstration shall include, at a minimum, a summary of analytical data collected during any monitoring and/or confirmation sampling of contaminated media, a summary of all relevant historical data, accompanying narrative discussion, and any other relevant information that will ensure that residual contaminant levels will be protective of human health and the environment if specific AULs are rescinded and/or modified.
  2. If the Department determines, based on the demonstration required in Corrective Action Condition XIII.I.1. of this Permit, that the residual levels of contamination present may still pose an unacceptable threat to human health or the environment based on use of the property, the Department shall notify the Permittee, in writing, that the terms of the existing Environmental Covenants are still appropriate or that the Permittee shall prepare and submit for approval, a revised draft Environmental Covenants to address the changed conditions at the facility. Within 60 calendar days after receipt of the Department's notification, the Permittee shall prepare and submit a revised draft Environmental Covenant to the Department for review and approval. The revised Environmental Covenant shall include the following:

- a. A record of the type, location, and concentrations of hazardous wastes and hazardous constituents expected to remain in the subsurface soils and/or groundwater that will exceed the currently applicable regulatory risk-based thresholds/standards at the time of proposed revision of the Environmental Covenant and/or termination of this Permit;
- b. Two figures illustrating the boundary of each SWMU/landfill cell for which the levels of contamination in the disposed waste, subsurface soils and/or groundwater exceed the applicable regulatory risk-based thresholds/standards at that time. One figure shall illustrate disposed waste/soil contamination in relation to individual SWMUs or groups of SWMUs at the time of proposed revision of the Environmental Covenant and/or termination of this Permit. The second figure shall illustrate groundwater contamination in relation to individual SWMUs or groups of SWMUs at the time of proposed revision of the Environmental Covenant and/or termination of this Permit. The figures shall be to scale and indicate the location and dimensions of each SWMU with respect to key landmarks, such as major buildings, the facility property boundaries, etc. These figures shall also illustrate the location of any engineered controls implemented as part of the final remedy, which are to be restricted from disturbance;
- c. Groundwater use restrictions applicable at the time of proposed revision of the Environmental Covenant and/or termination of this Permit; and
- d. A provision to provide for continued proper operation and maintenance of any engineering controls implemented as part of the final remedy to prevent unacceptable human and/or environmental exposures to disposed wastes, contaminated soils and/or groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards at the time of proposed revision of the Environmental Covenant and/or termination of this Permit. Any engineering controls shall not be disturbed, remain in place, and be effective until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation and maintenance of such controls.

3. If the Department determines the demonstration required in Corrective Action Condition XIII.I.1. of this Permit is sufficient to support elimination and/or modification of established AULs, the Department shall direct the Permittee to prepare and submit a revised draft Environmental Covenant to the Department for review and approval, to address the changed conditions at the facility.
4. The Department shall review and approve the revised draft Environmental Covenant according to the procedures described in Corrective Action Condition XVIII. of this Permit.
5. Within 15 calendar days after execution (signature by all parties) of the revised approved Environmental Covenant, the Permittee shall record, according to state law, the approved Environmental Covenant in the chain-of-title for the permitted facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the permitted property's environmental conditions.
6. Within 15 calendar days after execution (signature by all parties) of the revised approved Environmental Covenant for any property beyond the facility boundaries impacted by soil and/or groundwater contamination originating from SWMUs and AOCs on the facility property, the Permittee shall record, according to state law, the approved Environmental Covenant in the chain-of-title for the off-property areas impacted by contamination originating from SWMUs and AOCs on the permitted facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the off-property environmental conditions.
7. Within 30 calendar days after recording the revised approved Environmental Covenant, the Permittee shall provide a notarized statement to the Department, certifying that a revised approved Environmental Covenant has been recorded, including a copy of the Environmental Covenant (and any attachments) and Recorder's certification showing the instrument, book and page number of recordation.

XIV. Semi-Annual and Annual Corrective Action Reports

- A. The Permittee shall prepare and submit Semi-Annual and Annual Corrective Action Reports to the Department and EPA, summarizing all permitted corrective action activities undertaken during the previous calendar half-year (i.e., January through June and July through December). The first Semi-Annual Corrective Action Report shall be due within 60 calendar days after the end of the six-month period in which this Permit becomes effective. The Semi-Annual Corrective Action Report shall continue to be submitted by March 1 and September 1 of each calendar year, until the Permittee's corrective action activities (including any long-term operation, maintenance, and monitoring activities) are complete.
- B. The September 1 Semi-Annual Corrective Action Report shall include the following information for the time period being reported:
1. A description of the work completed;
  2. Summaries of all findings, including summaries of laboratory data;
  3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
  4. Projected work for the next reporting period;
  5. Any instances of noncompliance with the corrective action requirements of this Permit not otherwise required to be reported elsewhere in this Permit;
  6. All original, uninterpreted laboratory analytical data from the Permittee's semi-annual groundwater sampling events, groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, QA/QC data, statistical analysis of groundwater data, field investigation results, volume of groundwater/leachate extracted and treated, and other relevant groundwater-related information, as appropriate; and
  7. Presentation and discussion of the risk assessment calculations including proposed measures to address any unacceptable risks indicated by the calculations, a comparison of the groundwater data to the MCLs in

Table 1, and a discussion of surface water monitoring and RAP Treatment Unit effluent limits in relation to the limits established in the Missouri State Operating Permit.

Any detailed technical information that is part of any additional corrective action activities undertaken pursuant to this Permit and required to be submitted as part of the ISMs, RFI and/or CMS work plans and reports, need not be reproduced as part of the Permittee's Semi-Annual Report.

- C. The March 1 Annual Corrective Action Report shall provide a comprehensive evaluation of the facility-wide groundwater monitoring program for the previous calendar year (i.e., January through December), in addition to the information listed in the September 1 Semi-Annual Corrective Action Report. The Annual Progress Report shall include the following information for the time period being reported:
1. A narrative discussion of the nature and evolution of the Permittee's groundwater and surface water monitoring programs, as well as conclusions concerning the overall adequacy of these program as related to their intended purpose, including any interim measures/stabilization actions/remedial action plans. Any conclusions concerning inadequacies in these programs shall be accompanied by a discussion of proposed remedies. Specific details concerning any proposed remedies shall be further developed outside of the scope of this report or as otherwise specified in this Permit.
  2. Comprehensively address all technical requirements of 40 CFR Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater and surface water monitoring information and present this information in the form of narrative discussions, groundwater flow calculations, and/or diagrammatic illustrations (e.g., tabular groundwater/surface water and statistical data summaries, hydrogeologic and potentiometric contour maps/cross-sections, chemical parameter trend graphs, calculated rate(s) of contaminant migration, contaminant iso-concentration maps/cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.
  3. Evaluate the effectiveness of the corrective action program, including, but not limited to, the following:

- a. The rate and direction of groundwater movement in underlying aquifers and potential effects on any corrective action measures being designed or implemented at the facility for removal, containment or control of the groundwater contaminant plume(s);
  - b. The horizontal and vertical extent and concentrations of hazardous constituents (Table 1) in groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring program;
  - c. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or effectiveness of the groundwater corrective action program;
  - d. The quantity of free NAPLs if present and leachate/groundwater extracted from the subsurface and treated in the RAP treatment Unit as part of interim/stabilization measures and as part of the overall corrective action program. This information shall be reported both as a total amount and per well or extraction location, as appropriate, and shall be used in conjunction with dissolved phase contaminant concentration information to estimate quantities of contaminants removed;
  - e. Contaminant trend analyses in groundwater and surface water from year to year using analytical results of the groundwater and surface water samples to help evaluate the overall progress/trends of the corrective action program, and to provide the basis for future decisions regarding the need for additional corrective action/stabilization measures and/or optimization of existing measures; and
  - f. The conclusions and summary, including statistical evaluation, of analytical results from groundwater and surface water monitoring conducted during the reporting period.
4. Contain detailed boring logs for any new exploratory borings, monitoring wells and/or detailed "as-built" monitoring well diagrams for any new monitoring wells installed during the corresponding reporting period and the monitoring well-related information specified in Special Permit Conditions III.D.5. and 6. of this Permit.

XV. Planned and Contingent Activities

- A. The Permittee shall comply with the schedule for planned corrective action activities as specified in this Permit and summarized in Table 3.
- B. The Permittee shall comply, as necessary, with the schedule(s) for contingent special permit activities as specified in this Permit and summarized in Table 4.
- C. The Permittee shall comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in this Permit and summarized in Table 5.

XVI. Supplemental Data

All uninterpreted data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained by the Permittee during the term of this Permit, including the term of any reissued permits.

XVII. Post-Closure Care and Corrective Action Cost Estimates and Financial Assurance

The Permittee shall comply with the requirements described in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR 270.30, 40 CFR 270.40, 40 CFR 270.42, and 40 CFR 270.51, as incorporated in 10 CSR 25-7; and 10 CSR 25-8.

A. Cost Estimates

1. Post-Closure Care and Corrective Action Cost Estimate

Within 60 calendar days of the effective date of this Permit, the Permittee shall submit an updated, detailed, written cost estimate, to perform the post-closure care and corrective action activities required by this Permit, in compliance with 40 CFR 264.144.

- a. The post-closure care and corrective action cost estimate shall account for the total costs of all work activities and related costs that are expected to continue until such time as final clean-up objectives are met and confirmed. This includes, but is not limited to, any long-term costs for final remedy operation, maintenance,

monitoring (including operation of the RAP Treatment Unit; utility costs including electricity, water and sewer; decommissioning of remediation equipment and proper plugging/abandonment of monitoring wells; payment of real estate taxes on the property and Departmental oversight cost reimbursement.

- b. The cost estimate shall be certified by a registered professional engineer licensed in Missouri and developed using appropriate cost estimating software.
- c. The Permittee may, at any time during final remedy implementation, submit a demonstration to the Department for review and approval, to adjust the corrective action cost estimate in recognition of the estimated time remaining to achieve applicable remediation objectives/standards.
- d. A contingency cost allowance based on the total cost of all post-closure care and corrective action activities shall be included in the cost estimate, if applicable.
- e. A third party, as defined in 40 CFR 264.144(a)(1), is a party who:
  - (1) Is neither a parent nor a subsidiary of the Permittee; and
  - (2) Does not share a common parent or subsidiary with the Permittee.
- f. The cost estimates shall not include any salvage value that may be realized from the sale of wastes, facility structures or equipment, land, or other assets associated with the facility.

The Permittee shall submit each post-closure care and corrective action cost estimate to the Department for review and evaluation. If the cost estimate requires modification, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submission of a revised cost estimate for further evaluation and final written response.

The Permittee shall maintain, in the operating record, the most recent post-closure care and corrective action cost estimate that has received a final written response from the Department.

2. Revisions to the Post-Closure Care and Corrective Action Cost Estimate

a. Annual Adjustment for Inflation

The Permittee shall annually adjust the post-closure care and corrective action cost estimate for inflation until all post-closure care and corrective action activities required by this Permit are complete. The inflation adjustment shall be determined by using the procedures described in 40 CFR 264.142(b) except that the inflation factor should be derived from the most recent annual Implicit Price Deflator for the Gross Domestic Product instead of the Gross National Product. The cost estimate is due within 60 calendar days before the anniversary date of the establishment of the financial assurance instrument used to comply with this section. If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the cost estimate is due within 30 calendar days of the end of the provider's fiscal year.

b. Additional Post-Closure or Corrective Action Activities

The Permittee shall increase the post-closure care and/or corrective action cost estimate if:

- (1) The Permittee or the Department determines that any additional post-closure care and/or corrective action activities are required; or
- (2) Any other conditions increase or decrease the estimated cost of the post-closure care and/or corrective action activities to be performed under this Permit.

If the Department determines that a new cost estimate is required, the Department shall notify the Permittee, in writing, of this requirement.

The Permittee shall submit each revised post-closure care and/or corrective action cost estimate to the Department for review and evaluation, within 60 calendar days of the Permittee's determination that a revised cost estimate is necessary or written notification by the Department that a new cost estimate is required. If the new cost estimate requires further revision, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submission of a new revised cost estimate.

B. Financial Assurance

In order to provide for the full and final completion of the post-closure care and corrective action activities required by this Permit, the Permittee shall establish and maintain financial assurance for the benefit of the Department in the amount at least equal to the most recent post-closure care and corrective action cost estimate that received a final written response from the Department. The Permittee may use one or more of the financial assurance forms generally described in Corrective Action Condition XVII.B.11. of this Permit. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department.

1. Timeframes for Financial Assurance Instruments (other than Financial Test or Corporate Guarantee)

- a. Within 60 calendar days after receipt of the Department's final written response to the Permittee's post-closure care and corrective action cost estimates pursuant to this Permit, the Permittee shall submit draft financial assurance instruments and related documents to the Department for review and evaluation. This applies to all financial assurance instruments except the financial test or corporate guarantee. See Corrective Action Condition XVII.B.11. of this Permit for timeframes for financial tests and corporate guarantees.
- b. Within ten calendar days after receiving the Department's final written response regarding the draft financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or

other documents shall be in a form identical to the financial assurance documents reviewed and responded to by the Department.

- c. Within 60 calendar days after receiving the Department's final written response regarding the draft financial assurance instrument(s), the Permittee shall ensure that the issuing institution submits all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.

2. Timeframes for Financial Tests and Corporate Guarantees

- a. Within 30 calendar days after the Department's final written response regarding the Permittee's post-closure care and corrective action cost estimate(s) pursuant to this Permit, the Permittee shall submit to the Department all documentation necessary to demonstrate that the Permittee satisfies the financial test criteria pursuant to Corrective Action Condition XVII.B.11.e. of this Permit.
- b. The Permittee's financial assurance shall be effective immediately upon the Permittee's receipt of the Department's final written response regarding the Permittee's post-closure care and corrective action cost estimate or the Permittee's demonstration that the Permittee satisfies the financial test criteria under Corrective Action Condition XVII.B.11.e. of this Permit, whichever date is later.
- c. The Permittee agrees that if the Permittee provides financial assurance by means of a corporate guarantee or financial test, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. Any request by the Department for this information shall be in writing and shall specify a due date for submission of this information. The Permittee shall promptly provide the requested information to the Department.

3. Certified Mail

The Permittee shall submit all required financial assurance instruments and related documents to the Department by certified mail.

4. Multiple Instruments

The Permittee may combine more than one mechanism to demonstrate financial assurance for the post-closure care and corrective action activities at the facility and as required by this Permit. As specified in 40 CFR 264.145(g), these mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit and insurance. Use of the foregoing instruments in combination with the financial test and/or corporate guarantee is not allowed.

5. Inadequate Financial Assurance Instrument

a. If at any time the Department determines that a financial assurance instrument provided pursuant to this Permit is inadequate, or no longer satisfies the requirements, the Department shall notify the Permittee in writing. This applies whether there is an adjustment in the estimated cost of the post-closure care and corrective action activities required by this Permit as independently determined by the Department or due to a determination by the Permittee pursuant to XVII.B.5.b. of this Permit.

(1) Within 30 calendar days of receipt of such notice, the Permittee shall submit draft revised financial assurance instruments and related documents to the Department for review and evaluation. The draft revised financial assurance instruments and related documents shall address the inadequacies outlined in the Department's notice.

(2) Within ten calendar days of receiving the Department's final written response regarding the draft revised financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the revised financial assurance instruments/documents legally binding. The instruments or

other documents shall be in a form identical to the financial assurance documents reviewed and responded to by the Department.

(3) Within 30 calendar days after receiving the Department's final written response regarding the draft revised financial assurance instrument(s), the Permittee shall ensure that the issuing institution submits all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.

b. If at any time the Permittee determines that any financial assurance instrument provided pursuant to this Permit is inadequate or no longer satisfies the requirements described or incorporated by reference herein, the Permittee shall notify the Department in writing within ten calendar days of this determination. This applies whether due to an adjustment in the estimated cost of the post-closure care and/or corrective action activities required by this Permit or for any other reason. The Permittee shall follow the procedures in Corrective Action Condition XVII.B.5.a. of this Permit to update/replace the financial assurance instrument.

6. Obligation to Complete Post-Closure Care and Corrective Action Activities

The Permittee's inability or failure to establish or maintain financial assurance for completion of the post-closure care and corrective action activities required by this Permit in no way excuse performance of any other requirements of this Permit, including, without limitation, the obligation of the Permittee to complete all necessary post-closure care and corrective action activities in strict accordance with the terms of this Permit.

7. Automatic Renewal

All financial assurance instruments shall automatically renew at the time of their expiration unless the financial assurance provider notifies both the Permittee and the Department by certified mail of a decision to cancel, terminate, or not renew a financial assurance instrument. The Permittee and the Department shall receive such notification at least 120 calendar

days before expiration, cancellation, or termination of the instrument. Under the terms of the financial assurance instrument, the 120 calendar days shall begin on the date of receipt of the notice by certified mail by both the Permittee and the Department.

Within 90 calendar days following receipt of such notice by both the Permittee and the Department, the Permittee shall provide alternate financial assurance and obtain a written final response from the Department regarding such alternate financial assurance.

If the Permittee fails to provide alternate financial assurance within 90 calendar days, the Department shall notify the financial assurance provider, in writing, before the expiration of the instrument. The notification to the financial assurance provider shall instruct the financial assurance provider to immediately deposit the remaining funds obligated under the financial assurance into the standby trust fund or a newly created trust fund acceptable to the Department.

8. Modification of Amount and/or Form of Financial Assurance

a. Reduction of Amount of Financial Assurance

If the Permittee believes that the estimated cost to complete the post-closure care and corrective action activities required by this Permit has diminished below the amount covered by the existing financial assurance provided under this Permit, the Permittee may submit a written proposal to the Department to reduce the amount of the financial assurance provided under this Permit. The amount of the financial assurance proposed shall be at least equal to the estimated cost of the remaining post-closure care and corrective action activities required by this Permit. The written proposal shall specify, at a minimum, the cost of the remaining post-closure care and corrective action activities to be performed and the basis upon which such cost was calculated (e.g., years remaining until established clean-up standards are expected to be met). In seeking acceptance of a revised financial assurance amount, the Permittee shall follow the procedures described in Corrective Action Condition XVII.B.8.b.(2) of this Permit. The Department shall notify the Permittee in writing regarding its evaluation of the revised financial assurance amount. The Permittee may reduce the

amount of the financial assurance after receiving the Department's written response to the proposed revisions, but only according to and to the extent permitted by the Department's response. No change to the form or terms of any financial assurance provided under this Section, other than a reduction in amount, is authorized except as provided in Corrective Action Condition XVII.B.8.b. of this Permit.

b. Change of Form of Financial Assurance

- (1) If the Permittee wishes to change the form or terms of financial assurance, the Permittee may submit a written proposal to the Department to change the form of financial assurance. The submission of such a proposal shall be as provided in Corrective Action Condition XVII.B.8.b.(2) of this Permit.
- (2) A written proposal for a revised or alternative form of financial assurance shall specify, at a minimum:
  - (a) The cost of the remaining post-closure and/or corrective action activities to be performed;
  - (b) The basis upon which such cost was calculated; and
  - (c) The proposed revised form of financial assurance, including all proposed instruments or other documents required in order to make the proposed financial assurance legally binding.

The proposed revised or alternative form of financial assurance shall satisfy all requirements described or incorporated by reference in this Permit. The Department shall notify the Permittee, in writing, of its decision regarding the revised or alternative form of financial assurance submitted pursuant to this paragraph.

Within ten calendar days after receiving a final written response regarding the proposed revised or alternative financial assurance, the Permittee shall execute and/or

otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding and effective in a form identical to the documents submitted to the Department.

Within 30 calendar days of receiving a final written response regarding the proposed revised or alternative financial assurance, the Permittee shall ensure that the issuing institution submits all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.

The Department shall release, cancel, or terminate the prior existing financial assurance instruments only after the Permittee has submitted all executed and/or otherwise finalized new financial assurance instruments or other required documents to the Department.

9. Performance Failure

a. In the event that the Department determines the Permittee:

- (1) Has ceased implementation of any of the post-closure care and/or corrective action activities required by this Permit; or
- (2) Is significantly or repeatedly deficient or late in its performance of the post-closure care and/or corrective action activities required by this Permit; or
- (3) Is implementing the post-closure care and/or corrective action activities required by this Permit in a manner that may cause an endangerment to human health or the environment;

the Department may issue a written notice (“Performance Failure Notice”) of the Permittee’s failure to perform to both the Permittee and the financial assurance provider. The notice shall specify the

grounds upon which the notice was issued and shall provide the Permittee a period of ten calendar days to remedy the circumstances.

- b. If the Permittee fails to remedy the Performance Failure to the Department's satisfaction before the expiration of the ten calendar day notice period specified in Corrective Action Condition XVII.B.9.a. of this Permit, the Department shall have immediate access to and benefit of the financial assurance provided. The Department may, at any time thereafter, direct the financial assurance provider to immediately:
  - (1) Deposit into the standby trust fund, or a newly created trust fund acceptable to the Department, the remaining funds obligated under the financial assurance instrument; or
  - (2) Arrange for performance of the post-closure care and/or corrective action activities required by this Permit.
- c. The Department shall give the Permittee written notice if:
  - (1) The Department determines that any of the circumstances described in Corrective Action Condition XVII.B.9.a.(1), (2), or (3) of this Permit have occurred; and
  - (2) The Department is nevertheless unable, after reasonable efforts, to secure the payment of funds or performance of the post-closure care and/or corrective action activities required by this Permit from the financial assurance provider.
- d. Within ten calendar days of receiving such written notice, the Permittee shall provide cash to fund the standby trust fund, or a newly created trust fund acceptable to the Department. The funds shall at least equal the cost of the remaining post-closure care and corrective action activities required by this Permit. The deposit shall be made in immediately available funds and without setoff, counterclaim, or condition of any kind.

10. Release of Financial Assurance

The Permittee may submit a written request to the Department to release the Permittee from the requirement to maintain financial assurance after the Department and the Permittee have mutually agreed that all post-closure care and corrective action activities required by this Permit are complete. The Department shall notify both the Permittee and the provider(s) of the financial assurance if and when the Permittee is released from all financial assurance obligations under this Permit. The Permittee shall not release, cancel, or terminate any financial assurance provided pursuant to this Permit, except as provided in this paragraph or Corrective Action Condition XVII.B.8.b. of this Permit.

11. Financial Assurance Instruments

The wording of the financial assurance documents shall meet the requirements of 40 CFR 264.143 and 40 CFR 264.151, as incorporated in 10 CSR 25-7.264(1), except that deviation in wording of a financial assurance instrument to incorporate coverage for corrective action activities is allowed. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department.

a. Trust Fund

The trust fund shall be:

- (1) Established for the benefit of the Department;
- (2) Administered by a trustee who has the authority to act as a trustee under federal or state law and whose trust operations are regulated and examined by a federal or state agency; and

The trust agreement shall provide that the trustee shall make payments from the fund as the Department shall direct in writing:

- (1) To reimburse the Permittee for expenditures made by the Permittee for post-closure care and corrective action activities performed according to this Permit; or

- (2) To pay any other person whom the Department determines has performed or will perform the post-closure care and corrective action activities required by this Permit.

The trust agreement shall further state that the trustee shall not refund to the grantor any amounts from the fund until the Department has advised the trustee, in writing, that the post-closure care and corrective action activities performed according to this Permit have been completed to the satisfaction of the Department.

b. Surety Bond

A surety bond shall unconditionally guarantee either:

- (1) Payment at the direction of the Department into a standby trust fund that meets the requirements of the trust fund in Corrective Action Condition XVII.B.11.a. of this Permit; or
- (2) Performance of the post-closure care and corrective action activities required by this Permit. The Surety Company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal Bonds as described in Circular 570 of U.S. Department of the Treasury.

If the Permittee seeks to establish financial assurance by using a surety bond, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Corrective Action Condition XVII.B.11.a. of this Permit. Funds from the surety bond shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XVII.B.9. of this Permit.

c. Irrevocable Letter of Credit

An irrevocable letter of credit shall be payable at the direction of the Department into a standby trust fund that meets the

requirements of Corrective Action Condition XVII.B.11.a. of this Permit. The letter of credit shall be issued by a financial institution:

- (1) That has the authority to issue letters of credit; and
- (2) Whose letter-of-credit operations are regulated and examined by a federal or state agency.

If the Permittee seeks to establish financial assurance by using a letter of credit, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Corrective Action Condition XVII.B.11.a. of this Permit. Funds from the letter of credit shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XVII.B.9. of this Permit.

d. Policy of Insurance

A policy of insurance shall:

- (1) Provide the Department with rights as a beneficiary which are acceptable to the Department; and
- (2) Be issued by an insurance carrier that:
  - (a) Has the authority to issue insurance policies in Missouri; and
  - (b) Whose insurance operations are regulated and examined by a federal or state agency.
- (3) The insurance policy shall be issued for a face amount at least equal to the current post-closure care and corrective action cost estimate for which the facility has received a written final review response from the Department, except that the face amount may exclude costs that are covered by another financial assurance instrument, as permitted in Corrective Action Condition XVII.B.4. of this Permit.

- (4) The insurance policy shall state that the insurer shall make payments up to an amount equal to the face amount of the policy as directed by the Department in writing:
  - (a) To reimburse the Permittee for expenditures made by the Permittee for post-closure care and/or corrective action activities performed according to this Permit; or
  - (b) To pay any other person whom the Department determines has performed or will perform the post-closure care and/or corrective action activities required by this Permit.
- (5) The insurance policy shall also state that it may not be canceled, terminated, or non-renewed and the policy shall remain in full force and effect in the event that:
  - (a) The Permittee is named as a debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
  - (b) The Department notifies the insurer of the Permittee's failure to perform, under Corrective Action Condition XVII.B.9. of this Permit.

e. Financial Test

A Permittee may provide financial assurance through a demonstration by the Permittee that the Permittee meets the financial test criteria of 40 CFR.264.143(f), provided that all other requirements of 40 CFR 264.143(f), as incorporated in 10 CSR 25-7.264(1), are satisfied. See Corrective Action Condition XVII.B.11.g. of this Permit for further requirements.

f. Corporate Guarantee

A direct or indirect parent company of a Permittee may provide a corporate guarantee executed in favor of the Department. Such guarantee shall state that the company providing the guarantee

shall perform the post-closure care and corrective action activities required by this Permit or that the company shall establish a trust fund as permitted by Corrective Action Condition XVII.B.11.a. of this Permit. Any company providing such a guarantee shall demonstrate, to the satisfaction of the Department, that it meets the financial test requirements of 40 CFR 264.143(f), as incorporated in 10 CSR 25-7.264(1). See Corrective Action Condition XVII.B.11.g. of this Permit for further requirements.

g. Additional Requirements for Financial Test/Corporate Guarantee

If at any time during the term of this Permit the Permittee demonstrates financial assurance for the post-closure care and corrective action activities required by this Permit by providing a financial test or corporate guarantee pursuant to Corrective Action Conditions XVII.B.11.e. or XVII.B.11.f. of this Permit, the Permittee shall also comply with the applicable requirements of 40 CFR 264.143(f), 40 CFR 264.151(f), and 40 CFR 264.151(h)(1), as incorporated in 10 CSR 25-7.264(1), relating to these methods, unless otherwise provided in this Permit. This includes, but is not limited to:

- (1) Initial submission of required financial reports and statements from the guarantors' chief financial officer and independent certified public accountant;
- (2) Annual re-submission of such reports and statements within 90 calendar days after the close of each of the guarantor's fiscal year; and
- (3) Notification to the Department by certified mail within 90 calendar days after the close of any of the guarantor's fiscal year in which any such guarantor no longer satisfies the financial test requirements described at 40 CFR Part 264.143(f)(1), as incorporated in 10 CSR 25-7.264(1).

If the Permittee provides financial assurance by means of a financial test or corporate guarantee, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at

any time. Any request by the Department for this information shall be in writing and shall specify a due date for submission of this information. The Permittee shall promptly provide the requested information to the Department.

For purposes of the financial test or corporate guarantee described in Corrective Action Conditions XVII.B.11.e. and XVII.B.11.f. of this Permit, references in 40 CFR 264.143(f), as incorporated in 10 CSR 25-7.264(1), to “the sum of current closure and post closure costs and the current plugging and abandonment cost estimates” and references in 40 CFR 264.101(c), as incorporated in 10 CSR 25-7.264(1), to “Assurances of financial responsibility for such post-closure care and corrective action shall be provided” shall mean “the sum of all environmental remediation obligations” guaranteed by such company or for which such company is otherwise financially obligated, in addition to the cost of the post-closure care and corrective action activities required by this Permit. This includes obligations under the Comprehensive Environmental Response, Compensation, and Liability Act, RCRA, Underground Injection Control Program, Toxic Substances Control Act, and any other state or tribal environmental obligation.

#### XVIII. Review and Approval Procedures

- A. Financial assurance cost estimates and draft financial assurance mechanisms for post-closure care and corrective action shall be reviewed and responded to by the Department according to the procedures described in Corrective Action Condition XVIII. of this Permit.
- B. Following submission of any plan, report, or extension request pertaining to corrective action activities (excluding the Semi-Annual/Annual Progress Reports, unless proposed actions to address corrective action program inadequacies are contained therein) and Corrective Measures Implementation Report) and any Certification of Completion of Construction of Final Remedy, the Department shall review and either approve or provide written comments on the plan, report, or request. If the Department does not approve the plan, report, or request, the Department shall notify the Permittee, in writing, of the plan, report, or request’s deficiencies and specify a due date for submittal of a revised plan, report, or activity.

- C. If the Department does not approve the revised plan, report, or associated activity schedule, the Department may modify the plan, report, or schedule and notify the Permittee of the modifications. The plan, report, or schedule, as modified by the Department, shall be the approved plan, report, or schedule.
- D. If the Permittee disagrees with any Department-initiated plan, report, or schedule modifications, and a mutually acceptable resolution of such modifications cannot be informally reached, the Permittee may file an appeal of the Department-initiated modifications according to 10 CSR 25-2.020, and Sections 260.395.11 and 621.250, RSMo.

XIX. Document and Activity Extension Requests

If the Permittee requires additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall submit a written extension request to the Department. The Department shall receive the extension request at least 15 calendar days before the scheduled due date of the document or activity. The Permittee's extension request shall specify the amount of additional time needed and shall be accompanied by the Permittee's justification for the extension. The Department shall review and approve the extension request according to the procedures described in Corrective Action Condition XVIII. of this Permit.

## REMEDIAL ACTION PLAN

The Remedial Action Plan (RAP) portion of this Permit is designed to facilitate construction, operation, and maintenance of an on-property treatment site to treat hazardous remediation waste at the Missouri City Landfill. After review of the Permittee's RAP application, dated July 24, 2013, the Department determined the RAP application is complete and adequate pursuant to 40 CFR 270.110, as incorporated in 10 CSR 25-7.270(1). As such, the Department included required RAP provisions in this Permit. Applicable regulations are found in 40 CFR 270 Subpart H, 40 CFR 124, 40 CFR 270.30, and applicable requirements of 40 CFR 264, 266, and 268, as incorporated in 10 CSR 25-7 and 10 CSR 25-8.

Any inaccuracies found in information submitted in the RAP application may be grounds for the termination, revocation and reissuance, or modification of the RAP provisions of this Permit according to 40 CFR 270.175(a)(6). The Permittee shall inform the Department and EPA of any deviation from, or changes in, the information provided in the RAP application that would affect the Permittee's ability to comply with the applicable regulations or RAP conditions.

When the Department receives any RAP-related information or requests from the Permittee, it may decide whether cause exists to modify, revoke and reissue, or terminate the RAP. Any RAP actions in this regard shall be handled according to 40 CFR 270.170, 40 CFR 270.175, 40 CFR 270.180, 40 CFR 270.85 and 40 CFR 270.90, as appropriate.

The location of the remediation waste management site is shown on Figure 4. Treatment, storage, and disposal of hazardous remediation waste at the remediation waste management site shall be in accordance with the following provisions and all applicable federal and state environmental laws and regulations.

### I. General RAP Conditions

The Permittee shall comply with the applicable requirements described in 40 CFR 270.30 during the conveyance, storage and treatment of the hazardous remediation wastes on the permitted facility property. Specifically, these requirements include:

#### A. Duty to Comply [40 CFR 270.30(a)]

The Permittee must comply with all RAP conditions specified in this Permit. Any noncompliance, except under the terms of an emergency permit (40 CFR 270.61), may constitute a violation of state law or regulation and may be grounds for an enforcement action; for RAP termination, revocation and reissuance, or modification; or for denial of a RAP renewal application.

B. Duty to Reapply [40 CFR 270.30(b) and 270.85(c)]

If the Permittee wishes to continue a RAP activity incorporated in this Permit after the Permits expiration date, a timely and complete application for renewal of this Permit, which includes the applicable RAP provisions, shall be submitted to the Department in accordance with 40 CFR 270.51, which allows this Permit, including the RAP activities, to continue in effect until the Permit can be reissued. Thereafter, this Permit will be reissued according to the applicable requirements in 40 CFR Part 270.

C. Need to Halt or Reduce Activity Not a Defense [40 CFR 270.30(c)]

1. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the RAP conditions of this Permit.
2. In the event of noncompliance with the RAP conditions of this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

D. Proper Operation and Maintenance [40 CFR 270.30(e)]

The Permittee shall at all times operate and maintain all facilities and equipment for the treatment and control of hazardous remediation wastes that are installed or used by the Permittee to achieve compliance with the RAP conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

E. Permit Actions [40 CFR 270.30(f)]

The RAP conditions of this Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request for a RAP modification, revocation and reissuance or termination, or a notification of planned changes or anticipated noncompliance, does not stay any RAP condition.

F. Property Rights [40 CFR 270.30(g)]

The RAP conditions of this Permit do not convey any property rights of any sort, or any exclusive privilege.

G. Duty to Provide Information [40 CFR 270.30(h)]

The Permittee shall furnish to the Department, within a reasonable amount of time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking or reissuing, or terminating the RAP conditions of this Permit, or to determine compliance with these conditions. The Permittee shall furnish to the Department, upon request, copies of records required to be kept by the RAP conditions of this Permit.

H. Inspection and Entry [40 CFR 270.30(i)]

The Permittee shall allow the Department, or an authorized representative, upon the presentation of credentials to:

1. Enter, at reasonable times, upon the Permittee's premises where a regulated activity is located or conducted, or where records are kept under the RAP conditions of this Permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the RAP conditions of this Permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment) practices, or operations regulated or required under the RAP conditions of this Permit ; and
4. Sample or monitor, at reasonable times, for the purposes of assuring compliance with the RAP conditions of this Permit.

I. Monitoring and Records [40 CFR 270.30(j)]

The following monitoring shall be conducted and records shall be maintained as described below.

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. The Permittee shall retain records of all monitoring information and associated QA/QC documentation, and copies of all reports required by the RAP conditions of this Permit for a period of at least three years from the date of the sample, measurement, and report.
3. Records for monitoring information shall include:
  - a. The date, time, and exact location of sample collection;
  - b. The full name of the individual(s) who performed the sampling or measurement;
  - c. The date(s) analyses were performed;
  - d. The analytical techniques or methods used;
  - e. The results of such analyses; and
  - f. The results of associated QA/QC documentation.
4. All reports submitted subsequent to issuance of this Permit that reference geologic conditions and interpret geologic data that may impact human health and welfare shall be sealed by a geologist registered in Missouri.

J. Reporting Requirements [40 CFR 270.30(l)]

1. The Permittee shall give advance notice to the Department of any planned changes in hazardous remediation waste sampling, conveyance, storage, and treatment activities that may result in noncompliance with the RAP conditions of this Permit.
2. This Permit may be transferred to a new owner or operator by following the requirements contained in 40 CFR 270.40, and the Permit is modified or revoked and reissued pursuant to 40 CFR 270.41 or 40 CFR 270.42, as appropriate, to identify the new Permittee. Before transfer of ownership or operation of the facility, the Permittee shall notify the new owner or operator, in writing, of the requirements of 40 CFR Parts 264 and 270, and this Permit, including the RAP conditions.

3. The Permittee shall report to the Department any Permit noncompliance that results in an immediate threat to human health and the environment, within 24 hours from the time the Permittee becomes aware of the circumstances, including information concerning a release(s) of hazardous waste, hazardous remediation waste or hazardous constituents from the remediation waste management site that may cause an endangerment to public drinking water supplies and/or that may otherwise threaten human health or the environment outside the remediation waste management site boundaries.
  - a. The description of the occurrence shall include:
    - (1) Name, address and telephone number of the Permittee;
    - (2) Name and telephone number of the remediation waste site manager and address of the remediation waste management site;
    - (3) Date, time, and type of incident;
    - (4) Name and quantity of materials involved;
    - (5) Extent of injuries, if any;
    - (6) Assessment of actual or potential hazards to public or private drinking water supplies and human health and/or the environment; and
    - (7) Estimated quantity and disposition of any recovered materials that resulted from the incident.
  - b. The Permittee shall submit a written submission detailing the information listed in General RAP Condition I.J.3.(a). above to the Department and EPA within five calendar days of when the Permittee becomes aware of the circumstances of the incident. The Permittee shall also submit a description of the noncompliance and its cause, the period of noncompliance including exact dates and times (where possible), the anticipated time the noncompliance is expected to continue, and the steps taken or planned to prevent

reoccurrence of the noncompliance. The Department may waive the five day written notice in favor of a written report within 15 calendar days.

4. The Permittee shall report all instances of noncompliance to the Department and EPA not reported under the above paragraphs.
5. If the Permittee discovers that it failed to submit any relevant information or submitted incorrect information to the Department and EPA in its RAP application or any report related to construction, operation, or maintenance of the remediation waste management site, the Permittee shall promptly submit the relevant and/or corrected information to Department and EPA.

## II. Special RAP Conditions

The Department has established the following additional conditions as required by 40 CFR 270.135 and information required under 40 CFR 270.110 (a) through (f).

- A. The Permittee shall operate the remediation waste management site in accordance with the following requirements of 40 CFR 264.1(j):
  1. The Permittee shall inspect the remediation waste management site for malfunctions, deterioration, operator errors, and discharges that may be causing, or may lead to, a release of hazardous waste, hazardous remediation waste, or hazardous constituents to the environment and/or that may pose a threat to human health or the environment. The Permittee shall conduct these inspections on a calendar-quarterly basis, to identify problems in time to correct them before they can potentially harm human health or the environment. The Permittee shall promptly remedy any problem(s) identified during the quarterly inspections before those problems lead to a human health or environmental hazard. If an imminent hazard or substantial threat is identified during the quarterly inspection, or has already occurred, the Permittee shall notify the Department and EPA in accordance with General RAP Condition I.J.3. and take immediate action to mitigate the hazard/threat;
  2. The Permittee shall provide personnel involved in construction, operation, or maintenance of the remediation waste management site with classroom or on-the-job training on how to perform their duties in a way that ensures

the remediation waste management site and associated activities comply with federal and state environmental laws, and on how to respond effectively to emergencies;

3. The Permittee shall develop and maintain procedures to prevent accidents and a contingency and emergency plan to address any accidents that occur. The contingency and emergency plan must designate at least one employee, either on the remediation waste site premises or on call, (i.e. available to respond to an emergency by reaching the remediation waste management site quickly), to coordinate any emergency response measures that become necessary; and
4. Maintain records documenting compliance with General RAP Conditions II.A.1. through 3. above.

The Permittee submitted a detailed treatment unit design report in Attachment B in the RAP application. The Construction Completion Report will be developed to document construction and start-up activities associated with the treatment unit. An Operation and Maintenance Plan will be submitted in a separate document. The effluent limitations and monitoring requirements are discussed in the Missouri State Operating Permit (MO-0099503).

**B. Closure and Post-Closure [40 CFR 264 Subpart G]**

The Permittee shall comply with all applicable requirements of 40 CFR 264.111(a), (b), and (c).

**C. Tank Systems [40 CFR Part 264 Subpart J]**

The Permittee shall comply with all applicable requirements of 40 CFR 264.192, 40 CFR 264.193, 40 CFR 264.194, 40 CFR 264.195, 40 CFR 264.196, and 40 CFR 264.197.

**D. Air Emission Standards for Process Vents [40 CFR Part 264 Subpart AA]**

The Permittee shall operate process vents in accordance with the applicable requirements in 40 CFR 264.1032. 40 CFR Part 264 Subpart AA is only applicable to the air stripper, part of the remediation waste treatment system. Per the RAP application, the emissions will be less than 1.4 kilograms per hour.

E. Air Emission Standards for Equipment Leaks [40 CFR Part 264 Subpart BB]

The Permittee shall monitor each piece of equipment that comes in contact with hazardous remediation wastes in accordance with the applicable requirements in 40 CFR 264.1050, 40 CFR 264.1056, 40 CFR 264.1058, and 40 CFR 264.1063. 40 CFR Part 264 Subpart BB is only applicable to the NAPL tank (not applicable to the other tanks that are part of the remediation waste treatment system) per the RAP application.

F. Within 90 calendar days after the completion of construction of the remediation waste treatment system, the Permittee shall submit a Construction Completion Report to the Department for review and approval according to the procedures described in Corrective Action Condition XVIII. of this Permit. The report should include “as-built” design of the remediation waste treatment system and be certified by a professional engineer registered in Missouri.

**FACILITY SUBMISSION SUMMARY**

**Table 3 - Planned Submittal Requirements  
Pursuant to this Permit and Schedule of Compliance**

<b>Submittal Requirements</b>	<b>Due Date*</b>	<b>Permit Condition</b>
Two paper copies and one searchable electronic copy of the consolidated permit application.	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.A.
Certification that Permittee has read and understands all permit conditions in this Permit.	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.B.
Check or money order for any outstanding engineering review costs.	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.C.
Check or money order for each year this Permit is to be in effect beyond the first year.	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.D.
Revised SAP	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.E.
Revised surface water monitoring program (as part of the SAP)	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.F.
Updated post-closure care and corrective action cost estimate	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.G.
Updated draft financial assurance instrument	Within 60 calendar days after the Department's final written response on the updated post-closure care and corrective action cost estimate and on the updated RAP cost estimate.	Schedule of Compliance Item II.
Construction Completion Report	Within 90 calendar days after completion of RAP activities	Schedule of Compliance Item III.
Draft Environmental Covenant on any of the buffer land not currently covered by the existing covenants	Within 60 calendar days after the effective date of this Permit.	Schedule of Compliance Item V.

<b>Submittal Requirements</b>	<b>Due Date*</b>	<b>Permit Condition</b>
Semi-Annual and Annual Corrective Action Reports	March 1 and September 1 of each calendar year for the previous calendar half-year.	Corrective Action Condition XIV.A.
Updated post-closure care and corrective action cost estimate for annual adjustment for inflation	Annually, within 60 calendar days before anniversary date of establishment of the financial assurance instrument.	Corrective Action Condition XVII.A.2.a.
Permit Renewal Application	Within 180 calendar days of expiration date of this Permit.	Standard Permit Condition I.

\*Extensions may be requested and approved by the Department for cause without modifying this Permit.

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**Table 4 - Contingent Post-Closure and Corrective Action Submittal Requirements Pursuant to the Special Permit Conditions of this Permit**

Contingent Submittal Requirements	Due Date	Special Permit Condition
Proposed amendment to post-closure care plan by Permittee	At least 60 calendar days before proposed change in site operations and no later than 60 calendar days after occurrence of an unexpected event which affected plan.	II.B.
Requested modification of post-closure care plan by Department	Within 60 calendar days after the request for modification.	II.B.
Certification of Completion of Post-Closure Care	Within 60 calendar days after completion of post-closure care period.	II.D.
Proposal for Installation of Additional Monitoring Wells	Within 30 calendar days after determination by Permittee or notification by the Department, that existing monitoring system fails to define extent of groundwater contamination.	III.D.4.
Revisions to SAP to Incorporate Additional Monitoring Wells	Within 30 calendar days after receipt of notification by the Department, that a modified groundwater monitoring system adequately define extent of groundwater contamination.	III.D.4.
Well Certification Report forms and Certification/Registration Acceptance	By March 1 of each calendar year in Annual Corrective Action Report.	III.D.5. and III.D.6.a.
Revisions to SAP to Remove Plugged/Abandoned Monitoring Wells	Within 30 calendar days after well registration accepted by MGS.	III.D.6.b.
Notification of Groundwater Monitoring System Field Work	At least seven calendar days before conducting field work.	III.D.8.

<b>Contingent Submittal Requirements</b>	<b>Due Date</b>	<b>Special Permit Condition</b>
Revisions to SAP to Change List of Perimeter Wells	Within 30 calendar days after receipt of Department's approval	III.E.2.f.

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**Table 5 - Contingent Post-Closure and Corrective Action Submittal Requirements Pursuant to the Corrective Action Conditions of this Permit**

<b>Contingent Submittal Requirements</b>	<b>Due Date</b>	<b>Corrective Action Condition</b>
Written notification of newly-identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	II.A.
SWMU/AOC Assessment Work Plan	Within 30 calendar days after notice by the Department that a work plan is required.	II.B.
SWMU/AOC Assessment Report	According to the schedule in the approved SWMU/AOC Assessment Work Plan.	II.D.
Written notification of newly-identified releases from previously-identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	III.A.
Newly-Identified Release Work Plan	Within 30 calendar days of notice by the Department that a work plan is required.	III.B.
Newly-Identified Release Report	According to the schedule in the approved Newly-Identified Release Work Plan.	III.D.
Notification of interim/stabilization measures	Within 24 hours after discovery of need for stabilization.	IV.B.
Notification of interim/stabilization measures not effective	Within ten calendar days after determination.	IV.D.
RCRA Facility Investigation (RFI) Work Plan	Within 60 calendar days of notice by the Department that a RFI work plan is required.	V.B.
RCRA Facility Investigation (RFI) Report	According to the schedule in the approved RFI Work Plan.	VI.D.
Corrective Measures Study (CMS) Work Plan or Remedy Evaluation Plan	Within 45 calendar days of notice by the Department that a work plan is required.	VII.D.

<b>Contingent Submittal Requirements</b>	<b>Due Date</b>	<b>Corrective Action Condition</b>
Corrective Measures Study (CMS) or Remedy Alternatives Evaluation Report	According to the schedule in the approved CMS Work Plan.	VIII.B.
Corrective Measures Implementation (CMI) Work Plan	According to the schedule in the permit modification to implement a final remedy.	X.A.1.
Certification of Completion of Construction of Final Remedy	Within 60 calendar days after completion of all construction activities associated with an approved final remedy.	XI.B.
Certification of Completion of Corrective Measures	Within 60 calendar days after receipt of the Department's approval of the documentation verifying completion of all corrective action	XII.C.
Activity Use Limitations	At least 120 calendar days before activities requiring AULs.	XIII.A.
Transfer of Interest of Property	At least 90 calendar days before transfer of any interest in any portion of the property.	XIII.E.
Change of Use of Property	At least 30 calendar days before changes in the use of the facility property.	XIII.F.
Demonstration to Rescind or Modify a Previously-Executed Environmental Covenant	Within 180 calendar days before the effective date of any proposed permit termination.	XIII.I.1.
Draft Environmental Covenant	Within 60 calendar days after receipt of Department notification.	XIII.I.2.
Notarized statement certifying the approved Environmental Covenant was recorded	Within 30 calendar days after recording approved Environmental Covenant.	XIII.I.7.

<b>Contingent Submittal Requirements</b>	<b>Due Date</b>	<b>Corrective Action Condition</b>
Revised Corrective Action Cost Estimate for Additional Corrective Action Activities	Within 60 calendar days after Permittee determines or Department notifies in writing that a new cost estimate is required.	XVII.A.2.b.
Draft Financial Assurance Instrument(s)	Within 60 calendar days after receipt of Department's final written response to the revised corrective action cost estimate.	XVII.B.1.a.
Original Executed Financial Assurance Instruments	Within 60 calendar days after approval of draft financial assurance instrument(s).	XVII.B.1.c.

**FIGURES**

**Figure 1 - Location of the BFINA Facility**

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**Figure 2 - Current Permitted Property Boundaries**

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**Figure 3 - Location of SWMUs and AOCs**

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**Figure 4 - Remediation Waste Management Site**

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