Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management

HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT

Ashland Inc., Route 3 Landfill

7212 State Route 3, Catlettsburg, Kentucky 44129
38º 22’ 46”, 82º 37’ 35”

The Division of Waste Management hereby grants the above-named facility a Permit to engage in activity specified below. This Permit has been issued under the provision of KRS Chapter 224 and regulations promulgated pursuant thereto and are subject to all Permit Conditions and operating limitations contained herein. Issuance of this Permit does not relieve the Permittee from the responsibility of obtaining any other Permits, licenses, or approvals required by this Cabinet and/or other federal, state, and local agencies.

No deviation from the plans and specifications submitted with your Application or the Permit Conditions specified herein is allowed, unless authorized in writing from the Division of Waste Management. Violation of the terms and Permit Conditions specified herein shall render this Permit null and void. All rights of inspection by representatives of the Division of Waste Management are reserved. Conformance with all applicable Waste Management Regulations is the responsibility of the Permittee. Receipt of the Permit fee and financial assurance specified below is hereby acknowledged.

Permit Type:	Post-Closure	**EPA I.D. Number:**	KYD-000-615-898
Hazardous Waste Management Units:	Landfill	**Agency Interest:**	15605
Facility Owner:	Ashland Inc.	**County:**	Boyd
Facility Operator:	Same As Above	**Permit Fee:**	$ 13,000
Landowner:	Same As Above		
Closure Cost Estimate:	N/A		
Post-Closure Amount:	$ 2,255,150		
Sudden Liability Insurance:	N/A	**Effective Date:**	Month Day Year
Non-Sudden Liability Insurance:	$ 3,000,000 / $ 6,000,000	**Expiration Date:**	Month Day Year

Tammi Hudson
Director
Division of Waste Management
Issued on Month Day Year

Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management

This Permit has been modified, altered, reviewed, and/or changed as indicated in the table below – Summary of Permitting Actions.

SUMMARY OF PERMITTING ACTIONS					
Action Number[1.]	**Type of Actions[2.]**	**Public Notice Date[3.]**	**Issuance Date[4.]**	**Effective Date[5.]**	**Comments[6]**
					None at the time of this permit issuance

[1.] Action number is the same as Permit Modification number.
[2.] Type of Permit Modification issued by the Cabinet.
The different types of Permit Modifications are: Class 1, Class 2 and Class 3.
[3.] Not all Permit Modification is required by **40 CFR Part 124 - Subpart A** to be public noticed.
[4.] Date issued is not required to be the same as the effective date of the modification.
[5.] The effective date of a modification depends on the type of the modification class.
[6.] Brief description of the Permit Modification.

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PART I LEGAL AUTHORITY

PART I
LEGAL AUTHORITY

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

Pursuant to the Environmental Protection Law, as amended [**KRS Chapter 224**] and attendant regulations promulgated thereunder by the Kentucky Energy and Environment Cabinet, in the Kentucky Administrative Regulations (KARs) Title 401, this Permit is issued to Ashland Inc., Route 3 Landfill**,** hereinafter referred to as the "Permittee", located at 7212 State Route 3, Catlettsburg, Kentucky.

The Permittee must comply with all terms and conditions of this Permit. This Permit consists of the Permit Conditions set forth in:

- **Part I:** Legal Authority;
- **Part II:** Standard Permit Conditions;
- **Part III:** Specific Permit Conditions;
- **Part IV:** Corrective Action;
- **Part V:** Waste Minimization;
- **Part VI:** Land Disposal Restrictions;
- **Part VII:** Organic Air Emissions Standards;
- **Part VIII:** Referenced Attachments; and
- The applicable waste management regulations.

Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KAR) may have exceptions to the equivalent Code of Federal Regulations (CFR). In the instance of inconsistent language or discrepancies between **401 KAR Chapter 39** and its equivalent CFR, **401 KAR Chapter 39** shall take precedence. Applicable regulations are those which are in effect on the date of issuance and also upon modification, revocation or reissuance of this Permit. [**40 CFR Part 270.32**]

The original Permit Application (Part A and Part B Permit Application) for this Permit was submitted to the Division of Waste Management on August 3, 2015. Revisions to the Permit Application were as follows: Revision 1 on November 4, 2021, Revision 2 on May 9, 2022, Revision 3 on August 19, 2022, Revision 4 on March 13, 2023, Revision 5 on July 10, 2023, and Revision 6 on August 24, 2023. The content within Revision 6 is the basis for this Permit and is hereby incorporated into this Permit as Attachments. (See *Table I.1*)

This Permit is based on the assumption that the information in the incorporated Permit Application is accurate and that the facility will be constructed, maintained, equipped and operated as specified in the Permit Application and this Permit. In the instance of inconsistent language or discrepancies between the above, the language of the more

stringent provision shall govern. Any inaccuracies found in this information could lead to the termination or modification of this Permit and potential enforcement action (**40 CFR Part 270.43** and **401 KAR 40:040 Section 1**: Modification, Suspension and Revocation of a Permit (effective 12/2/83)). The Permittee shall inform the Cabinet of any deviation from, or changes in the information in the Permit Application, which would affect the Permittee's ability to comply with the applicable regulations or Permit Conditions. [**40 CFR Part 270.30**]

This Permit is effective DATE and shall remain in effect until the specified expiration date DATE, unless revoked and reissued, or terminated (see **40 CFR Part 270.41**, **40 CFR Part 270.43**, **40 CFR Part 124.5(a)** and **401 KAR 40:040 Section 1**).

This Permit or a copy thereof shall be kept at the work site of the Permitted activity. In the event that there is no building or reasonable repository for such a copy at the work site, then the Permit or a copy thereof shall be kept at an alternate location agreed to by the Division.

TABLE I.1 CROSS REFERENCE OF PERMIT ATTACHMENTS	
Permit Attachment[1.]	**Permittee's Permit Application**
Attachment A Part A Permit Application	Part A Permit Application
Attachment B Facility Description	Section B Facility Description
Attachment C Waste Analysis Plan	Section C Waste Analysis Plan
Attachment D Process Information	Section D Process Information
Attachment E Groundwater Monitoring & Corrective Action	Section E Groundwater Monitoring
Attachment F Procedures to Prevent Hazards	Section F Procedures to Prevent Hazards
Attachment G Contingency Plan	Section G Contingency Plan
Attachment H Personnel Training	Section H Personnel Training
Attachment I Closure Plans, Post-Closure Plans & Financial Requirements	Section I Closure Plan, Post-Closure Plans and Financial Requirements
Attachment J Other Federal Laws	Section J Other Federal Laws
Attachment K Waste Minimization Plan	Section K Waste Minimization
Attachment L Signature Certification	Section L Certification

TABLE I.1 CROSS REFERENCE OF PERMIT ATTACHMENTS	
Permit Attachment[1.]	**Permittee's Permit Application**
[1] Selected sections, parts, and/or attachments submitted as part of the Permittee's Permit Application have been incorporated into the Permit as attachments. However, this does not indicate that the Permit Application may be used as a substitute for the attachments prepared by the Division.	

TABLE I.2 CROSS REFERENCE OF CFRs AS ESTABLISHED IN 401 KAR CHAPTER 39		
State Regulation	**Federal Regulation**	**State Regulation Section Description**
39:060 Sec. 2	40 CFR Part 260	Hazardous Waste Management Systems
39:060 Sec. 3	40 CFR Part 261	Identification and Listing of Hazardous Wastes
39:060 Sec. 4	40 CFR Part 268	Land Disposal Restrictions
39:060 Sec. 5	40 CFR Part 124 and 270	Hazardous Waste Permit Program and Procedures
39:080 Sec. 1	40 CFR Part 262	Standards for Generators of Hazardous Waste
39:080 Sec. 2	40 CFR Part 263	Standards for Transporters of Hazardous Waste
39:080 Sec. 3	40 CFR Part 273	Standards for Universal Waste
39:080 Sec. 4	40 CFR Part 279	Standards for Used Oil
39:090 Sec. 1	40 CFR Part 264	Standards for Owners or Operators for Treatment, Storage, and Disposal Facilities
39:090 Sec. 2	40 CFR Part 265	Standards for Owners or Operators for Interim Status Treatment, Storage, and Disposal Facilities
39:090 Sec. 3	40 CFR Part 266	Standards for Specific Types of Hazardous Waste Facilities
39:090 Sec. 4	40 CFR Part 267	Standardized Permits
39:090 Sec. 5	40 CFR Part 264	Flood Plains
All KARs cited in this Permit are governed by CFRs unless specified otherwise.		

END OF PERMIT CONDITIONS

PART II STANDARD PERMIT CONDITIONS

PART II
STANDARD PERMIT CONDITIONS

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

II.A EFFECT OF PERMIT

Compliance with the terms of this Permit constitutes compliance for purposes of enforcement with **KRS Chapter 224.46-520**.

This Permit is issued pursuant to **KRS 224.46**.

Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA of 1976; Sections 106(a), 104, or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA); the equivalent state statutes, or any other law governing protection of public health or the environment for any imminent and substantial endangerment to human health, welfare or the environment. [**40 CFR Part 270.4**]

II.B PERMIT ACTIONS

II.B.1 Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, revoked and reissued, or terminated for cause as specified in **40 CFR Part 270.40** through **270.43**, **40 CFR Part 124.5(a)**, **401 KAR 40:040 Section 1**: Modification, Suspension and Revocation of a Permit (effective 12/2/1983), **40 CFR Part 270.30**, **40 CFR Part 270.10**, and **401 KAR 39:060 Section 6**.

The filing of a request for a Permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated non-compliance on the part of the Permittee does not stay the applicability or enforceability of any Permit Conditions [**40 CFR Part 270.30**]. If at any time for any of the reasons specified in **40 CFR Part 270.41**, the Cabinet determines that modification of this Permit is necessary, the Cabinet may initiate a modification according to **40 CFR Part 124 - Subpart A** or require the Permittee to request a Permit Modification as outlined in **40 CFR Part 270.42**.

II.B.2 Permit Renewal

II.B.2.1 This Permit may be renewed as specified in *Permit Condition II.E.2***.** Review of any Application for a Permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations. [**40 CFR Part 270.4**, **40 CFR Part 270.30** and **401 KAR 39:060 Section 5**]

II.B.2.2 The Permittee shall submit three (3) hard copies and one (1) electronic copy plus a cover letter accompanying the Application and fee payable to the Kentucky State Treasurer to the Division by hand delivery or verifiable delivery at the following address:

ATTN: Hazardous Waste Branch, Manager
Division of Waste Management
300 Sower Blvd., 2nd Floor
Frankfort, KY 40601

II.B.2.3 The Permittee shall submit one (1) hard copy and one (1) electronic copy of the Application plus a cover letter accompanying the renewal to the U.S. Environmental Protection Agency Region 4 (EPA Region 4) by verifiable delivery at the following address:

ATTN: Chief, RCRA Programs and Cleanup Branch
Land, Chemicals and Redevelopment Division
U.S. E.P.A. - Region 4 Sam Nunn Atlanta Federal Center
61 Forsyth St, SW
Atlanta, GA 303033

II.B.2.4 The Permittee shall notify the Division proof of delivery of the Application and/or revisions to EPA Region 4 within seven (7) days of the receipt date.

II.B.3 Permit Expiration

Pursuant to **40 CFR Part 270.50**, this Permit shall be effective for a fixed term not to exceed ten (10) years. The Director shall not grant permission for the Application to be submitted later than the expiration date of the existing Permit. This Permit and all Permit Conditions herein will remain in effect beyond the Permit's expiration date, if:

II.B.3.1 The Permittee has submitted a timely and complete Application in accordance with **40 CFR Part 270.10(h)**, **40 CFR Part 270.13** through **270.28**; and,

II.B.3.2 Through no fault of the Permittee, the Division has not issued a new Permit, as set forth in **40 CFR Part 270.51**.

II.B.4 Permit Modifications

This Permit may be modified as specified in the following: [**40 CFR Part 124.5**, **40 CFR Part 270.41** and **40 CFR Part 270.42**]

II.B.4.1 Routine Changes

A routine change or modification to the Permit is any change that qualifies as a Class 1 or Class 2 Permit Modification under **40 CFR Part 270.42**.

The Permittee shall not implement any Class 1 Permit Modification that requires approval or Class 2 Permit Modification without written approval from the Manager.

Class 1 Permit Modifications for which prior approval is not required under **40 CFR Part 270.42** may be implemented without prior notice or approval by the Division if notice of the modification is submitted to the Division within seven (7) calendar days after the change is put into effect.

II.B.4.2 Significant Changes

A significant change or modification to the Permit is:

II.B.4.2.1 Any change that qualifies as a Class 3 Permit Modification under **40 CFR Part 270.42**; or

II.B.4.2.2 Any change not explicitly identified in **40 CFR Part 270.42**; or

II.B.4.2.3 Any amendments resulting in less stringent terms or conditions in the Permit.

II.B.4.3 Modification and Corrective Action

The Permittee shall modify the Permit to incorporate the corrective action plans, if necessary, developed as specified in *Permit Condition IV.I.3*, throughout this Permit, and financial assurance for corrective action as required under regulations **40 CFR Part 270.41** and **Part 270.42, 40 CFR Part 264.101**, **40 CFR 270 Subpart H, 401 KAR 39:090 Sections 1(2)** and **2(3)**.
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II.B.4.4 Modifications: General Submittals Requirements

II.B.4.4.1 Submit to the Director the exact change(s) and reason for the changes intended for this Permit and if the changes include modifications to the information provided or to terms and conditions in this Permit.

II.B.4.4.2 Identify the Class modification type;

II.B.4.4.3 Explain why the modification is needed;

II.B.4.4.4 Provide the applicable information required by **40 CFR Part 264** and **270**.

II.B.4.4.5 The Permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Director and to the appropriate units of State and local government as specified in **40 CFR Part 270.42**.

II.B.4.4.6 Provide to the Manager evidence of the mailing and publication of the public notice

as applicable and required under **40 CFR Part 270.42** and **40 CFR Part 124 - Subpart A**.

II.B.4.4.7 Submit and comply with any other information required under **40 CFR Part 260** through **270** and **KRS 224.46**.

II.B.4.5 Modification Submittals

The Permittee shall submit three (3) hard copies and one (1) electronic copy plus a cover letter of any Permit Modification request and fee payable to the Kentucky State Treasurer to the Division by hand delivery or verifiable delivery at the address provided in *Permit Condition II.B.2.2.*

II.B.4.5.1 The Permittee shall submit one (1) hard copy and one electronic copy of any Permit Modification Application plus a cover letter accompanying the modification to the U.S. EPA Region 4 at the address provided in *Permit Condition II.B.2.3.*

II.B.4.5.2 The Permittee shall submit to the Division proof of delivery of the submittal to EPA Region 4 within seven (7) days of receiving notification of the EPA receipt date.

II.B.5 Modifications of this Permit do not constitute a reissuance of this Permit.

II.C SEVERABILITY

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 or diminished. [**40 CFR Part 124 - Subpart A**]

II.D DEFINITIONS

For the purposes of this Permit, terms used herein shall have the same meaning as those established in **401 KAR Chapter 39:005** and **40:001**, as well as **KRS 224**, unless this Permit specifically provides otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. The terms “Cabinet”, “Division”, “Director” and “Manager” can be used interchangeably.

II.D.1 "Area of Concern" (AOC)

Any area having a probable or known release of a hazardous waste(s) or hazardous constituent(s) which is not from a Solid Waste Management Unit and is determined by the Manager to pose a current or potential threat to human health or the environment. Such Areas of Concern may require investigations and remedial actions in order to ensure adequate protection of human health and the environment.

II.D.2 "Contamination"

The presence of any hazardous waste constituent in a concentration which exceeds the background concentration of that constituent in the immediate vicinity of the facility.

II.D.3 "Corrective Action"

May include all corrective measures necessary to protect human health and the environment from all releases of hazardous waste or hazardous waste constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit.

II.D.4 "Extent of Contamination"

Horizontal and vertical area in which the concentration of hazardous constituents in the environmental media being investigated are above the detection limit or background concentrations indicative of the region, whichever is appropriate as determined by the Manager.

II.D.5 "Leak Detection and Repair Program" (LDAR Program)

The processes and procedures set forth in Facility Description: Equipment Leak Standards; Compliance Plan: Subpart BB Air Emissions Standards; and Compliance Plan: Subpart CC Air Emissions Standards, of the Approved Permit Application.

II.E DUTIES AND REQUIREMENTS

II.E.1 Duty to Comply

The Permittee must comply with all Permit Conditions of this Permit except to the extent and for the duration that such non-compliance is authorized by an Emergency Permit. Any Permit non-compliance, other than non-compliance authorized by an Emergency Permit, constitutes a violation of **KRS Chapter 224** and is grounds for enforcement action, Permit termination, revocation and reissuance, modification, or denial of a Permit Renewal Application. [**40 CFR Part 270.30**]

II.E.2 Duty to Reapply

If the Permittee intends to continue an activity allowed or required by this Permit after the expiration date of this Permit, the Permittee shall submit a complete Application for a new Permit at least one hundred eighty (180) days prior to Permit expiration [**40 CFR Part 270.30** and **270.10**]. The Permittee must comply with the public notice requirements of **40 CFR Part 124.10**.

The Permittee must apply for a new Permit in accordance with the regulations and *Permit Conditions II.B.2*.

II.E.3 Obligation for Corrective Action

The Permittee is required to continue this Permit for any period necessary to comply with the corrective action requirements of this Permit. The Corrective Action obligations contained in this Permit will continue

regardless of whether the facility continues to operate or ceases operation and closes. The Permittee is obligated to complete facility-wide Corrective Action under the terms and conditions of this Permit regardless of the operational status of the facility. [**40 CFR Part 264.100**, **40 CFR Part 264.101**, **40 CFR Part 270.1** and **40 CFR Part 270.51**]

II.E.4 Need to Halt or Reduce Activity Not a Defense

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 to maintain compliance with the terms and conditions of this Permit. [**40 CFR Part 270.30**]

II.E.5 Duty to Mitigate

In the event of noncompliance with 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. [**40 CFR Part 270.30**]

II.E.6 Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the terms and conditions of the Permit. [**40 CFR Part 270.30**]

II.E.7 Duty to Provide Information

The Permittee shall furnish the Manager, within a reasonable time, any information requested to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish the Manager upon request copies of the records kept as a requirement of this Permit. [**40 CFR Part 270.30**]

II.E.8 Inspection and Entry

The Permittee shall allow an authorized representative of the Division, upon the presentation of credentials and other documents, as may be required by law, [**40 CFR Part 270.30**]

II.E.8.1 To enter at reasonable times the Permittee's premises where the regulated facility or activity is located or conducted; or where records must be kept under the Permit Conditions of this Permit;

II.E.8.2 To have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

II.E.8.3 To inspect and photograph at reasonable times, any facilities, equipment, (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

II.E.8.4 Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location. Split samples and copies of analysis will be provided to the Permittee upon request.

II.E.9 Monitoring and Records

II.E.9.1 Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain representative samples of the wastes and/or contaminated media to be analyzed must be the appropriate method from **40 CFR Part 261 Appendix I**, or an equivalent method if specified in the application, or otherwise approved by the Manager. Laboratory methods must be those specified in the most recent edition of *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (SW-846, current edition) or a method approved by the Cabinet in accordance with **40 CFR Part 270.30** and **40 CFR Part 260 - Subpart C**.

II.E.9.2 In accordance with **40 CFR Part 270.30**, the Permittee shall retain the following records at the facility, or at another location as approved by the Manager; records of all monitoring information required under the terms and conditions of this Permit, including:

II.E.9.2.1 All calibration and maintenance records;

II.E.9.2.2 Records of all original strip chart recordings for continuous monitoring instrumentation;

II.E.9.2.3 Copies of all reports and records required by this Permit and all data used to prepare them;

II.E.9.2.4 Records of all data used to complete the Application for this Permit; and

II.E.9.2.5 Certification required by **40 CFR Part 264.73**.

The Permittee shall retain these items for a period of at least three (3) years from the date of the sample, measurement, report, record, certification, or Application, or until corrective measures on the regulated unit(s) are completed, whichever date is later.

This period may be extended if requested by the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility.

Permit Condition II.E.9 also applies to all records which must be maintained for the solid waste management units at the facility.

The Permittee shall maintain records from all surface water sampling, seep sampling, soil sampling, sediment sampling, ground-water, monitoring wells and associated ground-water surface elevations, for the active life of the facility, and, for disposal facilities, for the Post-Closure Care period as well.

II.E.9.3 Pursuant to **40 CFR Part 270.30**, records of monitoring information shall specify:

II.E.9.3.1 The date, exact place, and time of sampling or measurements;

II.E.9.3.2 The individual(s) who performed the sampling or measurements;

II.E.9.3.3 The date(s) analyses were performed;

II.E.9.3.4 The individual(s) who performed the analyses;

II.E.9.3.5 The analytical techniques or methods used; Analytical technique(s) or method(s) is defined as encompassing both the sampling technique (method) and method of chemical analysis used. This information must be provided in the Waste Analysis Plan; and

II.E.9.3.6 The results of such analyses, including the detection limits and Quality Assurance/Quality Control (QA/QC) documentation.

II.E.9.4 If paper copies are not retained, backup electronic copies of all data must be prepared on a weekly basis. The backup system shall be independent of (1) the systems used to collect the data and (2) the systems used to store the primary copy. All data stored in electronic format must be available for review at the facility at all times by regulatory personnel.

II.E.9.5 Monitoring results shall be reported at intervals specified elsewhere in the Permit in accordance with **40 CFR Part 270.30**.

II.E.10 Reporting Planned Changes

The Permittee shall give notice to the Manager as soon as possible of any planned physical alterations or additions which may impact any Hazardous Waste Management Units (HWMUs), Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), or the areas contaminated by them. [**40 CFR Part 270.30**]

II.E.11 Reporting Anticipated Non-Compliance

The Permittee shall provide to the Manager, advance written notice of any planned changes in the Permitted facility or activity that may result in non-compliance with Permit requirements. [**40 CFR Part 270.30**]

II.E.12 Certification of Construction or Modification

For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in **40 CFR Part 270.42**, until:

II.E.12.1 The Permittee has submitted to the Manager by certified mail or hand delivery a letter signed by the Permittee and an independent Professional Engineer registered in the Commonwealth of Kentucky stating that the facility has been constructed or modified in compliance with the Permit

[**40 CFR Part 270.30]**; and

II.E.12.1.1 The Division has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the Permit; or [**40 CFR Part 270.30**]

II.E.12.1.2 The Cabinet either has waived the inspection or has not, within fifteen (15) days of receipt of the above, notified the Permittee of its intent to inspect. [**40 CFR Part 270.30**]

II.E.12.2 The certification must include at a minimum:

II.E.12.2.1 As-built drawings;

II.E.12.2.2 Descriptions and delineation of any changes to proposed drawings;

II.E.12.2.3 All required professional certifications;

II.E.12.2.4 All Quality Assurance/Quality Control (QA/QC) documentation; and

II.E.12.2.5 All required physical testing results.

II.E.12.2.6 In case of deviations from design specifications which may occur during construction; these must be noted in the engineer's statement accompanied with an evaluation of the impact of the deviation on facility or specific unit performance. If the Division determines that the deviations are indeed minor and will not adversely impact the Permittee's ability to comply with the conditions of this Permit, Division may modify the Permit accordingly.

II.E.12.2.7 Information on updates to the inventory of components subject to the requirements of **40 CFR Part 264 Subparts AA**, **BB**, and **CC**, under Part VII of this permit.

II.E.12.2.8 Any additional requirements the Division deems necessary.

II.E.13 Transfer of Permit

This Permit may be transferred to a new owner or operator only if it is modified or revoked pursuant to **40 CFR Part 270.40** and **270.41** or a Class 1 Permit Modification is made pursuant to **40 CFR Part 270.42** that identifies the new Permittee and incorporates such other requirements as may be necessary under **KRS Chapter 224** and **40 CFR Part 260** through **270**. Until the new owner or operator has demonstrated compliance with **40 CFR Part 264 - Subpart H** the old owner/operator shall continue to maintain financial assurance until released by the Manager in writing. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner/operator in writing of the requirements of **40 CFR Part 260** through **270** as well as **401 KAR Chapter 39** and **40**, and this Permit [**40 CFR Part 264.12**] including all applicable Corrective Actions requirements. This Permit is not transferrable to any person except after prior written approval of the Director. [**40 CFR Part 270.30**]

II.E.14 Compliance Schedule

II.E.14.1 Reports of compliance or non-compliance with, or any progress reports on interim and final requirements contained in any type of compliance schedule of this Permit shall be submitted no later than fourteen (14) days following each scheduled date as required by **40 CFR Part 270.30**. Submissions shall be made in hard and electronic copies.

II.E.14.2 The Permittee shall, at a minimum, provide one (1) week advance notification to the appropriate Cabinet's field personnel, corrective action section staff or permit review section staff for any sampling event required by this Permit or its effects.

II.E.15 Two-Hour Reporting

The Permittee shall report to the Manager any non-compliance including releases which may endanger human health or the environment. Any information shall be provided orally within two (2) hours from the time the Permittee becomes aware of the circumstances (the Kentucky 24-hour reporting number is 502-564-2380 or 1-(800) 928-2380). The information in *Permit Conditions II.E.15.1* and *II.E.15.2* shall be reported orally within two (2) hours: [**401 KAR 39:060 Section 6**]

II.E.15.1 Information concerning release of any hazardous waste or hazardous constituents that may cause an endangerment to public drinking water supplies, including both surface water and groundwater used for public drinking water supply; and

II.E.15.2 Any information of a release or discharge of hazardous waste constituents, or of a fire or explosion at the facility that could threaten the environment or human health outside the facility.

II.E.15.3 The Permittee shall also provide a written submission to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the periods of non-compliance (including exact dates and times); whether the non-compliance has been corrected; and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps planned or taken to reduce, eliminate, and prevent reoccurrence of the non-compliance. [**40 CFR Part 270.30**]. This report shall also include the following:

II.E.15.3.1 The description of the occurrence and its cause;

II.E.15.3.2 Name, address, and telephone number of the owner or operator and the reporter;

II.E.15.3.3 Name, address, telephone number, and EPA identification number of the facility;

II.E.15.3.4 Date, time, and type of incident;

II.E.15.3.5 Name, and quantity of material(s) involved;

II.E.15.3.6 The extent of injuries, if any;

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II.E.15.3.7 An assessment of actual or potential hazard to the environment and human health

outside the facility, where this is applicable; and

II.E.15.3.8 Estimated quantity and disposition of recovered material that resulted from the incident.

II.E.16 Other Non-Compliance

The Permittee shall report all instances of noncompliance not reported under *Permit Conditions II.E.11* and *II.E.15* at the time monitoring reports are submitted. The reports shall contain the information listed in *Permit Condition II.E.15.3* of this Permit. [**40 CFR Part 270.30**]

II.E.17 Other Information

Whenever the Permittee becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the application or in any report to the Manager, the Permittee shall promptly submit such facts or information. In addition, upon request, the Permittee shall furnish to the Manager any information related to compliance with the Permit. [**40 CFR Part 270.30**]

Noncompliance with terms and conditions of the Permit that result in letters of warning, notice of violation letters from the Cabinet, an agreed order, change in permit conditions and/or permit duration, or criminal enforcement of environmental laws by the Commonwealth of Kentucky shall be used to document the reliability, expertise, integrity and competence of the Permittee, and would be considered by the Cabinet in making future changes to the Permit, pursuant to **40 CFR Part 270 - Subpart D** and **40 CFR Part 270.32**; and when issuing a new Permit as set forth in **40 CFR Part 270.50**.

II.F SIGNATORY REQUIREMENTS

All Applications, reports and/or information required by this Permit, or otherwise submitted to the Manager, shall be signed and certified in accordance with **40 CFR Part 270.11** and **40 CFR Part 270.30**.

II.G REPORTS, NOTIFICATION AND SUBMISSIONS TO THE DIVISION

All reports, notifications, or other submittals that this Permit requires are to be mailed to the Manager. Two (2) hard copies and one (1) electronic copy in a standard text-searchable format (e.g., portable document format) acceptable to the Cabinet shall be provided to the address stated in *Permit Condition II.B.2.2.*

II.H CHANGES TO PERMIT

II.H.1 Additions or Alterations

The Cabinet may modify the Permit when there is material and substantial alterations or additions to the Permitted facility, or activity; which occurred after Permit issuance, which justify the application of conditions that are different or absent in this Permit. [**40 CFR Part 270.41**]

II.H.2 New Information

II.H.2.1 The Cabinet may modify the Permit when the Cabinet receives new information.

II.H.2.2 Permits may be modified during their terms for this cause, if the information was not available at the time of Permit issuance and justify the application of different conditions. [**40 CFR Part 270.41**]

II.H.3 New Statutes, Standards, or Administrative Regulations

The Cabinet may modify this Permit when the standards or administrative regulations on which this Permit is based have been changed by "statute", amended standards, administrative regulations, or by judicial decision after the Permit was issued. [**40 CFR Part 270.41**]

This Permit is subject to any further statutory or regulatory changes whose purpose is to protect the health and welfare of the Commonwealth citizen and the environment (see **40 CFR Part 270.41**, except as provided in **40 CFR Part 270.4)**.

II.H.4 Amendment of Part A Application

The Permittee shall submit a revised Part A Application if the Part A information changes in conjunction with any request for modification of this Permit. In addition, a revised Part A shall be submitted to the Cabinet ninety (90) days prior to change in ownership or operational control to the facility pursuant to **40 CFR Part 270.40**, and shall be signed and certified by the new owner or operator.

II.I CONFIDENTIAL INFORMATION

Any person who submits information to the cabinet pursuant to **401 KAR Chapters 39** and **40**, may assert a claim of business confidentiality or trade secret covering part or all of that information by following the procedures established in **KRS 224.10-212** and **400 KAR 1:060**. [**401 KAR 39:060 Section 6(9)**]

II.J DOCUMENTS TO BE MAINTAINED AT FACILITY

The Permittee shall maintain at the facility, or at another location as approved by the Manager, until post-closure is completed and certified by an independent Professional Engineer registered in the Commonwealth of Kentucky, and verified by the Cabinet, the following documents and amendments, revisions, and modifications to these documents:

II.J.1 Permit

This Permit, and its approved permit application, as well as any correspondence related to this Permit.

II.J.2 Waste Analysis Plan

As required by **40 CFR Part 264.13**.

II.J.3 Inspection Schedules

As required by **40 CFR Part 264.15**, for a period of three (3) years or longer if specified otherwise in the Permit.

II.J.4 Personnel Training Documents and Records

N/A due to provisions of **40 CFR Part 270.28**.

II.J.5 Contingency Plan

N/A due to provisions of **40 CFR Part 270.28**.

II.J.6 Operating Record

As required by **40 CFR Part 264.73**.

II.J.7 Closure Plan & Post Closure Plan

As required by **40 CFR Part 264.112, 40 CFR Part 264.118,** and **40 CFR Part 264.119.**

II.J.8 Annually-Adjusted Cost Estimate for Facility Closure and Post Closure Plan

As required by **40 CFR Part 264.142** and **264.144**.

II.J.9 Hazardous Waste Unit Requirements

Reserved

II.J.10 Annual Reports

As required by **401 KAR 39:060 Section 5(18)**.

II.J.11 Manifests

Copies of all manifests for shipments of hazardous waste received at and originating from this facility, kept as required by **40 CFR Part 264.71**.

II.J.12 Notifications from Generators

Notifications from generators subject to **40 CFR Part 268** that specify treatment standards. [**40 CFR Part 264.73**, **40 CFR Part 262.40**]

II.J.13 Waste Minimization

Waste minimization certifications must be part of the Operating Record. [**40 CFR Part 264.73**]

II.J.14 Closed Vent System and Control

Reserved

II.J.15 Groundwater Monitoring

Results and reports as required by **40 CFR Part 264 - Subpart F**.

II.J.16 All Other Documents

Assessment, report, installation records, and repair certifications as required by this Permit.

II.K PERMIT CONDITIONS AND ATTACHMENTS

All attachments and documents required by this Permit—including all plans and schedules—, upon approval by the Director, are incorporated into this Permit by reference and become an enforceable part of this Permit. Since required items are essential elements of this Permit, failure to submit any of the required items or submission of inadequate or insufficient information may subject the Permittee to enforcement action under **401 KAR 40:040**, **KRS 224.99-010** and/or **Section 3008** of RCRA which may include fines, suspension, or revocation of the Permit. Any noncompliance with approved plans and schedules shall be termed noncompliance with this Permit.

II.K.1 Precedence of Permit over Attachments

If any of the Attachments to this Permit are found to conflict with any of the conditions in Part I through VIII of this Permit, the Condition of this Permit shall take precedence.

II.K.2 Precedence of Appendix over Application

If any Section of the Application is found to be in conflict with any Appendix to this Permit, the Appendix to this Permit shall take precedence.

END OF PERMIT CONDITIONS

PART III SPECIFIC PERMIT CONDITIONS

PART III
SPECIFIC PERMIT CONDITIONS

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

III.A FACILITY DESCRIPTION

III.A.1 This Permit is issued for performance of Post-Closure Care at Ashland Inc., Route 3 Landfill (hereinafter referred to as the "Permittee"). [**40 CFR Part 264.1**]

Ashland, Inc. is the owner, operator, and landowner of the Ashland Inc., Route 3 Landfill located at 7212 State Route 3, Catlettsburg, Kentucky 44129. The area surrounding the landfill is mostly undeveloped land and residential property with KY Route 3 bordering the eastern side of the property. I-64 also nearly borders the eastern side of the property. The landfill was established in 1976 solely for the disposal of various hazardous and solid wastes generated primarily by Ashland Petroleum Company's (now Ashland Inc.) Catlettsburg refinery complex. The landfill was also utilized for disposal of some petroleum related wastes originating at other Ashland Petroleum Company owned facilities including wastes from Ashland's Viney Branch Surface Impoundment. The landfill does not currently accept waste and is capped.

The described facility is located on 39 acres and is located 1.25 miles west of U.S. 23 on Route 3. The facility consists of a maintenance shed, a 300 foot by 100 foot wastewater basin with a capacity of 2.5 million gallons for management of landfill leachate, a subsurface water collection and treatment system also managing landfill leachate, an approximately 1 acre closed surface impoundment, and a 20 acre landfill with a final fill volume of approximately 1,100,000 cubic yards.

The Ashland Inc. Route 3 Landfill has a Kentucky Pollution Discharge Elimination System (KPDES) Permit. The applicable KPDES Permit Number is KY0063096. This discharge permit is required because leachate from the landfill is collected, treated and may be discharged to a surface water of the Commonwealth. The landfill is also subject to provisions of the multi-source landfill leachate exclusion described within 401 KAR 39:060 Section 3(8). Beyond these described provisions, the landfill is subject to no other environmental permits or conditions related to regulatory exclusion.

From landfill establishment (1976) until closure (1998), annually about 65,000 tons of waste was disposed of at the landfill. Known hazardous wastes disposed of at the landfill include

air flotation float (EPA waste code K048),
slop oil emulsion solids (K049),
heat exchanger bundle cleaning sludge (K050),

API Separator sludge (K051),
leaded tank bottoms (K052),

and various spill residues with constituents such as

chromium (D007),
lead (D008),
benzene (D018 and/or U019),
cresol (D023, D024, and/or D025),
nitrobenzene (D036),
pyridine (D038),
tetraethyl lead (P110),
methyl ethyl ketone (D035 and/or U159),
naphthalene (U165), and
toluene (U220).

Waste analysis for wastes from Ashland's Viney Branch Surface Impoundment also denoted

phenol and
cumene.

Multi-source leachate (F039) was probably also placed into the landfill.

Due to operation prior to RCRA implementation, additional, and potentially different, hazardous wastes related to petroleum refining operations (primarily at the Catlettsburg Refinery complex with minor amounts potentially from other Ashland petroleum operations) may have also been disposed within the landfill. Such wastes have been assumed to be byproducts or constituents of petroleum refining operations or other refinery wastes consistent with EPA's Skinner guidance memorandum and associated updates (i.e. potentially disposed hazardous wastes are identified by the "Skinner List"). By examination of historically observed impacted site media, some constituents of the "Skinner List" have been indicated to probably be in the landfill. However, those that have not been observed in site media should not be presumptively assumed present in the landfill without appropriate investigation.

From the "Skinner List", the following additional wastes potentially may have also been disposed within the landfill.

acenaphthene
anthracene
antimony
arsenic (D004)
barium (D005)
benzenethiol
benzo(a)anthracene
benzo(b)fluroranthene
benzo(k)fluoranthene
benzo(a)pyrene

beryllium
bis(2-ethylhexyl) phthalate
cadmium (D006)
carbon disulfide
chlorobenzene (D021)
chloroform (D022)
chrysene (potentially U050)
cobalt
cyanide
dibenz(a,h)acridine
dibenz(a,h)anthracene
di-n-butyl phthalate
1,2-dichlorobenzene (potentially U070)
1,3-dichlorobenzene (potentially U071)
1,4-dichlorobenzene (D027 and/or potentially U072)
1,1-dichloroethane
1,2-dichloroethane (D028)
diethyl phthalate
2,4-dimethylphenol (potentially U101)
dimethyl phthalate (potentially U102)
2,4 dinitrophenol (potentially P048)
1,4-dioxane (potentially U108)
ethylbenzene
ethylene dibromide (potentially U067)
fluoranthene (potentially U120)
fluorene
indene
indeno(1,2,3-cd)pyrene (potentially U137)
mercury (D009 and/or U151)
methyl tertiary butyl ether
1-methylnaphthalene
nickel
4-nitrophenol (potentially U170)
phenanthrene
pyrene
pyridine (D038 and/or U196)
quinoline
selenium (D010)
silver (D011)
styrene
tetrachloroethylene (D039 and/or U228)
1,1,1-trichloroethane (potentially U226)
trichloroethene
vanadium
xylene (potentially U239)
zinc

While most active waste management requiring a RCRA Permit is no longer occurring at the facility, leachate must be managed and Post-Closure Care is being performed.

III.A.2 Except as provided for by 40 CFR Part 262, the Permittee shall not conduct treatment, storage and/or disposal in any hazardous waste management unit without first obtaining a RCRA Permit Modification. Note that, in accordance with 40 CFR Part 264.1(g)(6), the unit designed to treat leachate and the unit described as the underdrain treatment system are not hazardous waste management units. They are parts of wastewater treatment units.

III.A.3 The Permittee shall not accept hazardous waste from off-site sources during the life of the Permit (unless an appropriate Permit Modification is approved by the Division).

III.A.4 As allowed under applicable wastewater management permits and provisions, storage and treatment of the wastes listed in *Attachment A* of this Permit is not prohibited. However, if at any point in time, the Permittee fails to meet the applicable wastewater management provisions, the Division shall be notified immediately. Failure to meet applicable wastewater standards may negate RCRA exclusion provisions of 40 CFR 264.1(g)(6).

III.B GENERAL FACILITY STANDARDS

III.B.1 Reserved

III.B.2 Reserved

III.B.3 Security

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.14** and shall follow the security measures outlined in *Attachment F* of the Permit.

III.B.3.1 The Permittee shall maintain the barbed wire fencing around the active facility. Additionally, the gates to the active facility shall be maintained in good operating condition at all times. The main gate and other access gates at the facility shall be closed, chained, and locked when facility personnel are not on site.

III.B.3.2 Reserved

III.B.3.3 The entrances to the facility shall remain locked unless personnel are present.

III.B.3.4 Reserved

III.B.3.5 The Permittee shall maintain warning signs at each entrance to the permitted areas, on the perimeter fencing, and on each face of the hazardous waste structure. The warning signs are to be legible from a distance of at least twenty-five (25) feet and read *"DANGER-UNAUTHORIZED PERSONNEL KEEP OUT"*.

III.B.4 General Inspection Requirements

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.15**, except **40 CFR Part 264.15(b)(5)**.

III.B.4.1 Inspection Remedies

The Permittee shall remedy any structural deterioration, unauthorized discharges, safety violations, equipment malfunction, or security compromises discovered by an inspection in accordance with **40 CFR Part 264.15**.

III.B.4.2 Inspection Records

The Permittee shall keep records of inspections as part of the Operating Record in accordance with **40 CFR Part 264.15**.

III.B.5 Reserved

III.B.6 Reserved

III.B.7 Requirements for Ignitable, Reactive or Incompatible Wastes

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.17** including prevention of accidental ignition or reaction of ignitable and/or reactive wastes.

III.B.7.1 Reserved

III.B.7.2 Reserved

III.B.7.3 Reserved

III.B.7.4 Reserved

III.B.7.5 The Permittee shall prohibit smoking and open flames in each area where ignitable, reactive or incompatible hazardous wastes are managed and must post appropriate warning signs.

III.B.7.6 The Permittee shall document compliance with *Permit Condition III.B.7* and place this documentation in the Operating Record.

III.B.8 Reserved

III.C PREPAREDNESS AND PREVENTION

III.C.1 Design and Operation of Facility

The Permittee shall construct, maintain, equip and operate the facility in a manner to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to

air, soil, or surface water which could threaten human health or the environment, as required by **40 CFR Part 264.31**.

III.C.2 Required Equipment

III.C.2.1 The Permittee shall comply with all requirements and at a minimum, the Permittee shall keep all equipment at the facility as set forth under **40 CFR Part 264.32**.

III.C.2.2 Reserved

III.C.3 Testing and Maintenance of Equipment

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.33**. Permittee shall test and maintain all equipment specified in *Permit Condition III.C.1* and *Permit Condition III.C.2* to ensure proper operation in time of emergency. All emergency equipment shall be checked at least once a month for quality and proper functional assurance.

III.C.4 Access to Communication or Alarm System

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.34**.

III.C.4.1 Waste Handling

The Permittee shall ensure that all personnel have immediate access to an internal alarm system or emergency communications device, either directly or through visual or voice contact with another employee whenever hazardous waste is being poured, mixed, spread, or otherwise handled.

III.C.4.2 Single Person

The Permittee shall ensure that any employee, when working alone without the immediate presence of another employee, shall have immediate access to a device, such as a telephone at the area of operations, or a hand-held two-way radio, capable of summoning external emergency assistance.

III.C.5 Reserved

III.C.6 Reserved

III.C.7 Arrangements with Local Authorities

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.37.**

The Permittee shall document in the Operating Record any refusal by any of the state or local authorities to enter into such arrangements.

III.D CONTINGENCY PLAN AND EMERGENCY RESPONSE

III.D.1 Reserved

III.E MANIFEST SYSTEM

III.E.1 Use of the Manifest

The Permittee shall comply with the manifest requirements of **40 CFR Part 264.71** and **264.72**.

III.E.2 Manifest Discrepancy Report

III.E.2.1 Within fifteen (15) days of discovery of a discrepancy, the Permittee shall report the discrepancy to the Cabinet, if the discrepancy cannot be reconciled within this fifteen (15) days, per **40 CFR Part 270.30**.

III.E.2.2 If a discrepancy report is deemed necessary as required by *Permit Condition III.E.2.1*, the Permittee shall submit such report and reject the waste on the sixteenth (16th) day of the receipt of the waste.

III.E.3 Waste Shipment

The Permittee shall only use properly registered transporters of hazardous waste to remove hazardous waste from the facility, in accordance with **40 CFR Part 262 - Subpart A**.

III.E.4 Un-Manifested Waste

For shipments of hazardous waste that arrive at the facility not accompanied by a manifest, a manifested waste report will be prepared in accordance with **40 CFR Part 264.76** and submitted to the Division within fifteen (15) days after receiving the waste.

III.F RECORDKEEPING AND REPORTING

In addition to the recordkeeping and reporting requirements specified elsewhere in this Permit, the Permittee shall comply with the following:

III.F.1 Operating Record

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.73**. The Permittee shall maintain records of all Post-Closure Care performance at the facility, or at another location as approved by the Manager, in accordance with the recordkeeping procedures set forth in **40 CFR Part 264.73**.

III.F.1.1 Reserved

III.F.1.2 The location of each hazardous waste within the facility and the quantity.

III.F.1.3 Records and results of waste characterization and waste analysis performed**.**

III.F.1.4 Summary reports and details of all incidents.

III.F.1.5 Records and results of inspections.

III.F.1.6 Monitoring, testing or analytical data, and corrective action.

III.F.1.7 Reserved

III.F.1.8 Copies of waste minimization documents required in *Permit Condition V.A.*

III.F.1.9 All closure and all Post-Closure cost estimates.

III.F.1.10 Reserved

III.F.1.11 Manifest system related documents.

III.F.1.12 As-built related documents (including drawings and photographs) for the landfill, closed surface impoundment, leachate system, and underdrain system (to be kept until released from Post-Closure requirements).

III.F.2 Availability, Retention, and Disposition of Records

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.74**.

III.F.3 Annual Report

The Permittee shall comply with the annual reporting requirements set forth under **401 KAR 39:060 Section 5(18)**.

III.F.4 Additional Reports

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.77**.

III.G CLOSURE REQUIREMENTS

III.G.1 Closure Performance Standards

Reserved

III.G.2 Closure Plan and Amendment of Closure Plan

The Permittee shall comply with all requirements and close the facility as set forth under **40 CFR Part 264.112**. The Permittee shall amend the Closure Plan whenever necessary in accordance with **40 CFR Part 264.112**.

III.G.3 Notification of Closure

III.G.3.1 For closure of units other than landfills, surface impoundments, waste piles, or land treatment units, the Permittee shall notify the Manager in writing at least forty-five (45) days prior to the date on which the Permittee expects to begin closure. [**40 CFR Part 264.112**]

III.G.3.2 For closure of landfills, surface impoundments, waste piles, or land treatment units, the Permittee shall notify the Manager in writing at least sixty (60) days prior to the date on which the Permittee expects to begin closure. [**40 CFR Part 264.112**]

III.G.3.3 At final closure of a facility without landfills, surface impoundments, waste piles, or land treatment units, the Permittee shall notify the Manager in writing at least forty-five (45) days prior to the date on which the Permittee expects to begin closure. For a facility with a landfill, surface impoundment, waste pile, or land treatment unit, final closure notification shall be provided to the Manager in writing at least sixty (60) days prior to the date on which the Permittee expects to begin closure. [**40 CFR Part 264.112**]

III.G.4 Time Allowed for Closure

Reserved

III.G.5 Decontamination or Disposal of Equipment, Structures, Soils and Others

III.G.5.1 The Permittee shall decontaminate and/or dispose of all contaminated facility equipment, structures, and soils as required by **40 CFR Part 264.114**, the Closure Plan (*Attachment I*), and the terms and conditions of this Permit.

III.G.5.2 The Permittee must notify the Manager and the Morehead Regional Office within ten (10) working days prior to the beginning of rinsate and/or soil sampling activities.

III.G.6 Certification of Closure

Within sixty (60) days of completion of closure of the unit(s), the Permittee shall submit a Closure Certification and Closure Report that includes, at a minimum, the following information: [**40 CFR Part 264.115**]

III.G.6.1 An independent Professional Engineer registered in the Commonwealth of Kentucky certified that each hazardous waste management unit or the facility has been closed in accordance with the specifications in the approved Closure Plan as well as the terms and conditions of this Permit, as required by **40 CFR Part 264.115**.

III.G.6.2 Facility processes and waste management.

III.G.6.3 Analysis results, observations, and conclusions.

III.G.6.4 A discussion of the closure process implementation followed for each unit. Include a description of:

III.G.6.4.1 The procedures followed for decontamination of the hazardous waste management unit (including disposition of residues);

III.G.6.4.2 The equipment used for decontamination of the hazardous waste management unit;

III.G.6.4.3 The sampling procedures used (wipe sampling, wastewater, rinsate, concrete chip sampling etc.), equipment used for sampling, drawing of sample locations and cross reference results, analytical procedures and methods used per sampling type, analytical equipment used as well as Chain of Custody;

III.G.6.4.4 The remedial procedures used (if applicable) and equipment used for remediation (if applicable);

III.G.6.4.5 The quality assurance program used;

III.G.6.4.6 Calculations and spreadsheets;

III.G.6.4.7 The procedures and equipment used to prevent hazards and protect field personnel during closure as well as Site Work Zone Management Controls;

III.G.6.4.8 Field notebook notes;

III.G.6.4.9 Drawings and photographs;

III.G.6.4.10 List and description of any deviations and or alterations from the approved Closure Plan;

III.G.6.4.11 Copies of manifest and bill of landing; and

III.G.6.4.12 Recycling and Disposal Certifications.

III.G.7 Survey Plat

The Permittee shall submit a survey plat no later than the submission of certification of closure of each hazardous waste disposal unit, in accordance with **40 CFR Part 264.116**.

III.H POST-CLOSURE REQUIREMENTS

III.H.1 Post-Closure Care Period

The Permittee shall conduct Post-Closure Care for the hazardous waste management unit described in *Permit Condition III.O.2.* Post-Closure Care will be conducted for thirty (30) years after the completion of closure, except that the thirty (30) year Post-Closure Care period may be shortened upon application and demonstration, approved by the Division that the facility is secured, or may be extended if the Division finds this is necessary to protect human health and the environment. Post-Closure Care shall be in accordance

with **40 CFR Part 264.117** and the landfill requirements of **40 CFR Part 264 - Subpart N**, and as specified in the Post-Closure Plan, and *Attachment I* of this Permit.

III.H.2 Post-Closure Security

The Permittee shall maintain security at the facility during Post-Closure Care period in accordance with the Post-Closure Plan included in *Attachment I* of this Permit and as required by **40 CFR Part 264.117**.

III.H.3 Inspections

III.H.3.1 Components, Structures and Equipment

The Permittee shall inspect the components, structures, and equipment at the site in accordance with **40 CFR Part 264.117** and the inspection schedule of the approved Post-Closure Plan within *Attachment I* of this Permit.

III.H.3.2 Cover System

The Permittee shall inspect the cover system(s) for uniformity, drainage, and imperfections. Soil based covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the cover.

III.H.4 Notices and Certification

III.H.4.1 Use of Units

With regard to the units designated in *Permit Condition III.O.2*, the Permittee shall not allow any use which will disturb the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the Post-Closure Care period. [**40 CFR Part 264.117**]

III.H.4.2 Amendments to Post-Closure Plan

The Permittee must request a Permit Modification to authorize a change in the approved Post-Closure Plan. This request must be in accordance with applicable requirements of **40 CFR Part 270.42**, and must include a copy of the proposed amendments to the application for approval by the Division. The Permittee shall request a Permit Modification whenever changes in operating plans or facility design affecting the Post-Closure Plan, or other events occur during the active life of the facility that also affect the Post-Closure Plan. The Permittee must submit a written request for a Permit Modification at least sixty (60) days prior to the proposed change in facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the Post-Closure Plan. [**40 CFR Part 264.118**]

III.H.4.3 Post-Closure Notices

Reserved

III.H.4.4 Removal Request

If the Permittee or any subsequent owner or operator of the land upon which the hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, then he shall request a modification to this Post-Closure Permit in accordance with the applicable requirements in **40 CFR Part 270 - Subpart D** and **E**. The Permittee or any subsequent owner or operator of the land shall demonstrate that the removal of hazardous wastes will satisfy the criteria of **40 CFR Part 264.117**.

III.H.4.5 Certification of Completion of Post-Closure Care

No later than sixty (60) days after completion of the established Post-Closure Care period for each hazardous waste disposal unit, the Permittee shall submit to the Manager, by registered mail, a certification that the Post-Closure Care for the hazardous waste disposal unit was performed in accordance with the specifications in the approved Post-Closure Plan. The certification must be signed by the Permittee and an independent Professional Engineer registered in the Commonwealth of Kentucky. Documentation supporting the Professional Engineer's certification must be furnished to the Manager upon request until the Manager releases the Permittee from the financial assurance requirements for Post-Closure Care under **40 CFR Part 264.117**.

III.I FINANCIAL REQUIREMENTS

The Permittee shall comply with all the applicable Financial Assurance requirements in **401 KAR 39:090 Section 7**.

III.I.1 Cost Estimate for Facility Closure & Corrective Action

The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in **40 CFR Part 264.142,** as well as the cost for selected remedies for corrective action in accordance with the requirements of **40 CFR Part 264.101**.

At the time of issuance of this Permit, Closure was already completed and the Corrective Action Cost Estimate will be determined in association with required investigations.

III.I.1.1 Most Recent Cost Estimate

The Permittee's Corrective Action cost estimate, prepared in accordance with **40 CFR Part 264.101(b)** will be determined in association with required investigations described in *Attachment E* of this Permit. Subsequent Permit Modification will be required to identify the specific cost estimate.

III.I.1.2 Cost Estimate Annual Adjustment

The Permittee must adjust the closure and Corrective Action cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used, as

specified in **40 CFR Part 264.142** and **40 CFR Part 264.101**, respectively.

III.I.1.3 Cost Estimate Modification

The Permittee must revise the closure and/or Corrective Action cost estimates whenever there is a change in the facility's Closure and/or Corrective Action Plan, as required by **40 CFR Part 264.142** and **40 CFR Part 264.101**, respectively.

III.I.1.4 Closure and Corrective Action Cost Estimate Recording

The Permittee must keep at the facility the latest closure and Corrective Action cost estimates as required by **40 CFR Part 264.142** and **40 CFR Part 264.101**, respectively.

III.I.2 Financial Assurance and Liability Requirements

III.I.2.1 The Permittee shall comply with all applicable requirements as set forth under **40 CFR Part 264 – Subpart H**.

III.I.2.1.1 Closure and Corrective Action Financial Assurance

III.I.2.1.1.1 The Permittee shall demonstrate continuous compliance with the requirements under **40 CFR Part 264.143**, by providing documentation of financial assurance for at least the amount of the current cost estimate. In addition to **40 CFR Part 264.143(e)(1)**, each insurance policy providing primary coverage shall be issued by an insurer that is authorized to transact insurance in Kentucky, except if **KRS 304.11-030** establishes otherwise. [**401 KAR 39:090 Section 1(2)**]

III.I.2.1.1.2 The Permittee shall demonstrate continuous compliance with the requirements under **40 CFR Part 264.101(b)** and **KRS 224.46-520(3)(c)**, by providing documentation of financial assurance for at least the amount of the current cost estimate. Each insurance policy providing primary coverage shall be issued by an insurer that is authorized to transact insurance in Kentucky, except if **KRS 304.11-030** establishes otherwise. [**401 KAR 39:090 Section 1(2)**]

III.I.2.1.2 Except as otherwise approved by the Division, the Permittee shall demonstrate continuous compliance with the requirements of **40 CFR Part 264.147** and the documentation requirements of **40 CFR Part 264 – Subpart H** including the requirements to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least one million dollars ($1,000,000) per occurrence with an annual aggregate of at least two million dollars ($2,000,000), exclusive of legal defense costs.

III.I.2.1.3 The Permittee shall demonstrate continuous compliance with the requirements of **40 CFR Part 264.147** and the documentation requirements of **40 CFR Part 264 –**

Subpart H including the requirements to have and maintain liability coverage for non-sudden accidental occurrences in the amount of at least three million dollars ($3,000,000) per occurrence with an annual aggregate of at least six million dollars ($6,000,000), exclusive of legal defense costs.

III.I.2.1.4 The Permittee must demonstrate compliance with the financial assurance requirements in **40 CFR Part 264.147**, in effect during the life of this Permit. In addition to **40 CFR Part 264.147(a)(1)(ii)** and **40 CFR Part 264.147(b)(1)(ii)**, each insurance policy providing primary coverage shall be issued by an insurer that is authorized to transact insurance in Kentucky, except if **KRS 304.11-030** establishes otherwise. [**401 KAR 39:090 Section 1(2)**]

III.I.3 Cost Estimate for Facility Post-Closure

III.I.3.1 Most Recent Cost Estimate

The Permittee's most recent Post-Closure cost estimate, prepared in accordance with **40 CFR Part 264.144** is specified in *Attachment I* of this Permit.

III.I.3.2 Cost Estimate Annual Adjustment

The Permittee must adjust the Post-Closure cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s) used, as specified by **40 CFR Part 264.144**.

III.I.3.3 Cost Estimate Modification

The Permittee must revise the Post-Closure cost estimate whenever there is a change in the facility's Post-Closure Plan, as required by **40 CFR Part 264.144**.

III.I.3.4 Cost Estimate Record

The Permittee must keep at the facility the latest Post-Closure cost estimate as required by **40 CFR Part 264.144**.

III.I.4 Financial Assurance for Facility Post-Closure Care

The Permittee shall demonstrate continuous compliance with **40 CFR Part 264.145** by providing documentation of financial assurance as required by **40 CFR Part 264.145(a)** through **(i)** in at least the amount of the cost estimates required by *Permit Condition III.I.* Changes in financial assurance mechanisms must be approved by the Manager, pursuant **40 CFR Part 264.145(a)** through **(i)**. In addition to **40 CFR Part 264.145(e)(1)**, each insurance policy providing primary coverage shall be issued by an insurer that is authorized to transact insurance in Kentucky, except if **KRS 304.11-030** establishes otherwise. [**401 KAR 39:090 Section 1(2)**]

III.I.5 Incapacity of Owners or Operators, Guarantors, or Financial Institutions

The Permittee shall comply with **40 CFR Part 264.148** whenever necessary.

III.J CONSTRUCTION COMPLIANCE SCHEDULE FOR PROPOSED UNITS

Reserved

III.K CONTAINER REQUIREMENTS

Reserved

III.L TANK SYSTEM REQUIREMENTS

Reserved

III.M MISCELLANEOUS UNIT REQUIREMENTS

Reserved

III.N CONTAINMENT BUILDING REQUIREMENTS

Reserved

III.O LANDFILL POST CLOSURE REQUIREMENTS

III.O.1 Post Closure Care

Permit Condition III.O applies to the general Post-Closure Care requirements for the hazardous waste management unit[s] as described below in *Permit Condition III.O.2.*

The Permittee shall conduct Post-Closure activities in accordance with the following conditions:

The Permittee shall monitor and maintain each landfill in accordance with the Post-Closure plan in *Attachment I* of this Permit and **40 CFR Part 264.310**.

III.O.2 Unit Identification

The Permittee shall provide Post-Closure Care for the hazardous waste management unit[s] described below, subject to the terms and conditions of this Permit.

TABLE III.O.1 PERMITTED LANDFILL UNITS					
Regulated Unit	Date Operated[1]	Date Closed[2]	Maximum Capacity[3]	Description of Wastes Contained	Waste Codes
Route 3 Landfill	1976	2000	1,000,000 cubic yards	See *Permit Condition III.A.1*	*

1. Date the unit started operating.
2. Date the Division certifies the unit was closed.
3. Total maximum capacity for the unit.

* See *Permit Condition III.A.1.*

III.O.3 Landfill Requirements

As required by **40 CFR Part 264.310**, the Permittee shall comply with the requirements for landfills as follows:

III.O.3.1 Maintain the integrity and effectiveness of the final cover; including making repairs to the liner system, as necessary, to correct the effects of settling, subsidence, erosion, or other events;

III.O.3.2 Prevent run-on and run-off from eroding or otherwise damaging the final cover;

III.O.3.3 Protect and maintain surveyed benchmarks used in complying with the surveying and record keeping requirements of **40 CFR Part 264.309**.

III.O.3.4 Continue to operate the leachate and underdrain collection systems until fluids are no longer generated by the systems.

III.P ***Incinerator Requirements***

Reserved

III.Q ***SPECIAL PERMIT CONDITIONS***

Reserved

III.R ***Groundwater Monitoring Requirements***

III.R.1 The Permittee shall comply with the following requirements and requirements specified within *Appendix E* of this Permit for any groundwater monitoring program developed to satisfy **40 CFR 264.98**, **40 CFR 264.99**, or **40 CFR 264.100,** where applicable and unless otherwise directed. [**40 CFR Part 264.97**]

III.R.2 General Groundwater Monitoring Requirements

III.R.2.1 The Permittee shall design, install and/or maintain a groundwater monitoring system and program to comply with applicable requirements of **40 CFR Part 264 - Subpart F** and as specified below, unless otherwise directed.

III.R.2.1.1 Point of Compliance Well System:

The appropriately designated monitoring wells listed in *Table III.R.1* will be used to monitor groundwater quality at the Point of Compliance (POC). These monitoring wells constitute the POC monitoring well system. [**40 CFR Part 264.95**]

TABLE III.R.1 MONITORING WELLS			
Background Wells	**Point of Compliance Wells**	**Plume Assessment Wells**	**Water Level Wells**
5C	**9A**	**1B**	
6C	**10A**		
	11A		
	12A		
	14B		
	15B		
	17R		

III.R.2.1.2 Background Monitoring Wells:

The appropriately designated monitoring wells listed in *Table III.R.1* will be used to monitor background groundwater quality. These monitoring wells constitute the background monitoring well system. [**40 CFR Part 264.97**]

III.R.2.1.3 Additional Wells:

The Permittee shall install additional wells as necessary to maintain compliance with **40 CFR Part 264 - Subpart F** requirements. A proposal for the design, location and installation of any additional well(s) shall be submitted to the Department for approval at least 45 days prior to planned installation. Written approval must be obtained prior to installation of any monitoring well.

III.R.2.1.4 Well Design, Installation and Maintenance:

The Permittee shall ensure that all groundwater monitoring wells are designed, installed, and maintained in accordance with **401 KAR 6:350,** and in such a manner that groundwater samples are representative of the true water quality.

Additionally, the wells shall be designed, installed and monitored in such a manner to prevent interconnection between different hydrologic units. Failure of any well(s) to meet the standards described herein shall not interfere with the groundwater monitoring or corrective action programs.

III.R.2.1.5 Well Construction Details:

The Permittee shall ensure that all groundwater monitoring wells are constructed in accordance with **401 KAR 6:350** requirements. The Permittee shall report the surveyed elevation of monitoring well(s) to the nearest 0.01 foot within forty-five (45) days of installation along with as-built drawings and lithologic logs. The Permittee shall also report the total well depth, screened interval, elevation of the top of casing, ground surface and protective casing.

III.R.2.1.6 Total Well Depth and Functionality:

The Permittee shall measure total well depth annually and redevelop any monitoring well when sediment has entered the well and accumulated to a depth of one foot; or, the accumulated sediment blocks twenty percent of the screen length, whichever is less. The Permittee shall redevelop any well exhibiting a significant decrease in yield, or a significant increase in recovery time.

III.R.2.1.7 Well Abandonment:

The Permittee shall properly abandon any well(s) not meeting the standard of *Permit Condition III.R.2.1.4*. A proposal for specific well abandonment procedures shall be submitted to the Division for approval at least thirty (30) days from the last sampling date or thirty (30) days from the date it is determined that the well no longer suitable for its intended use. Monitoring well abandonment shall occur in such a manner so as to prevent the migration of surface water or contaminant to the subsurface and to prevent migration of contaminant among water bearing zones.

III.R.2.2 Sampling and Analysis Procedures:

The Permittee shall use the following techniques and procedures when obtaining samples from monitoring wells to provide a reliable indication of the quality of the groundwater as required by **40 CFR Part 264.97.**

III.R.2.2.1 Sampling shall follow the procedures described in *Attachment E* of this Permit, and *Permit Condition III.R.2*. Water level wells (described in *Table III.R.1*) do not require sampling.

III.R.2.2.2 Protective disposable gloves shall be utilized during all groundwater-sampling activities. A clean pair of gloves shall be worn at each sample site.

III.R.2.2.3 Water level measurements shall be taken in the monitoring wells, specified in

Table III.R.1, prior to any bailing or collection of samples.

III.R.2.2.4 Water level measurements shall be made from the designated reference point at each well. The reference point shall be maintained in accordance with *Attachment E* of this Permit.

III.R.2.2.5 If purged, wells shall be purged at rates specified in *Attachment E* of this Permit until all field parameters stabilize indicating that fresh formation water is being evacuated. Results for the field tests shall be recorded on the groundwater sampling record and the purge water shall be properly disposed. Water level wells (described in *Table III.R.1*) do not require purging unless sampled.

III.R.2.2.6 The Permittee shall take samples in accordance with the procedures detailed in *Attachment E* of this Permit. Samples shall be taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained.

III.R.2.2.7 Sample containers shall be constructed of a material compatible and non-reactive with the material it is to contain and meet the appropriate general performance standards as detailed in *Attachment E* of this Permit.

III.R.2.2.8 If a preservative is added to a sample, it shall be noted on the sample label and the sampling record.

III.R.2.2.9 The Permittee shall develop a field blank by filling the appropriate sample containers from the field supply of ASTM Type I organic free water (or equivalent). This field supply water shall be the same water used for cleaning and decontamination of all equipment used for purging and sampling. Field blanks shall be taken and analyzed for each sampling event at a minimum of one (1) in every twenty (20) samples per monitoring event. The Permittee may use a trip blank in lieu of a field blank following the same procedures except for filling the appropriate sample containers in the laboratory instead of in the field upon approval of the Division.

III.R.2.2.10 The Permittee shall develop an equipment (rinsate) blank in the field immediately following cleaning and decontamination procedures on any non-dedicated equipment used for purging, sampling, or sample filtrations by passing field supply ASTM Type I organic free water (or equivalent) through the non-dedicated equipment in the same procedure as a groundwater sample. Equipment blanks shall be taken and analyzed any time non-dedicated sampling equipment is used or when new equipment is being dedicated to a well at a minimum of one (1) in every ten (10) samples per monitoring event.

III.R.2.2.11 A sampling record shall be completed for each sample site during all groundwater monitoring events.

III.R.2.2.12 Samples shall be tracked and controlled using the chain of custody procedures specified in *Attachment E* of this Permit.

III.R.2.2.13 Samples shall be preserved and shipped in accordance with the procedures specified in *Attachment E* of this Permit.

III.R.2.2.14 Samples shall be analyzed according to the procedures specified in *Table III.R.2* of this permit and *Attachment E* of this Permit.

TABLE III.R.2 SAMPLING METHOD	
Hazardous Constituent	**SW-846 (Latest Edition) Sample Method**
All Listed in 40 CFR 264 Appendix IX	**See *Attachment E* of this Permit**

III.R.2.3 Statistical Analysis of Data:

The data from the compliance wells and plume assessment wells shall be compared to the data from the background wells (all sets of wells are identified in *Table III.R. 1*) to determine whether there is statistically significant evidence of contamination. The comparisons shall be performed in accordance with the requirements in **40 CFR Part 264.97**, *Attachment E* of this Permit, EPA's "*Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities - Interim Final Guidance*," April 1989 and the "*Addendum to Interim Final Guidance*," July 1992 or to any such revisions to these documents.

III.R.2.4 Recordkeeping and Reporting

III.R.2.4.1 The Permittee shall enter all groundwater monitoring, testing, and analytical data obtained pursuant to *Permit Conditions III.R.2.2, III.R.2.3*, *III.R.5.3*, *III.R.5.7*, and *Attachment E* of this Permit in the operating record, as required by **40 CFR Part 264.73** and **40 CFR Part 264.97(j)**.

III.R.2.4.2 The Permittee shall submit all groundwater monitoring, testing, and analytical data obtained pursuant to *Permit Conditions III.R.2.2, III.R.2.3*, *III.R.5.3*, *III.R.5.7*, and *Attachment E* of this Permit to the Manager within sixty (60) days after completion of each sampling event. Reports shall also include a summary of historical data so that trending analysis can be done utilizing only one report. [**40 CFR Part 264.97(j)**]

III.R.2.5 Permit Modification:

III.R.2.5.1 If the Permittee determines that the monitoring program required by this Permit no longer satisfies the requirements of the regulations, the Permittee must, in accordance with **40 CFR Part 264.98**, **40 CFR Part 264.99**, and/or **40 CFR Part 264.100**, within ninety (90) days, submit an application for a Permit Modification to make any appropriate changes to the program which will satisfy the regulations.

III.R.2.5.2 The Permittee shall be subject to applicable modification fees pursuant to **KRS 224.46-018**.

III.R.2.6 Duty of Permittee:

The Permittee must assure that monitoring and interim corrective action measures necessary to achieve compliance with the groundwater protection standard under **40 CFR Part 264.92** are taken during the term of this Permit.

III.R.3 Detection Monitoring Program

At such time as a Detection Monitoring Program becomes required, the Permittee shall submit a Permit Modification request to implement a program to maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of **40 CFR Part 264.97** during the Post-Closure period as defined in **40 CFR Part 264.117**.

III.R.4 Compliance Monitoring Program

At such time as a Compliance Monitoring Program becomes required, the Permittee shall submit a Permit Modification request to implement a program to maintain and monitor the groundwater monitoring system and comply with the groundwater protection standard under **40 CFR 264.92**, as required under **40 CFR 264.99**.

III.R.5 Groundwater Corrective Action Program

The Corrective Action Program must be followed due to tetrachloroethene (PCE) detected in site groundwater. Unless otherwise directed by the Manager, the Permittee shall design, implement, and maintain a groundwater corrective action program as required under **40 CFR Part 264.100**. The Groundwater Corrective Action Program, at a minimum, shall include and/or abide by the following conditions:

III.R.5.1 Corrective Action at the Point of Compliance

The Permittee shall design, implement, and maintain a corrective action program that prevents hazardous constituents from exceeding the GWPS specified in *Permit Condition III.R.5.1.1* at the Point of Compliance.

III.R.5.1.1 Groundwater Protection Standard:

The Groundwater Protection Standard (GWPS), as required under **40 CFR Part 264.92**, applies to the hazardous constituents listed in *Table III.R.3* of this Permit. The GWPS is site specific and defines concentration limits for hazardous constituents previously detected in the site groundwater. Concentration limits for each hazardous constituent are listed in *Table III.R.3* of this Permit. The GWPS is applicable at and beyond the Point of Compliance. The Permittee must ensure that the GWPS is being met or that remedial actions are being taken to reduce contaminant levels to meet standards. [**40 CFR Part 264.93**, **401 KAR 39:090**

Section 1(1), and **40 CFR Part 264.94**]

III.R.5.1.1.1 While acenapthylene, alpha endosulfan, phenanthrene, and sulfide have been detected in site groundwater, no GWPS applies to these constituents. [**40 CFR Part 264.93(b)** and **40 CFR Part 264.94**]

III.R.5.1.1.2 While copper, tin and thallium have been detected in site groundwater, these constituents are not reasonably expected to be derived from waste in the landfill. Therefore, no GWPS has been established for these hazardous constituents. [**40 CFR Part 264.93(a)**]

III.R.5.1.1.3 Reserved

TABLE III.R.3
APPLICABLE GROUNDWATER PROTECTION STANDARDS

Hazardous Constituent	Applicable Standard
Acenaphthene	530 ug/L
Acetone	18 mg/L
Anthracene	1.8 mg/L
Antimony	6 ug/L
Arsenic	11.4 ug/L
Barium	2 mg/L
Benzene	5 ug/L
Bis(2-ethyhexyl) phthalate	6 ug/L
Cadmium	5 ug/L
Chromium	100 ug/L
Cobalt	6 ug/L
m- and/or p-Cresol	370 ug/L
Cyanide, Total	200 ug/L
Fluoranthene	800 ug/L
Lead	15 ug/L
Mercury	2 ug/L
Methyl Ethyl Ketone (MEK)	5.6 mg/L
Naphthalene	0.12 ug/L
Nickel	390 ug/L
Pentachlorophenol	1 ug/L
Phenol	5.8 mg/L

TABLE III.R.3 APPLICABLE GROUNDWATER PROTECTION STANDARDS	
Hazardous Constituent	**Applicable Standard**
Polychlorinated dibenzo-p-dioxins and Polychlorinated dibenzofurans (Toxic Equivalency)	0.00003 ug/L
Selenium	50 ug/L
Silver	94 ug/L
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.00003 ug/L
Tetrachloroethene (PCE)	5 ug/L
Toluene	1 mg/L
1,1,1-Trichloroethane	200 ug/L
Vanadium	86 ug/L
Xylene	10 mg/L
Zinc	6 mg/L

III.R.5.1.2 The Permittee shall determine groundwater quality throughout the compliance period, which will be a total of 30 years (running concurrently with initial post-closure care). See *Permit Condition III.R.5.3.4* for additional details relevant to determination of groundwater quality. Note that if the Permittee is engaged in a corrective action program at the end of the compliance period, the compliance period shall be extended. [**40 CFR Part 264.96** and **40 CFR Part 264.100(f)**]

III.R.5.1.3 Due to monitored tetrachloroethene (PCE) above the GWPS, the Permittee shall implement corrective measures, deemed appropriate for removal or treatment of tetrachloroethene (PCE), as prescribed by the Director. Corrective measures will begin after appropriate RCRA Facility Planning, Investigation, Reporting, and Corrective Measures Study are completed. [**40 CFR Part 264.100**]

III.R.5.2 Plume Assessment Wells:

The appropriately designated monitoring wells listed in *Table III.R.1* shall be used to monitor the contaminant plume movement and to assess the effectiveness of the corrective action program. Exceedance of a GWPS specified in *Permit Condition III.R.5.1.1* at a Plume Assessment Well shows that the corrective action program cannot be discontinued.

III.R.5.3 Effectiveness of Corrective Action Program

In accordance with **40 CFR Part 264.100(d),** the following groundwater monitoring program utilizes elements of the compliance monitoring program, described under **40 CFR Part 264.99**, to demonstrate efficiency of the corrective action program. .

III.R.5.3.1 Unless otherwise directed, the Permittee shall maintain and monitor the groundwater monitoring system identified in *Permit Condition III.R.2.1* to

determine compliance with the groundwater protection standard, established under **40 CFR Part 264.92** and specified in *Permit Condition III.R.5.1.1*, as required under **40 CFR Part 264.100**.

III.R.5.3.2 The Permittee shall follow the requirements of the Sampling and Analysis Procedures specified in *Permit Condition III.R.2.2* in accordance with **40 CFR Part 264.100** and as defined in **40 CFR Part 264.97**.

III.R.5.3.2.1 Groundwater monitoring for constituents listed in *Table III.R.3* is required quarterly throughout the compliance period in accordance with **40 CFR 264.100**.

III.R.5.3.2.2 For additional indications that the landfill may be affecting groundwater quality, the Permittee shall monitor quarterly throughout the compliance period for

- acenapthylene,
- alpha endosulfan,
- cumene,
- phenanthrene, and
- sulfide.

No GWPS apply to these chemical parameters but concentrations above background may indicate a need for the Compliance Monitoring Program. [**40 CFR Part 264.98(g)**, **40 CFR Part 264.99(c)(1)**, and **40 CFR Part 264.100(d)**]

III.R.5.3.2.3 Noting that constituents and chemical parameters already addressed under *Permit Conditions III.R.5.3.2.1* and *III.R.5.3.2.2* do not need double monitoring in single sample collections, groundwater monitoring for all constituents listed in **40 CFR Part 264 Appendix IX** is required annually throughout the compliance period. Such monitoring shall be performed concurrently with the summer monitoring event required by *Permit Conditions III.R.5.3.2.1* and *III.R.5.3.2.2*. [**40 CFR Part 264.100**]

III.R.5.3.3 In conjunction with Sampling and Analysis, the Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at the time that groundwater Sampling and Analysis is performed under *Permit Condition III.R.5.3.2* and as indicated in *Attachment E* of this Permit. [**40 CFR Part 264.99(e)** and **40 CFR Part 264.100(d)**]

III.R.5.3.4 In conjunction with Sampling and Analysis, the Permittee shall determine if there is statistically significant evidence of contamination (see *Permit Condition III.R.2.*3 and *Permit Condition III.R.5.7* for details relevant to such). [**40 CFR Part 264.99** and **40 CFR Part 264.100**]

III.R.5.3.5 In accordance with **40 CFR Part 264.99**, if a hazardous constituent not already subject to remedial measures is found to have an increased concentration above

the GWPS listed in *Table III.R.3*, the Permittee must:

III.R.5.3.5.1 Notify the Manager of the contamination increase within seven (7) days of determining such, indicating what concentration limits were exceeded.

III.R.5.3.5.2 Submit to the Manager, within 90 days of determining the contamination increase above the applicable GWPS, a work plan for selecting an appropriate corrective action remedial for the contamination.

III.R.5.3.5.3 Submit to the Manager, within 180 days, an application for Permit Modification to add to the current corrective action program**.** The addition to the program shall meet the requirements of **40 CFR Part 264.100**. The application at a minimum must include a description of corrective actions to achieve compliance with the GWPS and a plan that will demonstrate the effectiveness**.**

However, the requirements of *Permit Condition III.R.5.3.5.2* and *Permit Condition III.R.5.3.5.3* will be rescinded if all provisions of *Permit Condition III.R.5.3.6* are satisfied.

III.R.5.3.6 If, within 90 days of an increased concentration determination, the Permittee can demonstrate that a source other than the landfill or the closed surface impoundment caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or evaluation, then requirements to comply with *Permit Condition III.R.5.3.5.2* and *Permit Condition III.R.5.3.5.3* may be voided. To cancel the described requirements:

III.R.5.3.6.1 The Permittee must:

III.R.5.3.6.1.1 Notify the Manager in writing, within seven (7) days of determining that an Alternate Source or Error caused the monitored contamination increase, that he intends to make a demonstration of such, as required in **40 CFR Part 264.99**,

III.R.5.3.8.3.2 Submit to the Manager, within ninety (90) days of determining that the contamination increase occurred, a report which demonstrates that a source other than the regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation, as required in **40 CFR Part 264.99**, and

III.R.5.3.8.3.3 Submit to the Manager, within ninety (90) days of determining that the contamination increase occurred, an application for a Permit Modification (the modification shall change the monitoring program so that any appropriate procedural changes or other accommodations necessary for reliable indication of contamination release are incorporated into the Permit)

and

III.R.5.3.6.2 The Permittee must receive written acceptance of the Alternate Source or Error explanation from the Manager.

III.R.5.3.7 In accordance with **40 CFR Part 264.100(g)**, the Permittee shall annually assess and report, in writing, the effectiveness of corrective action program. If the program is not sufficiently effective, additional requirements of *Permit Condition III.R.5.9* may be triggered.

III.R.5.4 Corrective Action beyond the Point of Compliance:

The Permittee shall conduct a corrective action program to remove and treat any hazardous constituents that exceed the concentration limits under **401 KAR 39:090 Section1(1)**, pursuant to **40 CFR 264.94**, and the GWPS as specified in *Permit Condition III.R.5.1.1* in groundwater between the compliance point and the downgradient property boundary, and beyond the property boundary where necessary to protect human health and the environment in accordance with **40 CFR Part 264.100**.

III.R.5.5 Maintenance of the Corrective Action System:

The Permittee shall ensure that the groundwater corrective action system is maintained to operate as designed. Additional details and specifications for the system will be added to *Attachment E* of this Permit through applicable Permit Modification procedures following Manager approval of an appropriate system chosen through applicable Corrective Action selection procedures.

III.R.5.6 Reserved

III.R.5.7 Statistical Analysis of Data:

III.R.5.7.1 The Permittee shall utilize data collected since 2007 to calculate if there is statistically significant evidence of contamination.

III.R.5.7.2 Evaluations shall be made for constituents identified in *Table III.R.3* and for newly detected hazardous constituents found through Sampling and Analysis at any of the compliance wells and any of the plume assessment wells.

III.R.5.7.3 Evidence of contamination is present when:

III.R.5.7.3.1 The data is statistically significant (see *Permit Condition III.R.2.*3 for details) and

III.R.5.7.3.2 The concentration data, for Individual compliance and/or plume assessment wells, is above concentration data for background wells.

III.R.5.7.4 Statistically significant decreases in contamination may be utilized to demonstrate that corrective actions have been effective and may be utilized to demonstrate that corrective action and/or compliance monitoring is no longer necessary. However, specific procedures and goals for such have not yet been established. Permit Modification will be required to exit the corrective action program. [**40 CFR Part 264.99** and **40 CFR Part 264.100**]

III.R.5.7.4.1 An appropriate statistical procedure must be proposed prior to the termination of groundwater corrective action.

III.R.5.7.4.2 The proposed statistical method must compare compliance point data to the concentration limits in the GWPS identified in **401 KAR 39:090 Section 1**.

III.R.5.7.4.3 Until such time that an appropriate statistical method has been approved by the Department, the effectiveness of the corrective action program shall be evaluated quarterly using graphical analysis for time verses concentration trends in strategic monitoring wells. These trend analyses shall be submitted in the corrective action groundwater monitoring reports required by *Permit Condition III.R.2.4*.

III.R.5.7.5 Statistically significant increases in contamination may trigger additional requirements. [**40 CFR Part 264.99** and **40 CFR Part 264.100**]

III.R.5.7.5.1 In accordance with **40 CFR Part 264.99(g)**, if one or more constituents or chemical parameters not listed in *Table III.R.3* or *Permit Condition III.R.5.3.2.2* are detected,

III.R.5.7.5.1.1 The Permittee may resample within one month and repeat the analysis. If the second analysis (described above) confirms the presence of new constituents, statistically significant evidence of increased contamination is demonstrated and the Permittee must satisfy *Permit Condition III.R.5.7.5.1.3* within seven (7) days after the completion of the second analysis.

III.R.5.7.5.1.2 The Permittee may choose not to resample and, in so doing, concede that statistically significant evidence of increased contamination has been observed. With this observation, the Permittee must satisfy *Permit Condition III.R.5.7.5.1.3* within seven (7) days after completion of the initial analysis.

III.R.5.7.5.1.3 If statistically significant evidence of increased contamination is demonstrated or observed, the Permittee must report the concentration of additional constituents to the Manager and add the constituents to the quarterly monitoring list.

III.R.5.7.5.1.4 If statistically significant evidence of increased contamination is demonstrated or observed, the Permittee must submit a Permit Modification request in accordance with *Permit Condition III.R.2.5* and may be required to take actions consistent with *Permit Condition III.R.2.6*.

III.R.5.7.5.2 In accordance with **40 CFR Part 264.99(d)** and **40 CFR Part 264.100(d)**, the Permittee shall determine if there is statistically significant evidence of increased contamination for constituents listed in *Table III.R.3*. If an increase is identified, the Permittee may be required to satisfy *Permit Condition III.R.5.3.5* or *Permit Condition III.R.5.3.7*.

III.R.5.7.5.3 If the Permittee can find an Alternative Source or Error in Sampling, Analysis, or Evaluation within 90 days of the increased concentration determination, the Permittee may demonstrate that additional Corrective Action is unwarranted through the procedure described in *Permit Condition III.R.5.3.6*.

III.R.5.8 Continuation of Corrective Action:

The Permittee shall continue corrective action during the compliance period to the extent necessary to ensure that the GWPS is not exceeded. In accordance with **40 CFR Part 264.100**, the compliance period is automatically extended, if necessary, until the GWPS has not been exceeded for at least three (3) consecutive years, or as otherwise designated by the Manager.

III.R.5.9 Modification of the Corrective Action System:

If the Permittee determines that the corrective action program no longer satisfies the requirements of **40 CFR Part 264.100**, within ninety (90) days of such a determination, the Permittee must submit a Permit Modification request as described in *Permit Condition III.R.2.5*,

pursuant to **40 CFR Part 270.42,** to make any appropriate changes to the corrective action system.

END OF PERMIT CONDITIONS

PART IV CORRECTIVE ACTION

PART IV
CORRECTIVE ACTION
FOR SOLID WASTE MANAGEMENT UNITS & AREAS OF CONCERN

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

IV.A APPLICABILITY

The Conditions of this Part apply to:

IV.A.1 The Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) identified in Appendix 1.1.

IV.A.2 The SWMUs and AOCs identified in Appendix 1.2, which require no further investigation under this Permit at this time.

IV.A.3 The SWMUs and AOCs identified in Appendix 1.3, which require Confirmatory Sampling.

IV.A.4 The SWMUs and AOCs identified in Appendix 1.4, which require a RCRA Facility Investigation.

IV.A.5 The SWMUs and AOCs identified in Appendix 1.5, which require Interim Measures.

IV.A.6 The SWMUs and AOCs identified in Appendix 1.6, which require Corrective Measures.

IV.A.7 The SWMUs and AOCs identified in Appendix 1.7, which require Land Use Controls

IV.A.8 Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means; as used in this part of the Permit, the terms "discover", "discovery", or "discovered" refer to the date on which the Permittee either (1) visually observes evidence of a new SWMU or AOC, (2) visually observes evidence of a previously unidentified release of hazardous constituents to the environment, or (3) receives information which suggests the presence of a new release of hazardous waste or hazardous constituents to the environment.

IV.A.9 Contamination beyond the facility boundary, if applicable. The Permittee shall implement corrective actions beyond the facility boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Manager, that despite the Permittee's best effort, as determined by the Manager, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases

will be determined on a case-by-case basis. Assurances of financial responsibility for completion of such off-site corrective action will be required.

IV.B NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUS AND AOCS

IV.B.1 The Permittee shall notify the Manager, in writing, within fifteen (15) calendar days of discovery, of any additional AOCs and/or SWMUs as discovered under *Permit Condition IV.A.8*. The notification shall include, at a minimum, the location of the SWMU or AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.). If the Manager determines that further investigation of an AOC is required, the Permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.D* or *Permit Condition IV.E*.

IV.B.2 The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days of notification, an Assessment Report (AR) for each SWMU or AOC identified under *Permit Condition IV.B.1*. At a minimum, the AR shall provide the following information:

IV.B.2.1 Location of unit(s) on a topographic map of appropriate scale such as required under **40 CFR Part 270.14(b)**.

IV.B.2.2 Designation of type and function of unit(s).

IV.B.2.3 General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).

IV.B.2.4 Dates that the unit(s) was operated.

IV.B.2.5 Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on **40 CFR Part 261 Appendix VIII**.

IV.B.2.6 All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analyses, air, and/or surface water data).

IV.B.2.7 The unique sequential identification for the SWMU or AOC.

IV.B.3 Based on the results of the AR, the Manager, shall determine the need for further investigations at the SWMUs or AOCs covered in the AR. If the Manager determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.D* or *IV.E*.

IV.C NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT PREVIOUSLY IDENTIFIED SWMUS AND AOCS

IV.C.1 The Permittee shall notify the Manager in writing of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, within fifteen (15) calendar days of discovery. Such newly discovered

releases may be from SWMUs or AOCs identified in *Permit Condition IV.A.2* or for which further investigation under *Permit Condition IV.B* was not required.

IV.C.2 If the Manager determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.D* or *IV.E*.

IV.D CONFIRMATORY SAMPLING (CS)

IV.D.1 The Permittee shall prepare and submit a Confirmatory Sampling Work Plan to the Manager, within forty-five (45) calendar days of notification by the Manager that a Confirmatory Sampling Work Plan is required for any newly discovered release at an existing SWMU or AOC or for a newly-identified SWMU or AOC. The CS Work Plan shall include schedules of implementation and completion of specific actions necessary to determine whether or not a release has occurred. It shall also address applicable requirements and affected media.

IV.D.2 The Permittee shall prepare and submit a Confirmatory Sampling Work Plan for each SWMU or AOC identified in *Permit Condition IV.A.3*. The CS Work Plan shall be submitted within forty-five (45) calendar days of the effective date of the permit. The CS Work Plan shall include schedules of implementation and completion of specific actions necessary to determine whether or not a release has occurred. It shall also address applicable requirements and affected media.

IV.D.3 The CS Work Plan must be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the CS Work Plan schedule in the letter approving the CS Work Plan. If a start date is not specified, work shall begin within 60 days of approval. If the Manager disapproves the CS Work Plan, the Manager shall either (1) notify the Permittee in writing of the CS Work Plan's deficiencies and specify a due date for submission of a revised CS Work Plan, (2) revise the CS Work Plan and notify the Permittee of the revisions, or (3) conditionally approve the CS Work Plan and notify the Permittee of the conditions.

IV.D.4 The Permittee shall implement the confirmatory sampling in accordance with the approved CS Work Plan.

IV.D.5 The Permittee shall prepare and submit to the Manager in accordance with the schedule in the approved CS Work Plan, a Confirmatory Sampling (CS) Report. The CS Report shall include all data, including raw data, and a summary and analysis of the data that supports the above determination.

IV.D.6 Based on the results of the CS Report, the Manager shall determine the need for further investigations at the SWMUs or AOCs covered in the CS Report. If the Manager determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.E*. The Manager will notify the Permittee of any no further action decision.

IV.E RCRA FACILITY INVESTIGATION (RFI)

IV.E.1 RFI Work Plan(s)

IV.E.1.1 The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days upon notification from the Division that a RCRA Facility Investigation (RFI) Work Plan(s) is required for

those units identified in *Permit Condition IV.B.3*, *IV.C.2* and *IV.D.5*. This Work Plan shall be developed to meet the requirements of *Permit Condition IV.E.1.3*.

IV.E.1.2 The Permittee shall prepare and submit to the Manager, within 90 days of the effective date of this permit, a RFI Work Plan for those units identified in *Permit Condition IV.A.4*. This Work Plan shall be developed to meet the requirements of *Permit Condition IV.E.1.3*.

IV.E.1.3 The RFI Work Plan(s) shall meet the requirements of Appendix 2.

IV.E.1.3.1 The RFI Work Plan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of releases and the potential pathways of contaminant releases to the air, land, surface water, and groundwater.

IV.E.1.3.2 The Permittee must provide sufficient justification and/or documentation that a release is not probable if a unit or a media/pathway associated with a unit (groundwater, surface water, soil, subsurface gas, or air) is not included in the RFI Work Plan(s). Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Manager.

IV.E.1.3.3 The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix 2. Such omissions or deviations are subject to the approval of the Manager.

IV.E.1.3.4 The scope of the RFI Work Plan(s) shall include all investigations necessary to ensure compliance with **40 CFR Part 264.101**.

IV.E.1.4 The RFI Work Plan(s) must be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the RFI Work Plan schedule in the letter approving the RFI Work Plan(s). If the Manager disapproves the RFI Work Plan(s), the Manager shall either (1) notify the Permittee in writing of the RFI Work Plan's deficiencies and specify a due date for submission of a revised RFI Work Plan, or (2) revise the RFI Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved RFI Work Plan, or (3) conditionally approve the RFI Work Plan and notify the Permittee of the conditions.

IV.E.2 RFI Implementation

The Permittee shall implement the RFI(s) in accordance with the approved RFI Work Plan(s). The Permittee shall notify the Manager, at least two weeks prior to any sampling activity.

IV.E.3 RFI Reports

IV.E.3.1 If the time required to conduct the RFI(s) is greater than one hundred eighty (180) calendar days, the Permittee shall provide the Manager, with quarterly RFI Progress Reports (90 day intervals) beginning ninety (90) calendar days from the start date specified by the Manager in the RFI Work Plan approval letter. The Progress Reports shall contain the following information at a minimum:

IV.E.3.1.1 A description of the portion of the RFI completed;

IV.E.3.1.2 Summaries of findings;

IV.E.3.1.3 Summaries of any deviations from the approved RFI Work Plan during the reporting period;

IV.E.3.1.4 Summaries of any significant contacts with local community public interest groups or State government;

IV.E.3.1.5 Summaries of any problems or potential problems encountered during the reporting period;

IV.E.3.1.6 Actions taken to rectify problems;

IV.E.3.1.7 Changes in relevant personnel;

IV.E.3.1.8 Projected work for the next reporting period; and

IV.E.3.1.9 Summaries of daily reports, inspection reports, laboratory/monitoring data, etc.

IV.E.3.2 The Permittee shall prepare and submit to the Manager, a RCRA Facility Investigation Report(s) for the investigations conducted pursuant to the RFI Work Plan(s) submitted under *Permit Condition IV.E.1*.

IV.E.3.2.1 The RFI Report(s) shall be submitted to Manager for review in accordance with the schedule in the approved RFI Work Plan(s).

IV.E.3.2.2 The RFI Report(s) shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, identify all hazardous constituents present in all media, and describe actual or potential receptors.

IV.E.3.2.3 The RFI Report(s) shall also describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative of the area. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support a Corrective Measures Study, if necessary.

IV.E.3.3 The RFI Report(s) shall include a proposal for a groundwater monitoring and reporting schedule for those SWMUs and/or AOCs at which groundwater contamination has been detected. Monitoring will be continued until a remedy selection is made by the Division.

IV.E.3.4 The Manager will review the Final RFI Report(s) and notify the Permittee of the need for further investigative action and/or the need for a Corrective Measures Study to meet the requirements of *Permit Condition IV.G* and **40 CFR Part 264.101**. The Manager will notify the Permittee of any

no further action decision. Any further investigative action required by the Manager shall be prepared and submitted in accordance with a schedule specified by the Manager and approved in accordance with *Permit Condition IV.E.1.3*.

IV.F INTERIM MEASURES (IM)

IV.F.1 IM Work Plan

IV.F.1.1 Upon notification by the Manager, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan for any SWMU or AOC which the Manager determines is necessary.

IV.F.1.1.1 Interim Measures shall be designed to minimize or prevent the further migration of contaminants and limit human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.

IV.F.1.1.2 The IM Work Plan shall be submitted within the specified time identified by the Manager in such notification.

IV.F.1.2 The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with and integrated into any long-term solution at the facility. The IM Work Plan shall include: the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.

IV.F.1.3 The IM Work Plan must be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan. If the Manager disapproves the IM Work Plan, the Manager shall either (1) notify the Permittee in writing of the IM Work Plan's deficiencies and specify a due date for submission of a revised IM Work Plan, or (2) revise the IM Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved IM Work Plan, or (3) conditionally approve the IM Work Plan and notify the Permittee of the conditions.

IV.F.2 IM Implementation

IV.F.2.1 The Permittee shall implement the interim measures in accordance with the approved IM Work Plan.

IV.F.2.2 The Permittee shall give notice to the Manager as soon as possible of any planned changes, reductions or additions to the IM Work Plan.

IV.F.2.3 Final approval of corrective action required under **40 CFR Part 264.101**, which is achieved through interim measures shall be in accordance with **40 CFR Part 270.41** and *Permit Condition IV.H* as a Permit Modification.

IV.F.3 IM Reports

IV.F.3.1 If the time required for completion of interim measures is greater than one year, the Permittee shall provide the Manager with progress reports at intervals specified in the approved IM Work Plan. The Progress Reports shall contain the following information at a minimum:

IV.F.3.1.1 A description of the portion of the interim measures completed;

IV.F.3.1.2 Summaries of findings;

IV.F.3.1.3 Summaries of all deviations from the IM Work Plan during the reporting period;

IV.F.3.1.4 Summaries of all problems encountered during the reporting period; and

IV.F.3.1.5 Projected work for the next reporting period.

IV.F.3.2 The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days of completion of interim measures conducted under *Permit Condition IV.F.1*, an Interim Measures (IM) Report. The IM Report shall contain the following information at a minimum:

IV.F.3.2.1 A description of interim measures implemented;

IV.F.3.2.2 Summaries of results;

IV.F.3.2.3 Summaries of all problems encountered;

IV.F.3.2.4 Summaries of accomplishments and/or effectiveness of interim measures; and

IV.F.3.2.5 Copies of all relevant laboratory/monitoring data, etc. in accordance with *Permit Condition II.E.9*.

IV.G CORRECTIVE MEASURES STUDY

IV.G.1 Corrective Measures Study (CMS) Work Plan

IV.G.1.1 The Permittee shall prepare and submit a CMS Work Plan for those units requiring a CMS within ninety (90) calendar days of notification by the Manager that a CMS is required. This CMS Work Plan shall be developed to meet the requirements of *Permit Condition IV.G.1.2*. The CMS may be performed concurrent with the RFI if the Division determines that sufficient investigative details are available to allow concurrent action.

IV.G.1.2 The CMS Work Plan shall meet the requirements of Appendix 3.

IV.G.1.2.1 The CMS Work Plan shall include schedules of implementation and completion of specific actions necessary to complete a CMS.

IV.G.1.2.2 The Permittee must provide sufficient justification and/or documentation for any unit deleted from the CMS Work Plan. Such deletion of a unit is subject to the

approval of the Manager.

IV.G.1.2.3 The CMS shall be conducted in accordance with the approved CMS Work Plan.

IV.G.1.2.4 The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix 3. Such omissions or deviations are subject to the approval of the Manager.

IV.G.1.2.5 The scope of the CMS Work Plan shall include all investigations necessary to ensure compliance with **40 CFR Part 264.100**, **40 CFR Part 264.101** and **40 CFR Part 270.32**.

IV.G.1.2.6 The Permittee shall implement corrective actions beyond the facility boundary, if necessary, as set forth in *Permit Condition IV.A.9*.

IV.G.1.3 The Manager shall either approve or disapprove, in writing, the CMS Work Plan. If the Manager disapproves the CMS Work Plan, the Manager shall either (1) notify the Permittee in writing of the CMS Work Plan's deficiencies and specify a due date for submittal of a revised CMS Work Plan, or (2) revise the CMS Work Plan and notify the Permittee of the revisions, or (3) conditionally approve the CMS Work Plan and notify the Permittee of the conditions.

IV.G.1.4 The CMS Work Plan and CMS Report may be combined, upon approval of the Manager.

IV.G.2 Corrective Measures Study Implementation

The Permittee shall begin to implement the Corrective Measures Study according to the schedules specified in the approved CMS Work Plan.

IV.G.3 CMS Report

IV.G.3.1 The Permittee shall prepare and submit to the Manager a CMS Report for the study conducted pursuant to the approved CMS Work Plan.

IV.G.3.1.1 The CMS Report shall be submitted to the Manager per the schedule approved in the CMS Work Plan.

IV.G.3.1.2 Any revised CMS Reports shall be submitted to the Division within thirty (30) days of receipt of the Divisions comments.

IV.G.3.1.3 The CMS Report shall summarize any bench-scale or pilot tests conducted.

IV.G.3.1.4 The CMS Report must include an evaluation of each remedial alternative.

IV.G.3.1.5 The CMS Report shall present all information gathered under the approved CMS Work Plan.

IV.G.3.1.6 The CMS Report must contain adequate information to support the Manager's decision on the recommended remedy, described under *Permit Condition IV.G*.

IV.G.3.2 If the Manager determines that the CMS Report does not fully satisfy the information requirements specified under *Permit Condition IV.G.3.1*, the Manager may disapprove the CMS Report. If the Manager disapproves the CMS Report, the Manager shall notify the Permittee in writing of deficiencies in the CMS Report and specify a due date for submittal of a revised CMS Report. The Manager will notify the Permittee of any no further action decision.

IV.G.3.3 As specified under *Permit Condition IV.G.3.2*, based on preliminary results and the CMS Report, the Manager may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies.

IV.H REMEDY APPROVAL AND PERMIT MODIFICATION

IV.H.1 The Manager shall select a remedy from the remedial alternatives evaluated in the CMS. The selection will be based, at a minimum, on protection of human health and the environment, as per specific site conditions, existing regulations, and guidance. The selected remedy may include any interim measures implemented to date.

IV.H.2 Statement of Basis

IV.H.2.1 Submittal of a Statement of Basis maybe required upon approval of the CMS Report or other Manager decision *[i.e. NFA]*. If required, the Permittee shall prepare a draft Statement of Basis that provides a summary and justification of the selected remedy. The Statement of Basis should be written following EPA guidance "*Guidance on RCRA Corrective Action Decision Documents: The Statement of Basis, Final Decision and Response to Comments*," February 1991, EPA/540/G-91/011, (or most recent version) or other Manager approved guidance, and should include information on the proposed remedy, facility background, exposure pathways, cleanup goals, the scope of the corrective action, the remedial alternatives considered, an evaluation of those alternatives, and public participation.

IV.H.2.2 A draft Statement of Basis shall be submitted to the Manager within thirty (30) days unless otherwise specified by the Manager. The Manager shall notify the Permittee of deficiencies and specify a due date for submittal of a revised Statement of Basis or revise and finalize the Statement of Basis.

IV.H.3 Pursuant to **40 CFR Part 270.41**, a Permit Modification will be initiated by the Manager, after recommendation of a remedy under *Permit Condition IV.H.1*. This modification will serve to incorporate a final remedy into this Permit.

IV.H.4 Within one hundred and twenty (120) calendar days after this Permit has been modified, the Permittee shall demonstrate financial assurance for completing the approved remedy.

IV.I CORRECTIVE MEASURES IMPLEMENTATION (CMI)

IV.I.1 CMI Work Plan

Within thirty (30) days of the effective date of the Permit Modification for the remedy selection, unless otherwise agreed to by the Manager, the Permittee shall prepare and submit a Corrective Measures Implementation (CMI) Work Plan for the SWMUs or AOCs requiring corrective measures implementation. At a minimum, this Work Plan shall include the following:

IV.I.1.1 A description of the conceptual design, technical features (e.g. Plans and Specifications) and a Construction Plan for the selected remedy(ies) to achieve media cleanup standards protective of human health and the environment, controlling the source(s) of release, and complying with standards for the management of wastes and any remedial residues.

IV.I.1.2 A proposed schedule that takes into account all phases of the CMI. The schedule should also include the submittal of documents to support the CMI (e.g. Operation and Maintenance Plan, Construction Completion Report, etc.) as described in *Permit Conditions IV.I.2*, *IV.I.4* and *IV.I.6*.**IV.I.1.3** Requirements for removal and decontamination of units, equipment, devices or structures that will be used to implement the remedy(ies).

IV.I.2. Operation and Maintenance Plan

If required under the CMI WP, an Operation and Maintenance Plan (O&MP) shall be submitted to the Manager in accordance with the schedule required by *Permit Condition IV.I.1.* The O&MP, at a minimum, shall include the following:

IV.I.2.1 A system description, startup procedures, operation and maintenance procedures and schedule of inspection and maintenance;

IV.I.2.2 Waste management practices, sampling and analysis required for operation and contingency procedures;

IV.I.2.3 A description of the Corrective Measure(s) completion criteria and the method to be used to show when the criteria are met; and

IV.I.2.4 For remedies with Land Use Controls, the Operation and Maintenance Plan should include the requirements of *Permit Condition IV.I.5*.

IV.I.3. Manager Approval

All Plans required for the CMI phase, required by *Permit Condition IV.I* must be approved, in writing, by the Manager prior to implementation, in accordance with *Permit Condition IV.L.1.*

IV.I.4. Construction Completion Report

If required under the CMI WP, a Construction Completion Report (CCR) shall be submitted to the Manager, in accordance with the schedule required by *Permit Condition IV.I.1*, that demonstrates the completion of the remedy construction in accordance with approved plans and specifications. The CCR shall be submitted when all operational tests have been completed. Any necessary documentation required by the Division shall be included in this report.

IV.I.5. Remedy with Land Use Controls

Any final remedy that incorporates land use controls shall be in accordance with **KRS 224 Subchapter 80.**

The SWMUs and AOCs for which land use controls are selected as an integral part of the final remedy are listed in Appendix 1.7 - SWMUs and AOCs Requiring Land Use Controls. When corrective measures incorporate land use controls as part of the selected remedy, the following information should be provided:

IV.I.5.1 The name, address and phone number of the person to contact about the SWMU or AOC;

IV.I.5.2 Any necessary security provisions consistent with **40 CFR Part 264.117** to prevent unauthorized entry and/or use of the waste unit;

IV.I.5.3 A description of measures to protect the integrity of any installed engineering control(s) and associated features considered as part of the selected remedy, for the period that has to be maintained;

IV.I.5.4 Planned maintenance and monitoring activities, and frequencies to ensure the security provisions are maintained;

An inspection checklist describing the land use control elements to be inspected, the frequency of inspection, and the potential problems that could be encountered. The checklist shall contain an area where the inspector may enter his/her name, the date of inspection, and the date upon which any problems encountered are remediated;

IV.I.5.5 Procedure(s) to follow when a determination is made that the land use control(s) are not effective and require modification;

IV.I.5.6 The mechanism by which a notification will be recorded on the deed for the facility property, or some other instrument which is normally examined during title search, that will in perpetuity notify any potential future purchaser of the property, that the property had been used for waste management and disposal activities and that restrictions exist precluding a residential use of the land. The need for a deed restriction may be reevaluated upon the transfer of ownership or control; and

IV.I.5.7 The mechanism by which other pertinent agencies (State or Federal) will be given notice of restrictions placed on the use of the property, that is affecting or may affect in the future, areas under the control of other State or Federal agencies.

IV.I.6 CMI Progress Reports

If the time frame required to complete Corrective Measures Implementation is greater than one hundred and eighty (180) days, the Permittee shall provide the Division with semi-annual C M I Progress Reports (180 day intervals) beginning from the date the CMI Work Plan is approved by the Division, until the Remedy Completion Report is approved by the Division. The time frame stated is effective unless otherwise agreed to by the Division. The CMI Progress Reports shall contain at least the following information:

IV.I.6.1 A description of the portion of the CMI Work Plan completed (e.g. sampling events, operations, volumes removed/treated, wastes generated, etc);

IV.I.6.2 A summary of system performance/compliance and progress toward achieving cleanup goals;

IV.I.6.3 A summary of any deviations from the approved CMI Work Plan during the reporting period;

IV.I.6.4 Summaries of all contacts with local community and public interest groups or State and Federal Government;

IV.I.6.5 A summary of any problems or potential problems encountered during the reporting period;

IV.I.6.6 A summary of actions taken to rectify the problems;

IV.I.6.7 Any changes in relevant personnel; and

IV.I.6.8 Projected work for the next reporting period.

IV.I.7 CMI Report

IV.I.7.1 Within ninety (90) days of completion of the CMI, unless otherwise agreed to by the Division, the Permittee shall submit a CMI Report, including certification of completion of the corrective measures activities. The CMI Report shall summarize the activities and results from the entire period of Corrective Measures Implementation. The CMI Report shall also demonstrate compliance with all media cleanup goals and meet the corrective measures completion criteria in accordance with *Permit Condition IV.I*. Approval by the Division of the final CMI Report constitutes remedy completion.

IV.I.7.2 For corrective measures involving the cleanup of groundwater, the Permittee must demonstrate that the concentrations of the constituents of concern remain at or below cleanup levels for three (3) consecutive years after the corrective measures have been terminated. The time frame stated is effective unless otherwise agreed to by the Manager.

IV.J MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

IV.J.1 Modifications to the corrective action schedule of compliance will not constitute a reissuance of the Permit. The Manager may grant extensions at his/her sole discretion, subject to adequate justification by the Permittee.

IV.J.2 The Schedule of Compliance is attached to and incorporated in this Permit as Appendix 4. If at any time,

the Manager determines that modification of the corrective action schedule is necessary, the Manager may initiate a modification to the schedule.

IV.K IMMINENT HAZARDS

IV.K.1 The Permittee shall report to the Manager, any imminent or existing hazard to public health or the environment from any release of hazardous waste or hazardous constituents from SWMUs and/or AOCs consistent with requirements specified in *Permit Condition II.E.15*.

IV.L WORK PLAN AND REPORT REQUIREMENTS

IV.L.1 All work plans and schedules shall be subject to approval by the Manager, prior to implementation to assure that such work plans and schedules are consistent with the requirements of this Permit and with applicable regulations and guidance. The Permittee shall revise all submittals and schedules as specified by the Manager. The Permittee shall implement all work plans and schedules as approved by the Manager.

IV.L.2 All work plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Division based on the Permittee's demonstration that sufficient justification for the extension exists.

IV.L.3 If the Permittee at any time determines that the AR information required under *Permit Condition IV.B*, or the CS Work Plan under *Permit Condition IV.D*, or RFI Work Plan(s) required under *Permit Condition IV.E* no longer satisfy the requirements of **40 CFR Part 264.101** or this Permit for prior or continuing releases of hazardous waste or hazardous constituents from SWMUs and/or AOCs, the Permittee shall submit an amended RFI Work Plan(s) and/or AR to the Director within ninety (90) calendar days of such determination.

IV.L.4 All reports shall be signed and certified in accordance with **40 CFR Part 270.11**.

IV.L.5 At least one (1) copy of all reports and work plans shall be provided by the Permittee to the Division of Waste Management at the address specified in *Permit Condition II.B.2.2*.

IV.M APPROVAL/DISAPPROVAL OF SUBMITTALS

IV.M.1 The Manager will review the work plans, reports, schedules, and other documents ("submittals") which require the Manager's approval in accordance with the conditions of this Permit. The Manager will notify the Permittee in writing of any submittal that is disapproved, and the basis therefore. In the event the Permittee disagrees, in whole or in part, with the Manager's decision of a submittal or disapproval of any revised submittal required by the Permit, the Permittee has the right to seek a hearing under **KRS 224.10-420(2)**.

END OF PERMIT CONDITIONS

PART V WASTE MINIMIZATION

PART V
WASTE MINIMIZATION

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

V.A GENERAL RESTRICTIONS

V.A.1 In the event that the Permittee treats, stores, or disposes of hazardous wastes onsite where such wastes were generated, then the Permittee must comply with **40 CFR Part 264.73** and the Permittee must certify, no less often than annually, that:

V.A.1.1 The Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

V.A.1.2 The proposed method of treatment, storage, or disposal is the most practicable method available to the Permittee which minimizes the present and future threat to human health and the environment.

V.B RECORDKEEPING REQUIREMENTS

If *Permit Condition V.A* is applicable, then the Permittee shall maintain copies of this certification in the facility Operating Record as required by **40 CFR Part 264.73**.

V.C WASTE MINIMIZATION OBJECTIVES

The Waste Minimization program required under *Permit Condition V.A* above should address the following objectives and elements:

V.C.1 Top Management Support

The Permittee shall maintain and update the following documents:

V.C.1.1 A policy dated and signed, by management, describing management support for waste minimization and for implementation of a waste minimization plan.

V.C.1.2 A description of employee awareness and training programs designed to involve employees in

waste minimization planning and implementation to the maximum extent feasible.

V.C.1.3 A description specifying how a waste minimization plan has been incorporated into management practices so as to ensure ongoing efforts with respect to product design, capital planning, production operations, and maintenance.

V.C.2 Characterization of Waste Generation

The Permittee shall identify and document types, amounts, and hazardous constituents of waste streams, with the source and date of generation.

V.C.3 Periodic Waste Minimization Assessments

V.C.3.1 The Permittee shall identify and document all points in a process where materials can be prevented from becoming a waste, or can be recycled.

V.C.3.2 The Permittee shall identify the potential for waste reduction and recycling techniques applicable to each waste generated at the facility, with a cost estimate for capital investment and implementation.

V.C.3.3 The Permittee shall update and maintain a description of technically and economically practical waste reduction, recycling options to be implemented at the facility, and a planned schedule for implementation.

V.C.3.4 The Permittee shall prepare and maintain an adequate assessment for specific performance goals, preferably quantitative, for the source reduction of waste by stream. Whenever possible, goals should be stated as weight of waste generated per standard unit of production, as defined by the generator.

V.C.4 Cost Allocation System

The Permittee, on an annual basis, shall update a Cost Allocation System specific to the operation of the facility with respect to waste reduction.

The following shall be addressed in preparation of the document:

V.C.4.1 Identification of waste management costs for each waste, factoring in liability, transportation, recordkeeping, personnel, pollution control, treatment, disposal, and compliance and oversight costs to the extent feasible.

V.C.4.2 Description of how each area(s) at the facility is held accountable for the wastes they generate.

V.C.4.3 The comparison of waste management costs with costs of potential reduction and recycling techniques applicable to each waste at the facility.

V.C.5 Technology Transfer

The Permittee shall update and maintain at the facility a description of efforts to seek and exchange technical information on waste minimization from other parts of the company, other firms, trade associations, technical assistance programs, and professional consultants.

V.C.6 Program Evaluation

The Permittee, on an annual basis, shall evaluate the waste minimization program. The evaluation, at a minimum shall contain the following:

V.C.6.1 Description of types and amounts of hazardous waste reduced or recycled.

V.C.6.2 Analysis and quantification of progress made relative to each performance goal established and each reduction technique to be implemented.

V.C.6.3 Amendments to waste minimization plan and explanation.

V.C.6.4 Explanation and documentation of reduction efforts completed or in progress before development of the waste minimization plan.

V.C.6.5 Explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.

END OF PERMIT CONDITIONS

PART VI LAND DISPOSAL RESTRICTIONS

PART VI
LAND DISPOSAL RESTRICTIONS

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

VI.A GENERAL RESTRICTIONS

VI.A.1 **40 CFR Part 268** identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of **40 CFR Part 268**. Where the Permittee has applied for an extension, waiver, or variance under **40 CFR Part 268**, the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such Application.

VI.B LAND DISPOSAL PROHIBITIONS AND TREATMENT STANDARDS

VI.B.1 A restricted waste identified in **40 CFR Part 268** may not be placed in a land disposal unit without further treatment unless the requirements of **40 CFR Part 268.50** are met.

VI.B.2 The storage of hazardous wastes restricted from land disposal under **40 CFR Part 268** is prohibited unless the requirements of **40 CFR Part 268** are met.

E N D O F P E R M I T C O N D I T I O N S

PART VII ORGANIC AIR EMISSION REQUIREMENTS

PART VII
ORGANIC AIR EMISSION REQUIREMENTS

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

The purpose of Organic Air Emission Standards (**40 CFR Part 264 - Subpart AA**, **BB** and **CC**) is to control air emissions from hazardous waste treatment, storage, and disposal facilities or units, as well as associated ancillary equipment and systems.

VII.A AIR EMISSION STANDARDS FOR PROCESS VENTS

VII.A.1 **40 CFR Part 264 – Subpart AA** contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that manage hazardous waste with an annual average total organic concentration of at least ten (10) parts per million (ppm) by weight (ppmw). It also contains standards for closed-vent systems and control devices.

However, the Permittee does not currently operate and is not currently authorized under this Permit to operate any process vents, closed-vent systems, or control devices that are subject to 40 CFR Part 264 – Subpart AA.

VII.A.2 **Notification of Modifications, Additions, or New Units**

Prior to installing or operating any process vents, closed-vent systems, or control devices subject to **40 CFR Part 264 – Subpart AA**, or modifying any existing equipment, procedure, or process such that the process vents, closed-vent systems, or control devices will become subject to **40 CFR Part 264 – Subpart AA**, the Permittee shall apply for a Permit Modification in accordance with *Permit Condition II.B.1* and *Permit Condition II.B.4.*

VII.A.3 Reserved

VII.A.4 Reserved

VII.A.5 Reserved

VII.A.6 Reserved

VII.A.7 Reserved

VII.B AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

VII.B.1 **40 CFR Part 264 - Subpart BB** contains air emission standards for equipment leaks and applies to all equipment that contains or contacts hazardous wastes with organic concentrations of at least ten (10) percent by weight.

However, the Permittee does not currently operate and is not currently authorized under this Permit to operate any equipment or ancillary equipment that is subject to 40 CFR Part 264 – Subpart BB.

VII.B.2 **Notification of Modifications, Additions, or New Units**

Prior to installing or operating any new unit or equipment subject to **40 CFR Part 264 – Subpart BB**, or modifying any existing unit, equipment, procedure, or process such that the unit(s) or equipment will become subject to **40 CFR Part 264 – Subpart BB**, the Permittee shall apply for a Permit Modification in accordance with *Permit Condition II.B.1* and *Permit Condition II.B.4.*

VII.B.3 Reserved

VII.B.4 Reserved

VII.B.5 Reserved

VII.B.6 Reserved

VII.B.7 Reserved

VII.B.8 Reserved

VII.B.9 Reserved

VII.C AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS, CONTAINERS AND MISCELLANEOUS UNITS

VII.C.1 **40 CFR Part 264 – Subpart CC** contains air emissions standards for hazardous waste surface impoundments, tanks, miscellaneous units, and containers that contact hazardous waste containing an average volatile organic concentration greater than 500 parts per million (ppm) by weight at the point of waste origination, as determined by the procedures outlined in **40 CFR Part 264.1083(a)**, except as excluded by **40 CFR Part 264.1080(b)** or specifically exempted by **40 CFR Part 264.1082(c)**. In addition to the hazardous waste management units mentioned above, the requirements of **40 CFR Part 264 – Subpart CC** also apply to their covers, closure devices, and control devices.

However, the Permittee does not currently operate and is not currently authorized under this Permit to operate any tanks, containers, surface impoundments, or miscellaneous units that are subject to 40 CFR Part 264 – Subpart CC.

VII.C.2 Notification of Modifications, Additions, or New Units

Prior to installing or operating a tank, container, surface impoundment, miscellaneous unit, closed vent system, or control device subject to **40 CFR Part 264 – Subpart CC**, or modifying any existing unit, equipment, procedure, or process such that the unit(s) or equipment will become subject to **40 CFR Part 264 – Subpart CC**, the Permittee shall apply for a Permit Modification in accordance with *Permit Condition II.B.1* and *Permit Condition II.B.4.*

VII.C.3 Reserved

VII.C.4 Reserved

VII.C.5 Reserved

VII.C.6 Reserved

VII.C.7 Reserved

VII.C.8 Reserved

VII.C.9 Reserved

VII.C.10 Reserved

VII.C.11 Reserved

VII.C.12 Reserved

VII.C.13 Reserved

END OF PERMIT CONDITIONS

PART VIII REFERENCED ATTACHMENTS & APPENDICES

PART VIII
REFERENCED ATTACHMENTS AND APPENDICES
(Available In Volume 2 & 3 of the Hazardous Waste Management Permit)

The terms and conditions of this Permit are applicable to Ashland Inc., Route 3 Landfill under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

Attachments A through L are located in the approved RCRA Part B Permit Application received by the Division on August 24, 2023.

VIII.A	**Attachment A:**	**Part A Permit Application**
VIII.B	**Attachment B:**	**Facility Description**
VIII.C	**Attachment C:**	**Waste Characteristics**
VIII.D	**Attachment D:**	**Process Information**
VIII.E	**Attachment E:**	**Groundwater Monitoring and Corrective Action**
VIII.F	**Attachment F:**	**Procedures to Prevent Hazards**
VIII.G	**Attachment G:**	**Contingency Plan**
VIII.H	**Attachment H:**	**Personnel Training**
VIII.I	**Attachment I:**	**Closure Plans, Post-Closure Plans, and Financial Requirements**
VIII.J	**Attachment J:**	**Other Federal Laws**
VIII.K	**Attachment K:**	**Waste Minimization Plan**
VIII.L	**Attachment L:**	**Signature Certification**
VIII.AA	**Appendix 1.1:**	**SWMUs and AOCs**
VIII.BB	**Appendix 1.2:**	**SWMUs and AOCs Requiring No Further Investigation**
VIII.CC	**Appendix 1.3:**	**SWMUs and AOCs Requiring Confirmatory Sampling**

VIII.DD	**Appendix 1.4:**	**SWMUs and AOCs Requiring Facility Investigation**
VIII.EE	**Appendix 1.5:**	**SWMUs and AOCs Requiring Interim Measures**
VIII.FF	**Appendix 1.6:**	**SWMUs and AOCs Requiring Corrective Measures**
VIII.GG	**Appendix 1.7:**	**SWMUs and AOCs Requiring Land Use Controls**
VIII.HH	**Appendix 2:**	**RCRA Facility Investigation (RFI) – Work Plan Outline**
VIII.II	**Appendix 3:**	**Corrective Measure Study (CMS) Outline**
VIII.JJ	**Appendix 4:**	**Corrective Action Schedule of Compliance**

APPENDIX 1.1

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs)

TABLE VIII.AA.1 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs)	
SWMU	**Description**
SWMU #1	Closed Surface Impoundment

APPENDIX 1.2

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs) REQUIRING NO FURTHER INVESTIGATION

TABLE VIII.BB.1 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) REQUIRING NO FURTHER INVESTIGATION	
SWMU	**Date of Determination**
SWMU #1	March 31, 1995

APPENDIX 1.3

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING CONFIRMATORY SAMPLING

Currently None

APPENDIX 1.4

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING FACILITY INVESTIGATION

Currently None

APPENDIX 1.5

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING INTERIM MEASURES

Currently None

APPENDIX 1.6

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING CORRECTIVE MEASURES

Route 3 Landfill

APPENDIX 1.7

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING LAND USE CONTROLS

Route 3 Landfill

APPENDIX 2

RCRA FACILITY INVESTIGATION (RFI) – WORK PLAN OUTLINE

I. RFI WORKPLAN REQUIREMENTS

The Permittee shall prepare a RCRA Facility Investigation (RFI) workplan that meets the requirements of Part IV of this document. This attachment is provided as guidance for the development of the RFI workplan.

A. Project Management Plan

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Sampling and Analysis Plan(s)

The Permittee shall prepare a plan to document all monitoring procedures and sample analysis performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented. The Sampling Strategy and Procedures shall be in accordance with Characterization of Hazardous Waste Sites A Methods Manual: Volume II. Available Sampling Methods, EPA-600/4-84-076, or EPA Region IV Engineering Support Branch's Standard Operating Procedure and Quality Assurance Manual (SOP). Any deviations from these references must be requested by the applicant and approved by the Division. The Sampling and Analysis Plan must specifically discuss the following unless the EPA-600/4-84-076 or SOP procedures are specifically referenced.

1. Sampling Strategy

The sampling section of the Sampling and Analysis Plan shall be at a minimum discuss:

a. Selecting appropriate sampling locations, depths, etc.;

b. Obtaining all necessary Ancillary data;

c. Determining conditions under which sampling should be conducted;

d. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, etc.) and the parameters to the sampled for;

e. Selecting the frequency of sampling and length of sampling period;

f. Selecting the types of samples (e.g., composites vs. grabs) and number of samples to be collected.

2. Sampling Procedures

   a. Documenting field sampling operations and procedures, including

      i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, preservatives, and absorbing reagents);

      ii) Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

      iii) Documentation of specific sample preservation method;

      iv) Calibration of field instruments;

      v) Submission of field-biased blanks, where appropriate;

      vi) Potential interferences present at the facility;

      vii) Field equipment listing and sampling containers;

      viii) Sampling order; and

   b. Selecting appropriate sample containers;

   c. Sampling preservation; and

   d. Chain-of-Custody, including:

      i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and

      ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sampling Procedures

   Sample Analysis shall be conducted in accordance with SW-846: "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods." The sample analysis section of the Sampling and Analysis Plan Shall specify the following:

   a. Chain-of Custody procedures, including:

      i) Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

iii) Specification of laboratory sample custody procedures for sample handling, storage, and disbursement for analysis.

b. Sample storage;

c. Sample preparation methods;

d. Analytical procedures, including:

i) Scope and application of the procedure;

ii) Sample matrix

iii) Potential interferences;

iv) Precision and accuracy of the methodology; and

v) Method detection limits.

e. Calibration procedures and frequency;

f. data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:

i) Method blank(s);

ii) Laboratory control sample(s);

iii) Calibration check sample(s);

iv) Replicate Sample(s);

v) Matrix-spiked sample(s);

vi) Control charts;

vii) Surrogate sample(s);

viii) Zero and span gases; and

ix) Reagent quality control checks.

h. Preventive maintenance procedures and schedules;

i. Corrective action (for laboratory problems);

j. Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

a. Unique sample or field measurements code;

b. Sampling or field measurement location and sample or measurement type;

c. Sampling or field measurement raw data;

d. Laboratory analysis ID number;

e. Property or component measured; and

f. Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

a. Unsorted (raw) data;

b. Results for each medium, or for each constituent monitored;

c. Data reduction for statistical analysis, as appropriate;

d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

e. Summary data

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

a. Display sampling location and sampling grid:

b. Indicate boundaries of sampling area, and area where more data are required;

c. Display geographical extent of contamination;

d. Illustrate changes in concentration in relation to distances from the source, time, depth or other parameter; and

e. Indicate features affecting intramedia transport and show potential receptors.

II. RCRA FACILITY INVESTIGATION (RFI) REQUIREMENTS

RCRA Facility Investigation:

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary. The information contained in RCRA Part B permit Application and/or RCRA 3019 Exposure Information Report may be referenced as appropriate.

All sampling and analyses shall be conducted in accordance with the Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

The Permittee shall collect information to supplement and/or verify Part B information on the environmental setting at the facility. The Permittee shall characterize the following as they relate to identified sources, pathways and areas of releases of hazardous constituents from Solid Waste Management Units.

1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting ground-water flow beneath the facility, including:

i) Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts:

ii) Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);

iii) Depositional history;

iv) Regional and facility specific ground-water flow patterns; and

v) Identification and characterization of areas and amounts of recharge and discharge.

b. An analysis of any topographic features that might influence the groundwater flow system.

c. Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:

i) Hydraulic conductivity and porosity (total and effective);

ii) Lithology, grain size, sorting, degree of cementation;

iii) An interpretation of hydraulic interconnections between saturated zones; and

iv) The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content etc.).

d. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

i) Water-level contour and/or potentiometric maps;

ii) Hydrologic cross sections showing vertical gradients;

iii) The flow system, including the vertical and horizontal components of flow; and

iv) Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

e. A description of manmade influences that may affect the hydrology of the site, identifying:

i) Local water-supply and production wells with an approximate schedule of pumping; and

ii) Manmade hydraulic structures (pipelines, french drains, ditches, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of contaminant release(s). Such characterization may include, but not be limited to, the following types of information as appropriate:

a. Surface soil distribution;

b. Soil profile, including ASTM classification of soils;

c. Transects of soil stratigraphy;

d. Hydraulic conductivity (saturated and unsaturated);

e. Relative permeability;

f. Bulk density;

g. Porosity;

h. Soil sorptive capacity;

i. Cation exchange capacity (CEC);

j. Soil organic content;

k. Soil pH;

l. Particle size distribution

m. Depth of water table;

n. Moisture content;

o. Effect of stratification on unsaturated flow;

p. Infiltration;

q. Evapotranspiration;

r. Storage capacity;

s. Vertical flow rate; and

t. Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization may include, but not be limited to, the following activities and information:

a. Description of the temporal and permanent surface water bodies including:

i) For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

ii) For impoundment: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;

iii) For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e., 100 year event), discharge points(s), and general contents

iv) Drainage patterns; and

v) Evapotranspiration.

b. Description of the chemistry of the natural surface water and sediments: This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH3, N03-/N02-, P0-3); chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.

c. Description of sediment characteristics including:

i) Deposition area;

ii) Thickness profile; and

iii) Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

4. Air

The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

a. A description of the following parameters:

i) Annual and monthly rainfall averages;

ii) Monthly temperature averages and extremes;

iii) Wind speed and direction;

iv) Relative humidity/dew point;

v) Atmospheric pressure;

vi) Evaporation data;

vii) Development of inversions; and

viii) Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence. (i.e. Hurricanes)

b. A description of topographic and manmade features which affect air flow and emission patterns, including:

i) Ridges, hills or mountain areas;

ii) Canyons or valleys;

iii) Surface water bodies (e.g., rivers, lakes, bays, etc.);

iv) Buildings.

B. Source Characterization

For those sources from which releases of hazardous constituents have been detected the Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, to the degree that is possible without undue safety risks, including: type, quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineering barriers). This shall include quantification of the following specific characteristics, at each source area:

1. Unit/Disposal Area Characteristics:

a. Location of unit/disposal area;

b. Type of unit/disposal area;

c. Design features;

d. Operating practices (past and present);

e. Period of operation;

f. Age of unit/disposal area;

g. General physical conditions; and

h. Method used to close the unit/disposal area.

2. Waste Characteristics:

a. Type of wastes placed in the unit;

i) Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);

ii) Quantity; and

iii) Chemical composition

b. Physical and chemical characteristics such as;

i) Physical form (solid, liquid, gas);

ii) Physical description (e.g., powder, oily sludge);

iii) Temperature;

iv) pH;

v) General chemical class (e.g., acid, base, solvent);

vi) Molecular Weight;

vii) Density;

viii) Boiling point;

ix) Viscosity;

x) Solubility in water;

xi) Cohesiveness of the Waste; and

xii) Vapor pressure.

c. Migration and dispersal characteristics of the waste such as;

i) Sorption capability;

ii) Biodegradability, bioconcentration, biotransformation;

iii) Photodegradation rates;

iv) Hydrolysis rates; and

v) Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Characterization of Releases of Hazardous Constituents

The Permittee shall collect analytical data on groundwater, soils, surface water, sediment, and subsurface gas contamination in the vicinity of the facility in accordance with the sampling and analysis plan as required above. These data shall be sufficient to define the extent, origin, direction, and rate of movement of contamination. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination detected at the facility. This investigation shall at a minimum provide the following information:

a. A description of the horizontal and vertical extent of any plume(s) of hazardous constituents originating from the facility;

b. The horizontal and vertical direction of contamination movement;

c. The velocity of contaminant movement;

d. The horizontal and vertical concentration profiles of hazardous constituents in the plume(s);

e. An evaluation of factors influencing the plume movement; and

f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units above the saturated zone in the vicinity of any contaminant release. The investigation may include the following information:

a. A description of the vertical and horizontal extent of contamination;

b. A description of appropriate contaminant and soil chemical properties within the contaminant source area and plume. This may include contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;

c. Specific contaminant concentration;

d. The velocity and direction of contamination movement; and

e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface Water and Sediment Contamination

The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from releases of hazardous constituents at the facility.

The investigation may include, but not be limited to, the following information:

a. A description of the horizontal and vertical extent of any plume(s) originating from the facility, and the extent of contamination in underlying sediments;

b. The horizontal and vertical direction of contaminant movement;

c. The contaminant velocity;

d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;

e. An extrapolation of future contaminant movement; and

f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.

4. Air Contamination

The Permittee shall conduct an investigation to characterize gaseous releases of hazardous constituents into the atmosphere or any structures or buildings. This investigation may provide the following information:

a. A description of the horizontal and vertical direction and velocity of contaminant movement;

b. The rate and amount of the release; and

c. The chemical and physical composition of the contaminant(s) released, including horizontal and vertical concentration profiles.

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples and/or data on observable effects in ecosystems may also be obtained as appropriate. The following characteristics shall be identified:

1. Current local uses and planned future uses of groundwater:

   a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and

   b. Location of groundwater users, to include withdrawal and discharge wells, within one mile of the impacted area.

   The above information should also indicate the aquifer or hydrogeologic unit used and/or impacted from each item.

2. Current local uses and planned future uses of surface waters directly impacted by the facility:

   a. Domestic and municipal (e.g., potable and lawn/gardening watering);

   b. Recreational (e.g., swimming, fishing);

   c. Agricultural;

   d. Industrial; and

   e. Environmental (e.g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

   a. Recreation;

   b. Hunting;

   c. Residential

   d. Commercial; and

   e. Relationship between population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A general description of the ecology within and adjacent to the facility.

6. A general demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any known or documented endangered or threatened species near the facility.

APPENDIX 3

CORRECTIVE MEASURE STUDY (CMS) OUTLINE

I. Identification and Development of the Corrective Measure Alternatives

A. Description of Current Situation
B. Establishment of Corrective Action Objectives
C. Screening of Corrective Measures Technologies
D. Identification of the Corrective Measure Alternatives

II. Evaluation of the Corrective Measure Alternatives

A. Technical/Environmental/Human Health/Institutional
B. Cost Estimate

III. Justification and Recommendation of the Corrective Measure or Measures

A. Technical
B. Human Health
C. Environmental

IV. Reports

A. Draft
B. Final
C. Public Review and Final Selection of Corrective Measure

I. IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE MEASURES ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified potential corrective measure technologies, the Permittee shall identify, screen and develop the alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation (RFI) Report. The Permittee shall provide an update to information presented in the RFI regarding previous response activities and interim measures which have or are being implemented at the facility. The Permittee shall also make a facility specific statement of the purpose for the response, based on the results of the RFI. The

statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee shall propose facility-specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable Federal statutes. At a minimum, all corrective actions concerning ground water releases from regulated units must be consistent with, and as stringent as, those required under 401 KAR 34:060, Section 11 (eff. 3-12-97).

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and assess the technologies which are applicable at the facility. The Permittee shall screen the corrective measure technologies to eliminate those that may prove not to be feasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

   Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.

2. Waste Characteristics

   Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).

3. Technology Limitations

   During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. Identification of the Corrective Measure Alternatives

The Permittee shall develop the Corrective measure alternatives based on the corrective action objectives and analysis of potential corrective measure technologies. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternatives. The alternatives developed should represent a workable number of option(s) that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies. The CMS should focus on realistic remedies that are site specific and tailored in scope and substance based on the extent, nature and complexity of releases and contamination.

II. EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the initial screening and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

i Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies;

ii Useful life is defined as the length of time the level of desired effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the

future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

b. The Permittee shall provide information on the reliability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

   i Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered;

   ii Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Respondent should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:

   i Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

   ii Time has two components that shall be addressed: the time it takes to implement a corrective measure and the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short-term and long-term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short term and long term potential exposure to any residual contamination and protects human health both during and after implementation of the corrective measure. The assessment will describe the concentrations and characteristics of the contaminants onsite, potential exposure routes, and potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to the Kentucky Division of Waste Management.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, state and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative. If the selected remedy is capping and closure in place, a notation must be made in the land deed.

B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

   a. Direct capital costs include:

      i Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.

      ii Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

      iii Land and site development costs: Expenses associated with purchase of land and development of existing property; and

      iv Buildings and services costs: Costs of process and nonprocess buildings, utility connections, purchased services, and disposal costs.

   b. Indirect capital costs include:

      i Engineering expenses: Costs of administration, design, construction supervision, drafting, testing of corrective measure alternatives;

      ii Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

iii Startup and shakedown costs: Costs incurred during corrective measure startup; and

iv Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

   a. Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post construction operations;

   b. Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

   c. Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

   d. Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

   e. Disposal and treatment costs: Cost of transporting, treating, and disposing of waste materials, like treatment plant residues, generated during operations;

   f. Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

   g. Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accident insurance; real estate taxes on purchased land or right-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

   h. Maintenance reserve and contingency funds: Annual payments into escrow funds to cover:

      1) costs of anticipated replacement or rebuilding of equipment;

      2) any large unanticipated operation and maintenance costs; and

   i. Other costs: Items that do not fit any of the above categories.

C. JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Trade-offs among health risks, environmental effects, and other pertinent factors shall be highlighted. The Director will select the corrective measure alternative or alternatives to be implemented based on the results obtained from work completed under Section II and III. At a minimum, the

following criteria will be used to justify the final corrective measure or measures.

D. Technical

E. Performance-corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

F. Reliability-corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proved effective under waste and facility conditions similar to those anticipated will be given preference;

G. Implementability-corrective measure or measures which can be constructed and operating to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

H. Safety-corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

I. Human Health

The corrective measure(s) must comply with existing U.S. EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

J. Environmental

The corrective measure(s) posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

IV. REPORTS

The Permittee shall prepare a Corrective Measure Study Report presenting the results obtained from Sections I through III and recommending a corrective measure alternative. Copies of the preliminary report shall be provided by the Permittee to the Director for review and approval.

A. Draft

The Report shall at a minimum include:

1. A description of the facility;

    a. Site topographic map & preliminary layouts.

2. A summary of the corrective measure(s) and rationale for selection;

    a. Description of the corrective measure(s) and rationale for selection;

b. Performance expectations;

c. Preliminary design criteria and rationale;

d. General operation and maintenance requirements; and

e. Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;

   a. Field studies (groundwater, surface water, soil, air); and

   b. Laboratory studies (bench scale, pick scale).

4. Design and Implementation Precautions;

   a. Special technical problems;

   b. Additional engineering data required;

   c. Permits and regulatory requirements;

   d. Access, easements, right-of-way;

   e. Health and safety requirements; and

   f. Community relations activities.

5. Cost Estimates and Schedules;

   a. Capitol cost estimate;

   b. Operation and maintenance cost estimate; and

   c. Project schedule (design, construction, operation).

Copies of the draft shall be provided by the Permittee to the Kentucky Division of Waste Management.

B. Final

The Permittee shall finalize the Corrective Measure Study Report incorporating comments received from the Kentucky Division of Waste Management on the Draft Corrective Measure Study Report. The report shall become final upon approval by the Director.

C. Public Review and Final Selection of Corrective Measures

Upon receipt of the Final Corrective Measure Study Report, the Kentucky Division of Waste Management shall announce its availability to the public for review and comment. At the end of the comment period, the Director shall review the comments and then inform the Permittee of the final decision as to the approved Corrective Measures to be implemented.

APPENDIX 4

CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

Permit Condition	Event	Due Date
IV.B.1	Notification of Newly Identified SWMUs and AOCs.	Within fifteen (15) days of discovery.
IV.B.2	Assessment Report.	Within ninety (90) days of notification
IV.C.1	Notification for Newly Discovered Releases at Previously Identified SWMUs and AOCs.	Within fifteen (15) days of discovery.
IV.D.1	Confirmatory Sampling Work Plan for SWMUs or AOCs Identified under Permit Condition IV.B.3 and/or IV.C.2	Within forty-five (45) days of notification by the Manager.
IV.D.2	Confirmatory Sampling Work Plan for SWMU(s) of AOC(s) Identified in IV.A.3	Within forty-five (45) days of the effective date of the permit.
IV.D.4	Implementation of Confirmatory Sampling Work Plan	In accordance with the approved CS Work Plan.
IV.B.3, IV.C.2, or IV.D.5	Confirmatory Sampling Report for SWMU(s) and AOC(s)	Within ninety (90) days after receipt of notification by the Division of which SWMUs or AOCs require an RFI.
IV.E	Revised RFI Report	Within thirty (30) days of receipt of the Division's comments on the RFI Report.
IV.E.1.1	RFI Work Plan for SWMU(s) and AOC(s) Identified under Permit Conditions IV.B.3, IV.C.2, and IV.D.5.	Within ninety (90) days after receipt of notification by the Division of which SWMU(s) or AOC(s) require an RFI.
IV.E.1.2	RFI Work Plan for SWMU(s) and AOC(s) Identified under Permit Condition IV.A.4.	Within ninety (90) days of the effective date of this Permit.
IV.E.2	Implementation of RFI Work Plan and Notification of Sampling Activities.	In accordance with the Division's approval letter for the RFI Work Plan. At least two (2) weeks prior to any sampling activity.

IV.E.3	RFI Report.	In accordance with the approved RFI Work Plan.
IV.E.3.1	RFI Progress Reports.	Quarterly, beginning ninety (90) days from the start date specified by the Division[1]
IV.F.1.1	Interim Measures Work Plan.	Within the specified time identified by the Manager.
IV.F.2	Implementation of IM Work Plan.	In accordance with the Division's approval letter for the IM Work Plan.
IV.F.3.1	Interim Measures Progress Reports.	In accordance with the approved Interim Measures Work Plan.[2]
IV.F.3.2	Interim Measures Report.	Within ninety (90) days of completion.
IV.G.1	CMS Work Plan.	Within ninety (90) days of notification by the Division that a CMS is required.
IV.G.2	Implementation of the CMS Work Plan.	According to schedules specified in the approved CMS Work Plan.
IV.G.3	CMS Report.	In accordance with the schedule in the approved CMS Work Plan.
IV.G.3.1	Revised CMS Report.	Within thirty (30) days of receipt of the Division's comments on the CMS Report.
IV.H.2	Statement of Basis.	Within the time frame specified in the letter from the Manager that notifies the Permittee that the CMS Report is approved or within thirty (30) days if a time frame is not provided.
IV.H.4	Demonstration of Financial Assurance.	Within one hundred twenty (120) days after Permit modification for remedy.
IV.I.2	Operations and Maintenance Plan.	[If required] In accordance with the schedule in the approved CMI Work Plan.
IV.I.4	Construction Completion Report.	In accordance with the schedule in the approved CMI Work Plan.
IV.I.6	CMI Progress Reports.	Semi-annually, beginning one hundred eighty (180) days after approval of the CMI Work Plan.
IV.I.7	CMI Report.	Within ninety (90) days of completion of the selected remedy.
IV.L.3	Amendment of Assessment Report, CS Work Plan, or RFI	Within ninety (90) days of determination.

	Work Plan that no longer satisfies requirements of 40 CFR Part 264.101 or this Permit.	
The above reports must be signed and certified in accordance with 401 KAR 39:060 Section 5. [1] Applies to work plan execution that requires more than one hundred eighty (180) days. [2] Applies to work plan execution that requires more than one (1) year.		