Modified Ohio Hazardous Waste Facility Installation and Operation Permit
Division of Environmental Response and Revitalization

Permittee: Envirosafe Services of Ohio, Inc  U.S. EPA ID: OHD 045 243 706
Facility Name: Envirosafe Services of Ohio, Inc
Mailing Address: 876 Otter Creek Road
City: Oregon  State: Ohio  Zip: 43616
Operator Name: Envirosafe Services of Ohio, Inc
Mailing Address: 876 Otter Creek Road
City: Oregon  State: Ohio  Zip: 43616
Facility Street Address: 876 Otter Creek Road
City: Oregon  State: Ohio  Zip: 43616

Permit Modification

This Modified Ohio Hazardous Waste Facility Installation and Operation Permit is issued pursuant and subject to Section 3734.05(I) of the Ohio Revised Code and Rule 3745-50-51(D) of the Ohio Administrative Code.

The Ohio Hazardous Waste Facility Installation and Operation Permit for the facility with the above-referenced ID number as issued by the Ohio Environmental Protection Agency and journalized on September 30, 2016, and as subsequently modified by the Ohio Environmental Protection Agency, is hereby incorporated by reference in its entirety, except as it may be modified herein. This modification of the permit shall remain in effect until such time as the Ohio Hazardous Waste Facility Installation and Operation Permit is renewed, modified, withdrawn, suspended, or revoked.

The Permittee shall comply with all requirements of the modified permit application as amended or supplemented on August 28, 2018, and November 1, 2018. The information contained in the modified permit application is incorporated herein by reference. Specifically, all written statements regarding the specifications, locations, or capabilities of the processes, equipment, containment devices, safety devices or programs, or other matters made by the applicant in the permit modification application are hereby incorporated as express, binding terms and conditions of this modified permit.

Permit Modification Approval

Date: 12/28/15
Craig W. Butler, Director
Ohio Environmental Protection Agency
MODULE A - GENERAL PERMIT CONDITIONS

A. GENERAL PERMIT CONDITIONS

A.1 Effect of Permit

ORC Sections 3734.02 (E) and (F) and 3734.05
OAC Rule 3745-50-58(G)

(a) The Permittee is authorized to treat, store, and/or dispose on-site hazardous waste in containers, tanks, a containment building, and landfill Cell M in accordance with the terms and conditions of this Ohio hazardous waste permit (hereinafter “permit”), ORC Chapter 3734, all applicable Ohio hazardous waste rules, all applicable regulations promulgated under the Resource Conservation and Recovery Act (RCRA), as amended, and the permit application. The renewal of the closed landfill Cells F, G, H and I is for the purpose of accomplishing closure and/or post-closure activities. These units shall not be reactivated for management of hazardous waste. The permit application, as submitted to Ohio EPA on June 29, 2015 and last updated on August 14, 2018, is hereby incorporated into this permit. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern.

(b) Any management of hazardous waste not authorized by this permit is prohibited, unless otherwise expressly authorized or specifically exempted by law. 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, or invasion of other private rights. Compliance with the terms and conditions of this permit does not obviate Permittee’s obligation to comply with other applicable provisions of law governing protection of public health or the environment including but not limited to the Community Right-to-Know law under ORC Chapter 3750.

A.2 Permit Actions

OAC Rule 3745-50-58(F)

This permit may be modified or revoked as specified by Ohio law. The filing of a request by the Permittee for a permit modification, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay any permit term or condition.

A.3 Permit Effective/Expiration Date

OAC Rule 3745-50-54

The effective date of this permit is the date the permit is entered into the Director's Journal. The permit expiration date is ten years after the effective date.
A.4 **Severability**

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

A.5 **Duty to Comply**

OAC Rule 3745-50-58(A)

The Permittee must comply with all applicable provisions of ORC Chapter 3734, all applicable Ohio hazardous waste rules, and all terms and conditions of this permit, except to the extent and for the duration such noncompliance is authorized by the laws of the State of Ohio. Any permit noncompliance, other than noncompliance authorized by the laws of the State of Ohio, constitutes a violation of ORC Chapter 3734 and is grounds for enforcement action, revocation, modification, denial of a permit renewal application or other appropriate action.

A.6 **Duty to Reapply and Permit Expiration**

OAC Rules 3745-50-40(D), 3745-50-58(B), 3745-50-56 and ORC Section 3734.05(H)

(a) If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must submit a completed permit application for a hazardous waste facility installation and operation permit renewal and any necessary accompanying general plans, detailed plans, specifications, and such information as the Director may require, to the Director no later than one hundred eighty (180) days prior to the expiration date of this permit, unless a later submittal date has been authorized by the Director upon a showing of good cause.

(b) The Permittee may continue to operate in accordance with the terms and conditions of the expired permit until a renewal permit is issued or denied if:

(i) The Permittee has submitted a timely and complete permit application for a renewal permit under OAC Rule 3745-50-40; and

(ii) Through no fault of the Permittee, a new permit has not been issued pursuant to OAC Rule 3745-50-40 on or before the expiration date of this permit.

(c) 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 conditions of this permit regardless of the operational status of the facility. The Permittee must submit an application for permit renewal at least one hundred eighty (180) days before the expiration date of this permit pursuant to OAC Rule 3745-50-40(D) unless: a) the permit has been modified to terminate the Corrective Action schedule of compliance and the Permittee has
been released from the requirements for financial assurance for Corrective Action; or b) a later submittal date has been authorized by the Director.

A.7 Need to Halt or Reduce Activity Not a Defense
OAC Rule 3745-50-58(C)

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce a permitted activity in order to maintain compliance with the conditions of this permit.

A.8 Duty to Mitigate
OAC Rule 3745-50-58(D)

The Permittee must take all reasonable steps to minimize releases to the environment and must carry out such measures as are reasonable to prevent significant adverse impact on human health or the environment resulting from noncompliance with this permit.

A.9 Proper Operation and Maintenance
OAC Rule 3745-50-58(E)

The Permittee must at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective management practices, adequate funding, adequate operator staffing and training, and where appropriate, adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and conditions of this permit.

A.10 Duty to Provide Information
OAC Rule 3745-50-58(H)

The Permittee must furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying or revoking, or to determine compliance with, this permit. The Permittee must also furnish to the Director, upon request, copies of records required to be kept by this permit.

A.11 Inspection and Entry
OAC Rules 3745-50-58(I), 3745-49-03 and 3745-50-30, and ORC Section 3734.07

(a) The Permittee must allow the Director, or an authorized representative, upon stating the purpose and necessity of the inspection and upon proper identification, to:

(i) Enter at reasonable times upon the Permittee's premises where a regulated facility
or activity is located or conducted, or where records must be kept under the terms and conditions of this permit;

(ii) Have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

(iii) Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the terms and conditions of this permit; and

(iv) Sample, document, or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by ORC Chapter 3734 and the rules adopted thereunder, any substances or parameter at any location.

(b) Any record, report or other information obtained under the hazardous waste rules or Chapter 3734 of the Revised Code shall not be available to the public upon the Permittee’s timely submittal of a trade secret claim and satisfactory showing to Ohio EPA that all or part of the information would divulge methods or processes entitled to protection as trade secrets pursuant to Ohio Trade Secret Law and OAC Rules 3745-49-03 and 3745-50-30.

A.12 Monitoring and Records
OAC Rule 3745-50-58(I)

(a) Any sample and measurement taken for the purpose of monitoring must be representative of the monitored activity. Further, a sample must be a representative sample; as such term is defined and used in the Ohio hazardous waste rules. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from the appendix of OAC Rule 3745-51-20, Representative Sampling Methods, or an equivalent method approved by Ohio EPA. Laboratory methods must be those specified in Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, Third Edition (November 1986), as amended by Updates I (dated July 1992), II (dated September 1994), IIA (dated August 1993), IIB (dated January 1995), III (dated December 1996) and IIIA (dated April 1998), and additional supplements or editions thereof; Standard Methods for the Examination of Water and Wastewater: Twentieth Edition, 1999; or an equivalent method as specified in the approved waste analysis plan, or as this term is defined and used in the Ohio hazardous waste rules.

(b) Records of monitoring information must specify the:

(i) Date(s), exact place(s), and time(s) of sampling or measurements;

(ii) Individual(s) who performed the sampling or measurements;
(iii) Date(s) analyses were performed;
(iv) Individual(s) who performed the analyses;
(v) Analytical technique(s) or method(s) used; and
(vi) Results of such analyses.

A.13 Signatory Requirement and Certification of Records
OAC Rules 3745-50-58(K) and 3745-50-42

All applications, reports or information must be properly signed and certified in accordance with OAC Rule 3745-50-58(K).

A.14 Retention of Records and Information Repository
OAC Rules 3745-50-40(G), 3745-50-58(J), 3745-50-58(M) and 3745-50-58(N)

(a) The Permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, the certification required by OAC Rule 3745-54-73(B)(9), and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, certification, or application.

(b) The record retention period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding the facility.

(c) The Permittee must maintain, in accordance with the Ohio hazardous waste rules, records of all data used to complete the permit application and any amendments, supplements or modifications of such application. The Permittee must retain a complete copy of the current application for the effective life of the permit as indicated in Permit Condition A.3.

(d) The Permittee must maintain records from all 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.

(e) The Director may require the Permittee to establish and maintain an information repository at any time, based on the factors set forth in OAC Rule 3745-50-39(C)(2). The information repository will be governed by the provisions in OAC Rules 3745-50-39(C)(3) through (C)(6).
(f) Corrective Action records must be maintained at least three (3) years after all Corrective Action activities have been completed.

A.15 Planned Changes
OAC Rules 3745-50-51 and 3745-50-58(L)(1)

The Permittee must give notice to the Director as soon as possible of any planned physical alterations or additions to the facility. All such changes must be made in accordance with OAC Rule 3745-50-51.

A.16 Waste Shipments
OAC Rules 3745-52-12 and 3745-53-11, ORC Section 3734.15(C)

The Permittee must only use properly registered transporters of hazardous waste to remove hazardous waste from the facility, in accordance with all applicable laws and rules.

A.17 Anticipated Noncompliance
OAC Rule 3745-50-58(L)(2)

The Permittee must give advance notice to the Director of any planned changes in the permitted facility or operations which may result in noncompliance with the terms and conditions of this permit. Such notification does not waive the Permittee's duty to comply with this permit pursuant to Permit Condition A.5.

A.18 Transfer of Permits
OAC Rules 3745-50-52, 3745-50-58(L)(3) and 3745-54-12

(a) The permit may be transferred to a new owner or operator only if such transfer is conducted in accordance with ORC Chapter 3734 and the rules adopted thereunder. This permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified under OAC Rule 3745-50-51. Before transferring ownership or operation of the facility, the Permittee must notify the new owner or operator in writing of the requirements of ORC Chapter 3734 and the rules adopted thereunder (including all applicable Corrective Action requirements).

(b) The Permittee's failure to notify the new owner or operator of the requirements of the applicable Ohio law or hazardous waste rules does not relieve the new owner or operator of its obligation to comply with all applicable requirements.

A.19 Compliance Reports
OAC Rules 3745-50-58(L)(5) and 3745-50-50

Reports of compliance or noncompliance with, or any progress reports on, interim and final
requirements contained in any compliance schedule (developed in accordance with OAC Rule 3745-50-50) of this permit must be submitted to the Director no later than fourteen (14) days following each scheduled date.

A.20 Immediate Reporting of Noncompliance
OAC Rule 3745-50-58(L)(6)

(a) The Permittee must report orally to Ohio EPA’s Division of Environmental Response Investigation & Enforcement within twenty-four (24) hours from the time the Permittee becomes aware of any noncompliance with this permit, ORC Chapter 3734 or the rules adopted thereunder, which may endanger human health or the environment, including:

(i) Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies; and

(ii) Any information of a release or discharge of hazardous waste or a fire or explosion from the hazardous waste facility, which could threaten the environment or human health outside the facility.

(b) The report must consist of the following information (if such information is available at the time of the oral report):

(i) Name, address, and telephone number of the owner or operator;

(ii) Name, address, and telephone number of the facility;

(iii) Date, time, and type of incident;

(iv) Name and quantity of material(s) involved;

(v) The extent of injuries, if any;

(vi) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

A.21 Follow-Up Written Report of Noncompliance
OAC Rule 3745-50-58(L)(6)(c)

(a) A written report must also be provided to Ohio EPA’s Division of Environmental Response Investigation & Enforcement and the Division of Environmental Response and
Revitalization Northwest District Office within five (5) days of the time the Permittee becomes aware of the circumstances reported in Permit Condition A.20.

(b) The written report must address the items in Permit Condition A.20 and must contain a description of such noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the anticipated time it is expected to continue; and steps taken or planned to minimize the impact on human health and the environment and to reduce, eliminate, and prevent recurrence of the noncompliance.

The Permittee need not comply with the five (5) day written report requirement if the Director, upon good cause shown by the Permittee, waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.

A.22 Other Noncompliance
OAC Rules 3745-50-58(L)(10) and 3745-50-58(L)(4)

The Permittee must report to the Director all other instances of noncompliance not provided for in Permit Conditions A.19 and A.20. These reports must be submitted within thirty (30) days of the time at which the Permittee is aware of such noncompliance. Such reports must contain all information set forth within Permit Condition A.20.

A.23 Certification of Construction or Modification
OAC Rule 3745-50-58(L)(2)

Except as provided in OAC Rule 3745-50-51, the Permittee may not commence treatment, storage, or disposal of hazardous waste in the modified portion of the facility until the Permittee has submitted to the Director, by certified mail or hand delivery, a letter signed by the Permittee and a registered professional engineer stating that the facility has been constructed, or modified in compliance with the permit; and

(a) The Director has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(b) The Director has either waived the inspection or has not within fifteen (15) days of the date of the submittal of the letter, notified the Permittee of his intent to inspect.

A.24 Other Information
OAC Rule 3745-50-58(L)(11)

If at any time the Permittee becomes aware that it failed to submit any relevant facts, or submitted incorrect information to the Director, the Permittee must promptly submit such facts, information
or corrected information to the Director.

A.25 Confidential Information
OAC Rules 3745-49-03 and 3745-50-30

In accordance with ORC Chapter 3734 and the rules adopted thereunder, the Permittee may request confidentiality for any information required to be submitted by the terms and conditions of this permit, or any information obtained by the Director, or an authorized representative, pursuant to the authority provided under Permit Condition A.11.

A.26 Ohio Annual Permit, Disposal, and Treatment Fees
OAC Rules 3745-50-33 through 3745-50-36

The fees for the off-site disposal and/or treatment of hazardous wastes, calculated pursuant to OAC Rules 3745-50-33 and 3745-50-35, and payable to the Treasurer of the State, must be submitted to the Director on or before the fortieth day after the end of the month to which the return applies. The Permittee subject to these requirements must prepare and file with the director monthly returns showing the total tonnage disposed and/or treated and the total amount of the fee to be submitted to the director.

The fees for the on-site or satellite disposal of hazardous wastes, calculated pursuant to OAC Rule 3745-50-34 and payable to the Treasurer of the State, must be submitted to the Director on or before the anniversary of the date of issuance during the term of the permit.

The annual permit fee, calculated pursuant to OAC Rule 3745-50-36 and payable to the Treasurer of the State, must be submitted to the Director on or before the anniversary of the date of issuance during the term of the permit. For the purpose of the payment of the Ohio Annual Permit Fee, the date of issuance is the date the permit was entered into the Journal of the Director of Ohio EPA.

A.27 Compliance Schedule - Documents
OAC Rules 3745-50-50 and 3745-50-51

(a) Unless specified otherwise, Permittee must submit the documents listed below to:

Ohio EPA, Director
c/o DMWM, Engineering, Remediation, and Authorizations Section
P.O. Box 1049
Columbus, Ohio 43216-1049

Ohio EPA, Northwest District
347 North Dunbridge Road
Bowling Green, Ohio 43402
(b) The Permittee must submit to the Ohio EPA within sixty (60) days after permit journalization, in accordance with Ohio’s hazardous waste rules, the following information to be incorporated in the permit application:

(i) **Updated Closure/Post-Closure/Corrective Action Cost Estimate**  
OAC Rules 3745-54-101(B) and (C), 3745-55-42, and 3745-55-44

Section I of the permit application containing the financial assurance mechanism for closure/post-closure/corrective action must be updated to include a copy of the current closure/post-closure/corrective action cost estimate as set forth in OAC Rules 3745-54-101(B) and (C), 3745-55-42, and 3745-55-44.

(ii) **Updated Financial Assurance Mechanism for Closure, Post-Closure Care, and Corrective Action**  
OAC Rules 3745-54-101(B) and (C), 3745-55-43, and 3745-55-45

Section I of the permit application containing the financial assurance mechanism for closure, post-closure care, and corrective action must be updated to include a copy of the current financial assurance mechanism, as set forth in OAC Rules 3745-55-43 and 3745-55-45, and as specified by the wording requirements of OAC Rule 3745-55-51. The value of the financial assurance mechanism must reflect at least the current amount of the closure/post-closure/corrective action cost estimate.

During the life of the permit the facility may change the financial assurance mechanism as stated in OAC Rules 3745-55-43 and 3745-55-45. The facility must submit the financial assurance mechanism documentation to the Director in accordance with the parameters set forth in OAC Rules 3745-55-43 and 3745-55-45.

(iii) **Updated Liability Requirements**  
OAC Rule 3745-55-47

Section I of the permit application containing the mechanism used to demonstrate third party liability coverage must be updated to include a copy of the current liability mechanism as set forth in OAC Rule 3745-55-47 and as specified by the wording requirements of OAC Rule 3745-55-51.

During the life of the permit the facility may change the mechanism used to demonstrate liability coverage as stated in OAC Rule 3745-55-47. The facility must submit the liability mechanism documentation to the Director in accordance with the parameters set forth in OAC Rule 3745-55-47.

(iv) **Within sixty (60) days of permit journalization of Module E, Corrective Action Requirements, and Module K, Integrated Ground Water Monitoring Program, the Permittee must submit to Ohio EPA in accordance with Ohio’s hazardous waste rules, in the form of Class 2 permit modification, a request to modify the permit application to be consistent with the modifications in Modules E and K, including but not limited to Appendix E.7, E.9, E.11, D.32, F and as included by reference, the Operation, Maintenance and Performance Monitoring Plan for WMUs 5, 6 and 7.**
Unless otherwise specified by the hazardous waste rules, the Permittee must maintain at the facility, until closure is completed and certified by a qualified professional engineer, pursuant to OAC Rule 3745-55-15, and until the Director releases the Permittee from financial assurance requirements pursuant to OAC Rule 3745-55-43, the following documents (including amendments, revisions and modifications):

(i) Waste analysis plan, developed and maintained in accordance with OAC Rule 3745-54-13 and the terms and conditions of this permit;

(ii) Contingency plan, developed and maintained in accordance with OAC Rule 3745-54-53 and the terms and conditions of this permit;

(iii) Closure plan, developed and maintained in accordance with OAC Rule 3745-55-12 and the terms and conditions of this permit;

(iv) Cost estimate for facility closure, developed and maintained in accordance with OAC Rule 3745-55-42 and the terms and conditions of this permit;

(v) Personnel training plan and the training records, developed and maintained in accordance with OAC Rule 3745-54-16 and the terms and conditions of this permit;

(vi) Operating record, required by OAC Rule 3745-54-73 and the terms and conditions of this permit; and

(vii) Inspection schedules, developed in accordance with OAC Rules 3745-54-15, 3745-
55-74 and 3745-55-95 and the terms and conditions of this permit.

(viii) Post-closure plan, as required by OAC Rule 3745-55-18(A) and the terms and conditions of this permit.

(ix) Annually-adjusted cost estimate for facility closure and post-closure, as required by OAC Rules 3745-55-42 and 3745-55-44 and the terms and conditions of this permit.

(x) All other documents required by Module A, Permit Condition A.12 and Permit Condition H.5.

(b) The Permittee must maintain copies of all inspection logs at the facility for a period not less than three (3) years from the date of inspection.

A.29 Waste Minimization Report
OAC Rules 3745-54-73 and 3745-54-75

(a) The Permittee must submit a Waste Minimization Report describing the waste minimization program required by OAC Rules 3745-54-75(H), (I), and (J); 3745-54-73(B)(9); and 3745-52-20(A) at least once every five (5) years. The provisions of OAC Rules 3745-54-75(H), (I) and (J) must be satisfied biennially. The provisions of OAC Rule 3745-54-73(B)(9) must be satisfied no less often than annually.

(b) The Permittee must submit the Waste Minimization Report to Ohio EPA’s Office of Compliance Assistance and Pollution Prevention within one hundred eighty (180) days of the effective date of this permit, and must submit updates to this report once every five years thereafter.
B. GENERAL FACILITY CONDITIONS

B.1 Design and Operation of Facility

OAC Rule 3745-54-31

(a) The Permittee must design, construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, ground water or surface waters which could threaten human health or the environment.

(b) The Permittee must not accept more than 235,000 tons of hazardous waste in any one calendar year from off-site sources during the life of the permit, until such time as this permit condition is modified or renewed. This is a facility-wide limitation and includes all units.

(c) The Permittee must only accept for storage, treatment, and/or disposal the hazardous waste codes specified in the Part A of the permit application. Prior to disposal, wastes must meet all applicable land disposal restriction standards in accordance with OAC Chapter 3745-270.

(i) For waste codes listed in Table B-1 below, and as found in the Part A of the permit application, the Permittee may only accept these wastes as residues from treatment by incineration, carbon regeneration (by thermal incineration), and wastewater treatment; as well as any secondary residues such as soils and debris derived from these treated residues. The Permittee may also accept soils and debris containing the waste codes listed in Table B-1 below if, upon arrival at the facility, the soil and debris meets all applicable land disposal restriction standards for these waste codes in accordance with OAC Chapter 3745-270.

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TABLE B-1: Restricted Waste Codes

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(ii) For waste identified as F027, the Permittee may only accept this waste as incineration residue. F027 waste must meet all applicable land disposal treatment standards for F027 as found in OAC Rule 3745-270-40 prior to acceptance by the Permittee.

(d) The Permittee must inspect all hazardous and non-hazardous waste received by the facility for free liquids through testing or visual inspection. If the hazardous or non-hazardous waste contains free liquids, the Permittee must determine if the free liquids are the result of transportation. Hazardous waste and non-hazardous waste containing extraneous free liquids as a result of transportation must be treated for any free liquids in the Stabilization / Containment Building or Landfill Tanks 1-4.

(e) The Permittee is prohibited from accepting hazardous waste with a volatile organic concentration greater than or equal to 500 parts per million by weight in accordance with 40 CFR Subpart CC as outlined in Envirosafe Services of Ohio, Inc.’s Federal RCRA Permit.

B.2 Required Notices
OAC Rule 3745-54-12

(a) Hazardous Waste from Off-Site Sources

When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), the Permittee must inform the generator in writing that the Permittee has the appropriate permits, and will accept the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record.

(b) Hazardous Wastes from Foreign Sources

The Permittee must notify the U.S. EPA regional administrator in writing at least four (4) weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source, as required by OAC Rule 3745-54-12(A). Notice of subsequent shipments of
the same waste from the same foreign source is not required.

B.3 General Waste Analysis Plan
OAC Rule 3745-54-13

(a) Before the Permittee treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under OAC Rule 3745-55-13(D), the Permittee must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of OAC Chapters 3745-54 to 3745-57, 3745-205, and 3745-270.

(b) The Permittee must follow the procedures described in the waste analysis plan found in Section C of the permit application, Waste Acceptance Review (WAR) procedures as described in Section C of the permit application and the terms and conditions of this permit.

All WAR approvals expire on the last day of the thirteenth month from the date of certification in accordance with the WAR requirements by the generator of that waste, as described herein, unless the Permittee obtains a letter from the waste generator certifying that either the waste analysis has remained unchanged since the last approval or that a new analysis provided by the generator or conducted by an independent laboratory show no significant changes in the waste composition or its characteristics. This letter or the new analysis then becomes part of that specific WAR package. In the absence of such certification, the WAR renewal process must be restarted and include a new analysis provided by the waste generator or conducted by an independent laboratory.

(c) The Permittee must verify the analysis of each waste stream annually or within 60 days following the anniversary of the acceptance of the first shipment of the waste from the same generator as part of its quality assurance program, in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, or equivalent methods approved by the Director. At a minimum, the Permittee must maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations. If the Permittee uses a contract laboratory to perform analyses, then the Permittee must inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this permit.

(d) For each hazardous waste stream, the Permittee must obtain from the generator a Waste Product Questionnaire (WPQ) as found in Appendix C.1 of the permit application before accepting waste for treatment, storage and/or disposal.

(e) The Permittee must perform a fingerprint analysis on representative waste samples as
specified in Section C of the permit application.

The Permittee must compare the results of the fingerprint sampling program to the pre-acceptance analysis for the waste stream. The Permittee must notify the generator upon discovering a significant discrepancy. If the discrepancy is not resolved within fifteen (15) days, in accordance with OAC Rule 3745-54-72(B), the Permittee must immediately submit to the Director a letter describing the discrepancy, attempts to reconcile the discrepancy, and a copy of the manifest or shipping paper at issue.

(i) Significant discrepancies in wastes types are obvious differences which can be discovered by inspection or waste analysis such as a waste solvent substituted for waste acid or toxic constituents not reported on the manifest or shipping paper.

(ii) Significant discrepancies in quantity are: for bulk waste, variations greater than ten percent in weight, and for batch waste, any variation in piece count, such as a discrepancy of one drum in a truck load.

(iii) The Permittee must analyze for the presence of free liquid when the presence or absence of free liquid is not obvious. The Permittee must use the Paint Filter Liquid Test, Method 9095 in Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, U.S. EPA Publication No. SW-846. Waste that fails the paint filter test must not be landfilled unless or until the waste has been treated so that it passes the paint filter test.

(f) Bulk wastes

The Permittee must randomly sample and conduct a fingerprinting analysis of at least ten percent of bulk waste loads regardless of their origin, waste type, and/or Waste Stream Identification (WSID). Accordingly, at least every 10th bulk load received by the facility will be fingerprinted. Fingerprinting must also occur after a visual inspection whenever warranted or when there has been any reported change in the process generating that particular waste. This Condition is applicable to all incoming wastes, regardless of which treatment, storage or disposal option is selected. The Permittee must collect samples for fingerprint analysis as follows:

(i) Five (5) samples must be collected from each Gondola railroad car. The Permittee must collect two (2) samples from the front, one (1) from the middle and two (2) samples from the end of the rail car, these five (5) samples must be composited into one sample which must be tested for fingerprint analysis;

(ii) One (1) sample per twenty-five tons of waste must be collected and composited together from each Hopper railroad car. For waste defined as K061 EAF Dust in Permit Condition B.3(j)(i), one (1) additional sample per every seven tons
(approximate) of waste off-loaded as a “batch” must be collected and composited together. The samples may be collected from either the conveyor belt (or other mechanism) as it is used to off-load the waste, or from the separate locations within the container used to hold, store or treat the off-loaded waste;

(iii) One (1) sample per twenty-five tons of waste must be collected and composited together from each intermodal container;

(iv) One (1) sample of liquid waste from each compartment (if multiple compartments are used) must be collected and composited from any transportation vehicle,

(v) For bulk waste received by truck and defined as K061 EAF Dust in Permit Condition B.3(j)(i), a minimum of three (3) samples must be collected and composited together from locations within the container at least six inches below the as-received surface of the waste material. The fingerprint samples may also be collected from separate locations within the container used to hold, store or treat the off-loaded waste.

(g) Containerized Wastes

The Permittee must sample and conduct a fingerprinting analysis on a composite sample prepared from material taken from the greater of the cube root of the number of drums in a shipment or ten percent of drums by WSID, which are part of a single truck load. A minimum of ten percent of the drums in every truck load received by the facility regardless of their origin and/or waste type must be sampled. A composite sample shall be acceptable only if it is composed of sub-samples of the same WSID. Shipments containing multiple WSID’s may require multiple composite samples. One hundred percent of the drums must be opened and inspected for free liquids prior to disposal.

(h) Treated Wastes by Chemical-Physical Treatment

(i) Prior to accepting waste for chemical-physical treatment the Permittee must conduct or obtain a pre-acceptance analysis for each such waste and include an analytical report with the WAR package. This report must contain raw data and, at the request of Ohio EPA, any other necessary information which would substantiate the appropriateness of the chemical physical treatment reagents and assist in determining the suitability of the selected reagents and disposal of the waste in an environmentally safe manner.

(ii) Except as provided in (iii) below, the Permittee must test and document the results of each waste stream processed through the containment building to determine if the treated waste(s) meets applicable treatment standards, except if: 1) the waste is to be further treated or disposed of off-site; or b) the same waste code, having
the same WSID from the same generator, is processed through the same treatment units and under the same operating conditions. If b) is true, it must be so documented in the facility's operating records and only ten percent of the subsequently treated loads are to be tested for the parameters specified in the WAP and the manner they would otherwise be required to be tested by applicable rules and regulations.

(iii) The sampling frequency defined in (ii) above, must be followed until statistically valid test results have been obtained indicating that the Permittee's stabilization procedures are effective to comply with land-ban regulations. At such time and after notification to Ohio EPA, the Permittee must comply with the following:

(a) In accordance with OAC Rule 3745-270-07(C)(2), for each generator, the Permittee must test the waste or an extract of the waste or treatment residue developed using the Toxicity Characteristic Leaching Procedure (TCLP) or using any methods required by generators under OAC Rule 3745-270-07(A) according to the frequency specified below:

<table>
<thead>
<tr>
<th>Shipments Per Restricted Waste Stream Per Generator Per Year</th>
<th>Number Received</th>
<th>Number Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 - 20</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>above 20</td>
<td>2</td>
</tr>
</tbody>
</table>

(b) In accordance with OAC Rule 3745-270-07(B)(1), (2), and (3), for all wastes subject to this requirement not defined as K061 EAF Dust in Permit Condition B.3(j)(i), the Permittee must test a representative sample of the treated waste from the mixing container used in the full scale treatment process or TCLP extract of the full scale treated waste container according to the frequency specified below:

<table>
<thead>
<tr>
<th>Shipments Treated Per Restricted Waste Stream Per Generator Per Year</th>
<th>Number Treated</th>
<th>Number Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 - 20</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>21 - 40</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>above 40</td>
<td>3</td>
</tr>
</tbody>
</table>

(i) Prior to landfilling of the acid subcategory of D002 wastes, the pH of a 10% slurry of the deactivated waste in water must be between 9 and 12.5. Adjustments to the pH of
deactivated waste can be made by blending alkaline materials with the waste in the chemical stabilization process.

(j) In accordance with OAC Rules 3745-270-07(B)(1), (2) and (3), for all wastes subject to these requirements defined as K061 EAF Dust in Permit Condition B.3(j)(i), the Permittee must test a representative sample of the treated waste from the mixing container used in the full scale treatment process or TCLP extract of the full scale treated waste container according to the frequency specified in Permit Condition B.3(k). The Permittee must follow the testing frequency and procedures in Permit Condition B.3(k).

(i) “K061 EAF Dust” waste is defined as any waste requiring stabilization treatment prior to disposal, meeting the listing description of K061 in OAC Rule 3745-51-32 and characterized by the generator as the single EPA HW number K061. Waste “mixtures” or “derived-from” waste as defined in OAC Rule 3745-51-03 characterized by the generator as the single EPA HW number K061 are subject to the requirements of Permit Condition B.3(h)(iii). Waste shipments characterized as EPA HW Number(s) other than K061, but which also include K061, are subject to the requirements of Permit Condition B.3(h)(iii).

(ii) “Batch” is defined as an accumulation of waste that is treated by adding reagents at a specific ratio to the weight of the waste material as defined by a specific mix design. A “batch” can, for example, be comprised of a single 15-ton load of waste delivered by truck, a 25-ton portion of waste off-loaded from a railcar, a mixture of several different waste streams treated simultaneously by the same mix design, a 150-ton accumulation of waste treated simultaneously in the Campaign Bin or an 8-ton accumulation of waste aggregated from individual containers such as bags, boxes or drums.

(iii) “On-specification” is defined as a “batch” of waste for which no abnormalities have been identified by the fingerprint screening process, including a visual inspection and an evaluation of the amount of material present (i.e., single batch accumulations less than seven tons of otherwise “on-specification” waste from the same WSID treated by the same mix design is an on-specification batch.

(iv) “Off-specification” is defined as a “batch” of waste which has been determined by fingerprint testing or visual inspection to be outside the normal range of any fingerprint screening parameter or is outside the range of variation for which the mix design has been field-proven to be effective, as determined below:

(a) A waste is “off-specification” for metal content if the constituents being treated exceed the upper limit of the current baseline metal concentration range for a WSID-mix design by ten percent (for a metal present at three
percent or greater by weight) or by 3,000 mg/kg (for a metal present at less than three percent by weight).

(b) A waste is “off-specification” for free lime content if the concentration of free lime is outside the range of variation for which the mix design has been field-proven to be effective.

Experimental work performed by treating an “on-specification batch” with a new or experimental mix design (i.e., prior to initial qualification of that mix design) must be counted as “off-specification” work. Experimental work must be designated as such, in writing, prior to treatment of the batch.

Note: The Permittee’s on-site laboratory retains records for each mix-design specifying a concentration range for free lime and metal constituents within which the mix design is approved to be used for treatment of “on-specification” waste batches. The acceptable range of concentration for a mix-design can be extended by field testing “off-speculation” waste batches and obtaining passing results. The laboratory manager reviews and approves range increases for mix designs and may set limits for any mix design based on experience with the waste being treated or experience with similar waste materials.

(v) “Initial Qualification” of a mix design refers to the sequence of events used to initially qualify a new or existing mix design for periodic testing as specified in Permit Condition B.3(k)(iii). The process involves collection and evaluation of baseline analytical information about the waste followed by field testing of the mix design to ensure that it is capable of meeting the Land Disposal Restriction (LDR) treatment standards required for land disposal. Batches treated in the Campaign Bin will not be used as part of the sequence to demonstrate initial qualification unless the Campaign Bin is the only treatment container used for treatment of a particular waste material.

(vi) “Requalification” of a mix design refers to the sequence of events that allows a previously qualified or requalified mix design to return to a testing frequency specified in Permit Condition B.3(k)(iii) after periodic testing of an on-specification batch results in a failure of one or more of the regulated constituents to meet the LDR standards required for land disposal. Batches treated in the Campaign Bin will not be used as part of the sequence to demonstrate requalification unless the Campaign Bin is the only treatment container used for treatment of a particular waste material.
(k) Variable Frequency Sampling and Testing Procedure

(i) In order to develop an effective mix design, the Permittee performs both bench and field experimental testing of waste batches. Any waste batch treated experimentally must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40, prior to land disposal of that waste batch.

(ii) Each mix design for which qualification is sought must first undergo “initial qualification” by testing a sequence of 5, 10 or 20 consecutive batches. Each batch must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. In the event that a sequence of at least five (5) passing results cannot be achieved, testing of every batch will continue until such time as a sequence of at least five (5) consecutive passing results is achieved.

(a) After a mix design is qualified for Category C in Permit Condition B.3(k)(iii), and in the event that the Permittee elects to continue initial qualification for Category B and a failure occurs, the mix design must be re-qualified under Permit Condition B.3(k)(iv), Category C.

(b) In the event that the Permittee elects to continue initial qualification for Category A after qualification for Category B and a failure occurs, the mix design must be requalified under Permit Condition B.3(k)(iv), Category C and/or Permit Condition B.3(k)(v), Category B.

(iii) Once “initial qualification” for a mix design has been achieved, a testing frequency category will be assigned to a mix design based on the number of batches successfully tested in accordance with Permit Condition B.3(k)(ii). Initial qualification (or requalification) batches may be added to the testing sequence to qualify for Category B (after qualification for Category C) or Category A (after qualification for Category B) after initial qualification (or requalification) has been completed, including subsequent successful testing performed in accordance with Permit Conditions B.3(k)(iii)(a), B.3(k)(iii)(b), or B.3(k)(iii)(c), as long as they are sequential (i.e., not separate by intermittent failures of one or more batches of “on-specification” waste):

(a) Category A – A sequence of twenty (20) qualification batches is successfully treated; thereafter, test one (1) batch in every twenty (20) batches treated.

(b) Category B – A sequence of ten (10) qualification batches is successfully treated; thereafter, test one (1) batch in every ten (10) batches treated.
(c) Category C – A sequence of five (5) qualification batches is successfully treated; thereafter, test one (1) batch in every five (5) batches treated.

For each sequence of 5, 10 or 20 “on-specification” batches treated, it shall be acceptable to collect a sample from the “on-specification” batch immediately preceding or immediately following the numerical batch in the sequential count specified to be tested.

(iv) In the event that the testing required by Permit Condition B.3(k)(iii) reveals that a batch does not meet the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste, that batch will be deemed a failure and will be so recorded. The testing frequency specified in Permit Condition B.3(k)(iii) for waste treated by that mix design is suspended and the mix design must undergo “requalification.”

All waste batches treated by that mix design that have not already been disposed must be tested until a sequence of at least three (3) consecutive “on-specification” batches are treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. Once “requalification” for Category C has been achieved, the testing frequency requirements of Permit Condition B.3(k)(iii)(c) become effective again.

(v) Requalification testing may be continued for waste batches that were previously qualified in accordance with Permit Condition B.3(k)(iii) for either Category B or Category A at the time of the failure.

(a) To return to Category B, a sequence of at least five (5) consecutive “on-specification” batches must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. Once “requalification” for Category B has been achieved, the testing frequency requirements of Permit Condition B.3(k)(iii)(b) become effective again.

(b) To return to Category A, a sequence of at least ten (10) consecutive “on-specification” batches must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. Once “requalification” for Category A has been achieved, the testing frequency requirements of Permit Condition B.3(k)(iii)(a) become effective again.

(vi) The following is a flowchart representation of Permit Condition B.3(k), Variable Frequency Sampling and Testing Procedure:
Abbreviations used in flowchart:

QUAL – “Qualification” or “Initial Qualification”. Refer to Permit Condition B.3(j)(v).

G & H – “Grab and Hold”, denoting normal periodic treated waste testing activities. Refer to Permit Condition B.3(k)(iii).

RQL – “Requalification”. Refer to Permit Condition B.3(j)(vi).

Cat. A – Category A testing frequency. Refer to Permit Condition B.3(k)(iii)(a).

Cat. B – Category B testing frequency. Refer to Permit Condition B.3(k)(iii)(b).

Cat. C – Category C testing frequency. Refer to Permit Condition B.3(k)(iii)(c).
B.4 Security
OAC Rule 3745-54-14

(a) The Permittee must comply with the security provisions of OAC Rule 3745-54-14(B)(2), and (C) and Section F of the permit application.

(b) The Permittee must control entry onto the facility by actively monitoring all open or unlocked gates. Open or unlocked gates adjacent to Otter Creek Road and York Street must be actively monitored by a guard or an employee of the Permittee who is at or near the gate and within direct line-of-site of the gate. All other open or unlocked gates must be actively monitored by a guard or an employee of the Permittee who is at or near the gate and within direct line-of-site of the gate or by video monitoring by a guard or an employee of the Permittee who is located at the facility.

(c) The Permittee must provide a fence which surrounds the facility. New or replacement fence installed from the effective date of this permit must be at least a six foot chain link fence topped with three strands of barbed wire. Internal security to the active disposal cell(s) must be maintained within fences and/or gates.

(d) The Permittee must post warning signs with the legend, “Danger – Unauthorized Personnel Keep Out” at each entry gate and at approximately 200 foot intervals along the perimeter fence.

(e) The Permittee must document all known attempts of unauthorized entry by persons or livestock onto the active portion of the facility.

B.5 General Inspection Requirements
OAC Rules 3745-54-15 and 3745-54-73

(a) The Permittee must inspect the facility in accordance with OAC Rule 3745-54-15 and the inspection schedule set forth in Section F of the permit application. The Permittee must remedy any deterioration or malfunction discovered by an inspection, as required by OAC Rule 3745-54-15(C). Records of inspection must be kept for a minimum of three (3) years from the date of inspection. These records must be a part of the facility’s operating record as required by OAC Rule 3745-54-73. The Permittee must require inspectors to sign and print their names on inspection checklists after indicating the status of the items inspected. Items not inspected must be marked “NI” on the checklist.

(b) Unless otherwise specified in the terms and conditions of this permit, OAC Rules, or the permit application; definitions of the standard inspection frequency terms are as follows:
(i) “Daily” is defined as a 24-hour calendar day (midnight to midnight). Daily inspections are performed once each calendar day in accordance with the inspection schedule.

(ii) “Weekly” is defined as a calendar week starting on Sunday and ending on the following Saturday. A weekly inspection is performed once during each calendar week;

(iii) “Monthly” is defined as a calendar month starting on the first (1st) day of a month and ending on the last day of the same month. A monthly inspection is performed once during each calendar month.

(iv) “Quarterly” is defined as a three month period. Quarterly inspections are performed four (4) times per calendar year with an inspection occurring once during each of the following three month periods:

(a) January through March;
(b) April through June;
(c) July through September;
(d) October through December;

(v) “Semi-annual” and/or “Semi-annually” is defined as a six month period. Semi-annual inspections are performed twice per calendar year with an inspection occurring once during each of the following six month periods:

(a) January through June;
(b) July through December;

(vi) “Annual” and/or “Annually” are defined as a twelve month calendar year. Annual inspections are performed once each calendar year between January first (1st) and December thirty-first (31st).

(c) In-bound/Out-bound Scales and Stabilization/Containment Building Internal/External Scales A, B, and C.

(i) The Permittee must inspect each scale and the surrounding area on a weekly basis.

(ii) The Permittee must monitor and inspect each scale and surrounding area for structural integrity, cleanliness, and to assure that there are no obstacles or other blockages. Any structural damage or obstacles identified during the inspection that would affect the accuracy of scale readings must be repaired or removed prior to the next use of the affected scale(s).
(iii) The Permittee’s inspection must include a review of service records for all scale equipment. Any routine testing and verification of the scales required by the equipment manufacturer must be scheduled. Routine testing and verification of the scales must be performed, at a minimum, on a semi-annual basis.

(d) Gates/Fences/Surveillance/Radio

(i) The Permittee must inspect on a weekly basis the facility’s gates, fences, surveillance and radio equipment.

(ii) The Permittee must inspect the facility’s two-way radio communications system for proper operation and required maintenance, at a minimum, on a weekly basis. External communication checks must be performed as part of the inspection schedule. Service records for the radio and video surveillance equipment, if such equipment is being used, must be checked as part of the inspection.

(e) Container Storage Areas

(i) The Permittee must inspect the area of any waste off-loading and transfer operations of waste containing free liquids for evidence of spills on the day the liquid waste was off-loaded or transferred.

(ii) The Permittee must inspect the container storage areas on a weekly basis and after rainfall events (2 or more inches of rainfall in 8 hours) for the presence of spilled materials, leaking containers, and for deterioration of containers and containment system caused by corrosion and other factors. The integrity of the pad and the curbing of this area must also be inspected.

(f) Tank Storage Areas.

(i) The Permittee must inspect all tank storage areas on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).

(ii) The Permittee must inspect overfilling control equipment, monitoring equipment (e.g., gauges), drainage system and tank level indicators once each operating day.

(iii) The Permittee must inspect the above ground portions of each tank system to detect corrosion or releases of waste at least once each operating day.

(iv) The Permittee must inspect storage records and filling logs on each tank for completeness and accuracy, and all data gathered from monitoring equipment and leak detection equipment to ensure that all tanks are being operated according to their designated specifications at least once each operating day.
(v) The Permittee must inspect all tank construction materials, including piping, valves, seams, and connections for signs of leakage, corrosion, or structural deterioration at least once each operating day.

(vi) The Permittee must inspect all of the areas immediately surrounding the externally accessible portions of each tank (i.e., the tank secondary containment structures) for obvious signs of leakage, corrosion, indications of releases of hazardous waste, or any other problems at least once each operating day.

(g) Stabilization/Containment Building

(i) The Permittee must inspect all processing and waste handling equipment for proper operation and structural integrity on a weekly basis.

(ii) The Permittee must inspect the Stabilization/Containment Building for spillage and for potentially unsafe conditions including the lack of safety guards and shields in key work locations on a weekly basis.

(iii) Reserved.

(iv) The Permittee must inspect the containment building and associated outside unloading pads/aprons (i.e., Debris Sort Floor, Truck Unloading Stations No. 1, 2 and 3 Aprons; Campaign Bin, Truck Unloading Stations No. 1 and 2 Aprons; Doors 125 and 126, Truck Unloading Stations No. 1 and 2 Aprons; and, Door 127, Drum Unloading Station Apron as depicted on Drawings No. D-2000L-G01 and D-2000K-G02, D-2000 L-S01 and D-2000 L-S02) on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).

(v) The Permittee must inspect for deterioration, malfunction, or improper operation of run-on and run-off control systems on a weekly basis.

(vi) The Permittee must inspect the liquid collection and removal systems and leak detection systems for the presence of liquid and proper function on a weekly basis.

(vii) The Permittee must inspect all sumps located within the Stabilization/Containment Building on a daily basis for the presence of waste and/or liquid accumulation.

(viii) The Permittee must inspect all concrete slab surfaces for cracks, deterioration of chemical resistance and water tightness at a minimum of twice per year.

(ix) The Permittee must inspect the steel wearing surfaces of the Campaign Bin for significant damage or deterioration at a minimum of twice per year.
(h) Landfill Area

(i) During construction of a landfill cell and installation of the liners and cover systems (e.g., membranes, sheets, or coatings), the Permittee must inspect the liners and cover systems for uniformity, damage, and imperfections such as holes, cracks, thin spots, or foreign materials.

(ii) During construction, the Permittee must inspect and test earthen material liner components for compaction density, moisture content, and nominal permeability after placement. Manufactured synthetic liner materials must be inspected to ensure tight seams and joints and the absence of tears or blisters. All aspects of liner construction must be inspected for conformance with construction specifications.

(iii) During construction of a landfill cell, the side slopes and the base of the landfill cell must be inspected for imperfections including lenses, cracks, channels, root holes, all visible stones of one inch in diameter or greater, or other structural non-uniformities that may cause an increase in the permeability of the re-compacted clay or damage to the liner material.

(iv) The Permittee must monitor and inspect construction of each segregated sub-cell, if applicable, to ensure that each sub-cell meets specifications prior to using that landfill sub-cell for disposal of waste.

(v) The Permittee must inspect the overall appearance of the active portion of the landfill on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours). Pockets of run-on water or exposed containers must be noted on the inspection checklist. The landfill operations must be observed for compliance with the site safety requirements.

(vi) The Permittee must inspect the active portion of the landfill to detect evidence of deterioration, malfunction, or improper operation of run-on diversion and run-off control systems on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).

(vii) The Permittee must inspect proper functioning of the wind dispersal control systems, intermediate cover procedures, dust, conditions and controls on a daily basis and after a rainfall event (2 or more inches of rainfall in 8 hours).

(viii) The Permittee must inspect the leachate collection and removal systems for proper function and the presence of leachate on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).
(i) Safety Equipment

(i) The Permittee must inspect all safety equipment, spill control, and emergency communications equipment as needed.

(ii) The Permittee must inspect all firefighting equipment including foam-water monitors, fire extinguishers, the water truck, portable foam-water unit, and the alarm horn as needed to assure that each piece of equipment is in place, unobstructed, and operational in the event of an emergency.

(iii) The Permittee must inspect emergency safety gear (e.g., ropes, harnesses, etc.), respirators, personal protective equipment and first aid supplies as needed to assure that each piece of equipment is in place, unobstructed, that all contents are readily available, and that each piece of equipment is operational in the event of an emergency.

(iv) The Permittee must ensure that all expendable safety equipment is replaced after use in a timely manner.

(j) Miscellaneous Inspections

(i) The Permittee must inspect all trucks transporting hazardous waste shipped to the facility as “containing liquids” for leaks within 15 minutes of arrival on-site.

(ii) The Permittee must inspect the following key areas of the facility not covered under the inspection program for a specific process on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours):

(a) The decontamination units and areas where they are used must be inspected for spillage, physical obstruction, integrity of temporary containment devices, cleanliness, and general operating condition of valves, hoses, motor, and safety valves.

(b) The run-on water diversion or collection facilities must be inspected for overfill (i.e., level), the integrity of containment devices, the general condition of valves, pipes, and joints, and the presence of leaks.

(c) The facility roads must be inspected for presence of physical obstructions to ensure that directional signs are clearly visible, presence of hazardous waste spills, and general roadway integrity which must assure the safe movement of materials through the facility.
(d) The facility’s run-on/run-off control drainage system for the entire site, including specific units, must be assessed as to their operational integrity, including the presence of deterioration, damage from animal burrows, and physical obstructions. The systems must be checked to verify that they are functioning adequately.

(e) The facility’s ground water monitoring well system must be inspected for damage and degradation, presence of physical obstruction, and overall integrity. All monitoring wells must be inspected to verify that they are locked while not in use.

B.6 Personnel Training

OAC Rule 3745-54-16

(a) The Permittee must conduct personnel training, as required by OAC Rule 3745-54-16. This training program must contain at least the elements set forth in Section H of the permit application. The Permittee must maintain training documents and records as required by OAC Rules 3745-54-16(D) and (E).

(b) The facility’s personnel training program must be directed by a person trained in hazardous waste management procedures, and must include instructions which teach facility personnel hazardous waste management procedures, including contingency plan implementation, relevant to the positions in which they are employed.

(i) The Permittee must require all facility personnel to complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way designed to ensure the facility’s compliance with the requirements of the Ohio hazardous waste rules. The Permittee must ensure that this program includes all the elements described in the facility’s training program.

(ii) The Permittee’s employee training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

(a) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(b) Key parameters for automatic waste feed cutoff systems;

(c) Communications or alarm systems;

(d) Response to fire or explosions;
(g) Response to ground water contamination incidents; and

(f) Shutdown of operations.

(iii) Facility personnel must successfully complete the appropriate program(s) as specified in the Permit Condition B.6(b)(i) and (ii) within six months after the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees must not work in unsupervised positions involving management of hazardous waste until they have successfully completed the training program specified in the approved application.

(iv) The Permittee must conduct a review of training as specified in Permit Conditions B.6(b)(i) and (ii) and the approved application for all facility personnel once each calendar year. This review of training must be conducted within fifteen (15) months of the previous review of training. This program may be revised and updated by the Permittee, as appropriate.

(v) The Permittee must maintain a written job description for each position and a record of the individuals employed in each of those positions. These descriptions must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position.

(vi) The Permittee must maintain, as part of the operating record, training records of current personnel until closure of the facility. The Permittee must maintain training records for former employees for three (3) years from the date the employee last worked at the facility.

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

OAC Rule 3745-54-17

(a) The Permittee must comply with the requirements of OAC Rule 3745-54-17 and must follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in Section F of the permit application.

(b) The Permittee must provide electrical grounding for all containers and tanks, and transport vehicles during all operations involving the handling of ignitable or reactive wastes.

(c) The Permittee must provide, and require the use of, spark proof tools during all operations involving the handling of all ignitable or reactive wastes.

(d) The Permittee must prohibit smoking and open flames in each area where ignitable, reactive or incompatible hazardous wastes are managed and must post appropriate signs.
The Permittee must take precautions to prevent accidental ignition, or reaction of, ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including, but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electric or mechanical), spontaneous ignition (e.g., from heat producing chemical reactions) and radiant heat.


(f) The Permittee must take precautions to prevent reactions which:

(i) Generate extreme heat or pressure, fire or explosions, or violent reactions.

(ii) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment.

(iii) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.

(iv) Damage the structural integrity of the device or the facility.

(v) Through other like means, threaten human health or the environment.

(vi) When required to comply with the Permit Condition B.7(a), the Permittee must document that compliance. This documentation may be based on references to published scientific or engineering literature, trial tests (e.g., bench scale or pilot scale test), waste analysis (as specified in OAC Rule 3745-54-13), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions. The Permittee must include this documentation in the WAR package as appropriate.

B.8 Response to Leaks or Spills

If the Permittee discovers a leaking transportation vehicle in accordance with Permit Condition B.5(j)(i) or other inspections, the Permittee must immediately contain the leak by: directing the vehicle to a permitted container storage area, the LSTB loading bay or a Stabilization/Containment Building containment pad until the leak is stopped; making repairs or capturing the spillage until the leak is stopped; or unloading the waste from the leaking vehicle in accordance with Permit Condition H.5(a)(vii) in a timely manner.
B.9 Required Equipment
OAC Rule 3745-54-32

At a minimum, the Permittee must maintain at the facility all the equipment required by OAC Rule 3745-54-32 and the equipment set forth in the contingency plan contained in Section G of the permit application.

(i) Each permanent building at the facility (lab trailers, offices, storage buildings, process plant and building C) must be equipped with a minimum of one or more of the following communication devices: telephone, two-way radio, paging system and/or alarm system.

(ii) The Permittee must maintain in each building an accessible manual audible alarm warning system capable of providing immediate emergency verbal or signal instruction, and for initiating the facility-wide evacuation plan, fire response procedures, and any other emergency action(s). Personnel involved in treatment, storage, and disposal operations must have, immediately accessible, a hand-held or vehicle mounted two-way radio which can be used to contact the area supervisor and/or Emergency Coordinator.

(iii) A vehicle with a two-way radio must be located on-site and dedicated for emergencies, fires, and spill response. This vehicle must be adequately equipped with spill control and first aid materials.

(iv) Fire extinguishers and fire control equipment must be installed and located in appropriate work areas as detailed in the permit application. Portable fire extinguishers must be located in areas of fire hazards within the facility buildings and on each piece of heavy equipment used in the disposal areas according to NFPA codes.

(v) An emergency coordinator must have a two-way radio, mobile phone, or pager at his/her disposal at all times while on site and/or on call.

(vi) The Permittee must maintain three fire hydrants connected to a public water main at adequate volumes and pressures. Or, the Permittee must construct and maintain a fire protection system (with the associated pumping/piping network) and a standard fire hydrant with appropriate volumes and pressures as dictated by NFPA guidelines to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

(vii) The Permittee must provide and maintain a power backup to the emergency communication and alarm systems in the event of electric power failure.
(b) Facility Decontamination Station and Equipment.

(i) The Permittee must maintain and operate at least two (2) portable truck wash units for washing and/or decontaminating the surfaces of trucks delivering waste on-site, on-site waste handling equipment, and personnel safety equipment, as needed.

(ii) All such waters used in decontamination of trucks and/or waste handling equipment must be collected by the Permittee. The Permittee must determine if such water is a hazardous waste according to the requirements of OAC Rule 3745-51-11 and manage this water as appropriate.

B.10 Testing and Maintenance of Equipment
OAC Rule 3745-54-33

The Permittee must inspect, test and maintain the equipment required by Permit Condition B.9 as necessary to assure its proper operation in time of emergency, as specified in OAC Rule 3745-54-33, Section F of the permit application and the terms and conditions of this permit.

B.11 Access to Communications or Alarm System
OAC Rule 3745-54-34

(a) The Permittee must maintain access to the communications and alarm systems, as required by OAC Rule 3745-54-34, Section G of the permit application and the terms and conditions of this permit.

(b) The Permittee must make available internal communication and alarm systems at or within 70 feet of each active storage, process, or disposal unit to provide immediate emergency instructions to facility personnel. The Permittee must ensure that whenever hazardous waste is being managed, all personnel involved in the operation must have access to an internal alarm or emergency communication device, either directly (such as a telephone or a handheld two-way radio capable of summoning external emergency assistance), or through visual or voice contact with another employee. The Permittee must also maintain devices capable of summoning emergency assistance from off-site sources such as local fire or police departments. At a minimum, two (2) such devices must be located on the facility property, one north of York Street and the other south of York Street.

B.12 Required Aisle Space
OAC Rule 3745-54-35

(a) At a minimum, the Permittee must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and
decontamination equipment to any area of facility operation in an emergency, as required by OAC Rule 3745-54-35.

(b) The Permittee must construct and maintain an access road of a sufficient width to accommodate a fire truck between Cell M and the tank farms/container storage area (as shown in Drawings D2000L-G01 and D2000L-G05 of the permit application) to be located west of Cell M.

B.13 Arrangements with Local Authorities
OAC Rule 3745-54-37

(a) The Permittee must comply with the requirements of OAC Rule 3745-54-37(A) by making a diligent effort to:

(i) Make arrangements and familiarize all emergency response agencies which are likely to respond in an emergency with the location and layout of the facility, properties of hazardous waste managed at the facility and associated hazards, places where facility personnel will normally be working, entrances to and roads inside the facility, and possible evacuation routes as depicted and explained in G of the permit application;

(ii) Make arrangements with Ohio EPA emergency response teams, emergency response contractors, and equipment suppliers;

(iii) Make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and types of injuries or illnesses which could result from fires, explosions, or releases at the facility; and

(iv) Make agreements designating primary emergency authority to a specific police and a specific fire department and make agreements with any others to provide support to the primary emergency authority, where more than one police and fire department may respond to an emergency.

(b) Where authorities decline to enter into such agreements or arrangements set forth in OAC Rule 3745-54-37(A), the Permittee must document the refusal in the operating record as required by OAC Rule 3745-54-37(B).

B.14 Implementation of Contingency Plan
OAC Rules 3745-54-51 and 3745-54-56

The Permittee must immediately carry out the provisions of the contingency plan and follow the emergency procedures described in OAC Rule 3745-54-56, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten
human health or the environment.

In regard to spills and related toxic gas releases, the plan must describe the criteria to be used by the emergency coordinator to determine when the plan will be implemented. At a minimum, the plan must be implemented in the following situations:

(a) Any fire involving hazardous waste; or
(b) Any explosion involving hazardous waste; or
(c) Any uncontrolled hazardous waste reaction that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions; or
(d) Any hazardous waste release, outside of a secondary containment system, that causes or has the potential to cause off-site soil and/or surface water contamination; or
(e) Any hazardous waste release that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions.

B.15 Content of the Contingency Plan
OAC Rule 3745-54-52

The Permittee must comply with OAC Rule 3745-54-52 and the contingency plan, as set forth in Section G of the permit application.

B.16 Contingency Plan - Released Material and Emergency Response Material and By-products
OAC Rule 3745-54-56(G)

(a) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(b) All liquid or solid material resulting from fire, explosion, released material or emergency response material and by-products that the Permittee is required to evaluate to determine whether such material is hazardous waste in accordance with OAC Rule 3745-52-11, must be collected and managed as a hazardous waste unless the Permittee can demonstrate that such waste is not hazardous in accordance with OAC Rule 3745-51-03(C) and (D).
B.17 Amendments to Plan
OAC Rule 3745-54-54

The Permittee must review the contingency plan at least annually and upon the occurrence of any event listed in OAC Rule 3745-54-54. If necessary or appropriate, the Permittee must amend the contingency plan as required by OAC Rule 3745-54-54 in accordance with OAC Rule 3745-50-51.

B.18 Copies of Plan
OAC Rule 3745-54-53

(a) The Permittee must comply with the requirements set forth in OAC Rule 3745-54-53 regarding contingency plan distribution. The Permittee must maintain at the facility a copy of the contingency plan and all revisions to the plan.

(b) The Permittee must, in accordance with OAC Rule 3745-54-53, submit a copy of the contingency plan to all local police departments, fire departments, hospitals and local emergency response teams that may be called upon to provide emergency services. The Permittee must notify such agencies and the local authorities, in writing, within ten (10) days of the effective date of any amendments of, revisions to, or modifications to the contingency plan.

(c) If the contingency plan is revised, that constitutes a permit modification pursuant to OAC Rule 3745-50-51.

B.19 Emergency Coordinator
OAC Rule 3745-54-55

The Permittee must comply with the requirements set forth in OAC Rule 3745-54-55 regarding the emergency coordinator.

B.20 Emergency Procedures
OAC Rule 3745-54-56

The Permittee must comply with the requirements regarding emergency procedures set forth in OAC Rule 3745-54-56, Section G of the permit application and the terms and conditions of this permit.

B.21 Availability, Retention and Disposition of Records
OAC Rule 3745-54-74

All records shall be furnished by the Permittee upon request to, and made available at all reasonable times for inspection by, Ohio EPA, in accordance with OAC Rule 3745-54-74.
B.22 Operating Record
OAC Rule 3745-54-73

The Permittee must comply with the requirements set forth in OAC Rule 3745-54-73 regarding an operating record, including information to be recorded and the maintenance thereof.

(a) Copies of all required waste analysis results as part of the operating record per OAC Rule 3745-54-73(8)(3).

For waste defined as K061 EAF Dust in Permit Condition B.3(j)(i), the Permittee must keep a record, in a working document or database, by manual and/or electronic means, of the key parameters that influence the treatment process as this information becomes available. The Permittee must review the current working document or database monthly and correct any errors or omissions discovered. Such records must include, but are not limited to, the following:

(i) the identification of the batch being treated and/or tested and the date samples are collected for the purpose of testing;
(ii) the identification name of the mix design used;
(iii) the percent available free lime in the raw waste;
(iv) whether the batch treated was “on-specification” or “off-specification” as defined in Permit Condition B.3(j);
(v) pH of the TCLP extract fluid of the treated waste after completion of the extraction process; and,
(vi) whether the batch met, or did not meet, LDR treatment standards in OAC Rule 3745-54-270 after completion of the treatment process

(b) Copies of all required laboratory analyses of samples and all required measurements taken for the purpose of monitoring such as drainage ditch samples, background soil samples, and ground water and surface water samples, as part of the operating record, including the following:

(i) Samples and measurements required for the purpose of monitoring must be representative of the monitored activity.
(ii) Records of monitoring information that must include the following:
   (a) Dates, exact place, and time of sampling or measurement;
(b) Individual(s) who performed the sampling measurements;

(c) Analytical techniques or methods used;

(d) Results of such analysis; and,

(e) Description of waste analysis discrepancies

(c) Copies of all required monitoring and measurements which are taken during the closure period including monitoring to determine the level of decontamination. The Permittee must maintain copies of all closure notices, certifications, and documents required during the post-closure care period.

(d) A written post-closure operating record, which includes the following:

(i) post-closure sampling and analytical data for ground water and leachate samples, and the amount of leachate or liquids removed from leachate collection/leak detection system(s);

(ii) survey plot indicating landfill location and record of hazardous waste in each cell;

(iii) inspection reports and inspection log forms including any necessary remedial action;

(iv) detailed reports of incidents which required implementation of the Contingency Plan;

(v) documentation of the required post-closure personnel training of employees or contractors; and,

(vi) certification of post-closure and notice in deed of post-closure

(e) Financial reports including:

(i) report on ability to maintain financial assurance for closure and post-closure care; and,

(ii) certificate of insurance

(f) Records of landfill and Stabilization/Containment Building leak detection/leak collection systems. The Permittee must notify the Director if the response action plan requires implementation.
(g) The volume of liquids removed from each sump.

(h) The location and quantity of each hazardous waste disposed of in the active landfill cell, on a map or diagram in accordance with OAC Rule 3745-54-73(B)(2).

(i) The following documentation for inclusion in each tank certification report: remedial investigation or corrective action, engineering feasibility reports, or other reports as needed through the facility closure period in accordance with OAC Rule 3745-55-92:

(i) Certification of structural integrity.

(ii) Tank and containment coating certification.

(iii) Proper installation.

(iv) As-built drawings for tank foundations and containment areas.

(j) The following documentation for each new secure landfill cell construction report:

(i) exploratory boring logs and any sample test results;

(ii) construction inspection reports, logs, soils and water sample analyses, moisture content, compaction, and permeability test results, and corrective or remedial work reports, including sand zone replacement;

(iii) manufacturer’s weak seam evaluation reports;

(iv) as-built drawings, with the exact location and dimensions (including depth) of each cell with respect to permanently surveyed benchmarks, of all constructed secure landfill cells, with all changes in details of original design clearly marked;

(v) geologic maps of cell excavations, and associated soil gradation analyses; and,

(vi) Record of compliance with ignitable, reactive, or incompatible waste restrictions for each secure cell.

(k) Required records from the facility ground water monitoring and inspection programs through the post-closure period, including but not limited to, the following:

(i) well boring and/or core logs;

(ii) soil sample gradation analyses and permeability test results;
(iii) well completion reports;
(iv) sampling logbook;
(v) various groundwater flow and direction reports;
(vi) compliance monitoring soil vapor survey data;
(vii) interim information reports and final source determination reports;
(viii) corrective action feasibility plans;
(ix) variance applications;
(x) sample custody forms;
(xi) ground water analysis and QA/QC reports;
(xii) background concentration calculations; and,
(xiii) statistical test calculations done in accordance with the OAC Rules 3745-54-97, 98 and 99.

B.23 Contingency Plan Records
OAC Rule 3745-54-56(l)

The Permittee must note in the operating record the time, date, and details of any incident that requires the implementation of the contingency plan. Within fifteen (15) days after any such incident the Permittee must submit to the Director a written report of the incident containing the elements set forth in OAC Rule 3745-54-56(l).

B.24 Manifest System
OAC Rules 3745-54-70, 3745-54-71, 3745-54-72 and 3745-54-76

(a) In managing waste at the facility the Permittee must comply with OAC Chapter 3745-52 and OAC Rules 3745-54-71, 3745-54-72 and 3745-54-76 with regard to the manifest system.

(b) Manifest discrepancy report. If a significant discrepancy in a manifest is discovered, the Permittee must attempt to reconcile the discrepancy. If not resolved within fifteen (15) days after receiving the waste, the Permittee must submit a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest, to the Director in
accordance with OAC Rule 3745-54-72.

(c) Unmanifested waste report. If the Permittee receives unmanifested waste which is not excluded from the manifest requirements of OAC Rule 3745-51-05, then the Permittee must submit an unmanifested waste report to the Director within fifteen (15) days after receipt of the waste. The report must include the information required under OAC Rule 3745-54-76.

B.25 Biennial Report and Additional Reports
OAC Rules 3745-54-75 and 3745-54-77

The Permittee must comply with the report requirements set forth in OAC Rule 3745-54-75 and the additional report requirements set forth in OAC Rule 3745-54-77.

B.26 Closure Performance Standard
OAC Rule 3745-55-11

During facility closure, the Permittee must implement the provisions of the closure plan found in Section I of the permit application in such a manner as to achieve compliance with OAC Rule 3745-55-11.

B.27 Closure Plan
OAC Rules 3745-55-10, 3745-55-11 and 3745-55-13

The Permittee must implement those procedures detailed within Section I of the permit application, in accordance with OAC Rules 3745-55-10 through 3745-55-20.

B.28 Amendment of Closure Plan OAC Rules 3745-55-12 and 3745-50-51

Should a change in the facility closure plan become necessary, the Permittee must amend the closure plan in accordance with OAC Rules 3745-55-12(C) and 3745-50-51.

B.29 Content of Closure Plan
OAC Rule 3745-55-12

The Permittee must maintain the closure plan at the facility which contains the elements set forth in OAC Rule 3745-55-12 and all elements required by the terms and conditions of this permit.

B.30 Notification of Closure
OAC Rule 3745-55-12

The Permittee must notify the Director in writing at least sixty (60) days prior to the date on which the Permittee expects to begin closure of any of the following: landfill Cell M or final closure of the
facility, as required by OAC Rule 3745-55-12(D).

B.31 Time Allowed For Closure
OAC Rule 3745-55-13

Within ninety (90) days after receiving the final volume of hazardous waste, the Permittee must remove from the facility, or treat or dispose of on-site, all hazardous waste in accordance with the closure plan. The Director may approve a longer closure period if the Permittee complies with all applicable requirements for requesting a modification to the permit as set forth in OAC Rule 3745-55-13(A). The Permittee must complete all closure activities within one hundred eighty (180) days after receiving the final volume of hazardous waste in accordance with OAC Rule 3745-55-13. The Director may approve a longer closure period if the Permittee complies with all applicable requirements for requesting a modification to the permit as set forth in OAC Rule 3745-55-13 (B).

B.32 Disposal or Decontamination of Equipment, Structures, and Soils
OAC Rule 3745-55-14

(a) The Permittee must decontaminate or dispose of all contaminated facility equipment, structures, and soils, as required by OAC Rule 3745-55-14, the closure plan and the terms and conditions of this permit.

(b) The Permittee must notify the Ohio EPA, Northwest District Office, within five (5) business days prior to all rinseate and soil sampling.

B.33 Certification of Closure
OAC Rule 3745-55-15

The Permittee and a qualified professional engineer must certify that each hazardous waste management unit or the facility has been closed in accordance with the specifications in the closure plan and the terms and conditions of this permit, as required by OAC Rule 3745-55-15. The Permittee must furnish to the Director, upon request, documentation supporting the certification.

B.34 Survey Plat
OAC Rule 3745-55-16

The Permittee must submit a survey plat to the Director and the local zoning authority no later than the submittal of certification of closure of each hazardous waste disposal unit, in accordance with OAC Rule 3745-55-16.

B.35 General Post-Closure Requirements
OAC Rules 3745-55-17, 3745-55-18, 3745-55-19 and 3745-55-20

(a) Post-Closure Care Period
The Permittee must begin post-closure care for each tank system, landfill, or containment building after completion of closure of the unit and continue for thirty (30) years after that date. Post-closure care must be in accordance with OAC Rule 3745-55-17 and the post-closure plan.

(b) Post-Closure Security

The Permittee must maintain security at the facility during the post-closure care period, in accordance with the post-closure plan and OAC Rule 3745-55-17(B).

(c) Amendment to Post-Closure Plan

The Permittee must amend the post-closure plan, when necessary, in accordance with OAC Rule 3745-55-18(D).

(d) Post-Closure Notices

(i) No later than sixty (60) days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the Director and the local zoning authority records of the type, location, and quantity of hazardous waste disposed of within each cell or disposal unit, in accordance with OAC Rule 3745-55-19(A).

(ii) Within sixty (60) days of certification of closure of the first hazardous waste disposal unit and within sixty (60) days of certification of closure of the last hazardous waste disposal unit, the Permittee must do the following:

(a) Record a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, which contains the information required by OAC Rule 3745-55-19(B)(1).

(b) Submit to the Director a certification that the Permittee has recorded the notation and submit a copy of the document in which the Permittee placed the notation.

(c) The Permittee must request and obtain a permit modification prior to post-closure removal of hazardous wastes, hazardous waste residues, liners, or contaminated soils, in accordance with OAC Rule 3745-55-19(C).

(e) 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 must certify that the post-closure care period was performed in accordance with the specifications in the post-closure plan and the terms and
conditions of this permit, as required by OAC Rule 3745-55-20. The Permittee must furnish to the Director, upon request, documentation supporting the certification.

B.36  Cost Estimate for Facility Closure and Post Closure
OAC Rules 3745-55-42 and 3745-55-44

(a) The Permittee’s most recent closure and post closure cost estimate, prepared in accordance with OAC Rule 3745-55-42 and 3745-55-44 is specified in Section I of the permit application.

(b) The Permittee must adjust the closure and post closure cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with OAC Rule 3745-55-43 and 3745-55-45.

In case the Permittee is using the financial test or corporate guarantee, the Permittee must adjust the closure cost estimate and post-closure cost estimate for inflation within thirty (30) days after the close of the Permittee’s fiscal year and before submission of updated information to the Director, as specified in OAC Rule 3745-55-42(8) and 3745-55-44(8).

(c) The Permittee must revise the closure cost estimate or post-closure cost estimate whenever there is a change in the facility’s closure plan or post-closure plan that increases the cost of closure or post-closure, as required by OAC Rule 3745-55-42(C) or 3745-55-44(C).

(d) The Permittee must submit to the Ohio EPA and keep at the facility the latest closure cost estimate and post-closure cost estimate as required by OAC Rule 3745-55-42(D) and (E) and 3745-55-44(D) and (E).

B.37  Financial Assurance for Facility Closure, Post Closure and Perpetual Care
OAC Rules 3745-55-43, 3745-55-45 and 3745-55-46

With initial permit journalization in July 1991, additional monies were set aside within the post closure trust account for perpetual care and, as a result, $11.5 million were added to the post-closure trust account. This amount, in 1991 dollars, was derived from the estimated cost of replacing the caps on Cells "G" and "M", including the synthetic liner to the surface. The perpetual care amount, in association with the post-closure cost estimate, is adjusted annually for inflation or deflation. The Permittee is required to maintain, at a minimum, a level of funding in this account equal to the sum of the amount required by the OAC Rule 3745-55-45, and the perpetual care amount.

(a) The Permittee must maintain continuous compliance with OAC Rule 3745-55-43, 55-45, 55-46 and provide documentation of financial assurance, which meets the requirements of
OAC Rule 3745-55-51, in at least the amount of the cost estimates required by Permit Condition B.36.

(b) Whenever the closure and/or post-closure cost estimates change, the Permittee must compare the new estimates with the Trustee’s most recent statement of the trust funds. If the value of the funds is less than the amount of the new estimates, the Permittee must, within sixty (60) days after the change in the cost estimates, either deposit an amount into the funds so that its value at least equals the amount of the current closure and post-closure cost estimates, or the Permittee must obtain other financial assurance, as specified in OAC Rule 3745-55-43, to cover the difference.

(c) The Permittee must retain the perpetual care amount of 11.5 million dollars (in July 1991 dollars) in the post-closure trust fund. This perpetual care amount must be reviewed annually and updated for inflation.

(d) Upon approval of Ohio EPA, the Permittee and/or a third party contractor who performed all or part of the work for final closure, post-closure, or perpetual care will be reimbursed for the cost of the services performed.

(e) Excess monies from the closure and post-closure trust funds may be used for corrective and/or remedial actions relating to the facility or its operations, upon approval of the director. As used in this section, "excess monies" are defined as amounts in excess of the current cost estimates for closure and post-closure and perpetual care.

(f) The closure and post-closure trust funds must be irrevocable and said agreements must be worded in such a manner as to cause said funds to be tax exempt. The Permittee must relinquish its rights to any excess monies in the aforementioned funds.

(g) Any excess monies remaining in the closure trust fund after the entire facility has been closed and certified in compliance with the applicable Ohio hazardous waste rules, must be transferred to the post-closure trust fund with the approval of Ohio EPA.

(h) The Permittee must direct the Trustee(s) of the closure and post-closure trust funds to invest the funds monies only in the investments listed in Attachment C of this permit.

B.38 Liability Requirements

OAC Rule 3745-55-47

The Permittee must maintain continuous compliance with the requirements of OAC Rule 3745-55-47 and the documentation of liability by providing liability coverage which meets the requirements of OAC Rule 3745-55-51 for sudden accidental occurrences in the amount of at least $1 million per occurrence, with an annual aggregate of at least $2 million, exclusive of legal defense costs.
The Permittee also must demonstrate compliance with OAC Rule 3745-55-47(B) by maintaining liability coverage for non-sudden accidental occurrences in the amount of at least $3 million per occurrence, with an annual aggregate of at least $6 million, exclusive of legal defense costs.

B.39 Incapacity of Owners or Operators, Guarantors, or Financial Institutions
OAC Rule 3745-55-48

The Permittee must comply with requirements set forth in OAC Rule 3745-55-48 regarding the incapacity of owners, operators, guarantors or financial institutions.

B.40 General Requirements for Land Disposal Restrictions
OAC Chapter 3745-270

The Permittee must comply with all applicable regulations regarding land disposal prohibitions and restrictions as required by OAC Chapter 3745-270.
C. CONTAINER STORAGE AND MANAGEMENT

The Permittee maintains a total of 12 container storage areas. These container storage areas are located inside and outside of a containment building (referred to here as the "Stabilization/Containment Building"), and are identified on Drawing D2000L-G01 and Drawing D2000L-G05 of the permit application. Drawing D2000L-G01 provides a table that details the storage capacity, the description/location, maximum container storage size/quantity, surface area, and aisle space minimum/maximum surface areas for each permitted container storage area. The aisle space surface areas are provided to demonstrate compliance with OAC Rule 3745-54-35. In addition, Drawing D2000L-G01 depicts Area O located within the active landfill cell, which is to be used only for placement of grab and hold containers while the waste is undergoing treatment and for the storage of site generated waste that does not contain free liquids. Area O is not a permitted container storage area; and, containers containing hazardous waste can only be stored in this area for a period of 90 days or less.

Container storage areas G, H, I, K, and L are designed to divert storm water run-on and contain precipitation from a 25-year/24-hour storm event. In addition, the containment system is designed to collect the volume from the largest container or 10% of the total stored volume within the area, whichever is greater. Calculation of the containment system capacities are provided in Appendix D.45 of the permit application. The storage areas G, H, I, K, and L are depicted on Drawings D2000L-G09, D2000L-G12, D2000L-G13, D2000L-G14, D2000L-G15, D2000L-G16 of the permit application.

Container storage areas M and N are connected through a HDPE lined covered concrete trench; therefore, the combined volume serves to comply with containment volumes for either area M and/or N. The containment system for areas M and N includes a geosynthetic clay liner (GCL) and an 80 mil HDPE liner with geonet and geotextile.

Lastly, Table D-1 in Section D of the permit application details the storage capacity, location, surface area, and the types of containers to be stored for outside container storage areas G, H, I, K, L, M, and N. Section D-1a of the permit application details specific container storage information for areas within the Stabilization/Containment Building.

C.1 Container Storage / Quantity Limitation

(a) The Permittee is authorized to store 4,385 cubic yards of hazardous waste at any given time in seven (7) permitted outside storage areas and five (5) storage areas located inside of the Stabilization/Containment Building.

The Permittee must store hazardous waste in the types of containers (size and type) described in Section D of the permit application.
(i) The storage capacity for the seven (7) outside storage areas are described in Table C-1 below and on Drawing D-2000L-G01 of the permit application:

<table>
<thead>
<tr>
<th>Storage Area</th>
<th>Description/Location</th>
<th>Capacity (Cubic Yards)</th>
<th>Surface Area (Square Feet)</th>
<th>Secondary Containment (Type)</th>
<th>Description of Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Storage Area South of Leachate Storage Tank Building – this area is permitted, but has not yet been constructed.</td>
<td>1,050</td>
<td>9,073</td>
<td>HDPE Liner</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>H</td>
<td>Storage Area Adjacent to Northeast Corner of Stabilization/Containment Building</td>
<td>300</td>
<td>3,108</td>
<td>HDPE Liner</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>I</td>
<td>Storage Area East of Stabilization/Containment Building – this area is permitted, but has not yet been constructed.</td>
<td>450</td>
<td>4,551</td>
<td>HDPE Liner</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>K</td>
<td>Storage Area Adjacent to West Side of Leachate Storage Tank Building</td>
<td>600</td>
<td>5,376</td>
<td>HDPE Liner</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>L</td>
<td>Storage Area North of Leachate Storage Tank Building – this area is permitted, but has not yet been constructed.</td>
<td>200</td>
<td>2,146</td>
<td>HDPE Liner</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>M</td>
<td>Rail Storage Area Adjacent to Southeast Corner of Stabilization/Containment Building</td>
<td>300</td>
<td>3,570</td>
<td>HDPE Liner and Trench</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>N</td>
<td>Rail Storage Area Adjacent to Southwest Corner of Stabilization/Containment Building</td>
<td>300</td>
<td>3,276</td>
<td>HDPE Liner and Trench</td>
<td>All Permitted Waste Codes</td>
</tr>
</tbody>
</table>
(ii) The storage capacity for the five (5) storage areas located inside of the Stabilization/Containment building are described in Table C-2 below and on Drawing D-2000L-G01 of the permit application:

<table>
<thead>
<tr>
<th>Storage Area</th>
<th>Description/Location</th>
<th>Capacity (Cubic Yards)</th>
<th>Secondary Containment (Type)</th>
<th>Description of Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>2 Storage and Treatment Areas North and South of Excavator Bridge</td>
<td>1,185 CY</td>
<td>Stabilization/Containment Building</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>C</td>
<td>8 Storage Areas East and West of Crusher</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Storage and Treatment Area North of Crusher</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Storage Area West of Campaign Bin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Rail Car and Storage and Treatment Area</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) For the purpose of compliance with the capacity limitation of this permit, each container will be considered to be storing an amount of hazardous waste equal to its capacity, regardless of the actual quantity stored in the container.

(c) Permit Conditions C.1(a) and C.2 shall not apply to the Permittee's activities as a generator accumulating hazardous waste on-site in compliance with OAC Rule 3745-52-34 and 40 CFR Part 265, subparts AA, BB, and CC.

However, when accumulating waste within the permitted container storage area, in accordance with OAC Rule 3745-52-34 and 40 CFR Part 265, subparts AA, BB, and CC, the Permittee must not, for the total amount of hazardous waste stored and accumulated, exceed the maximum container storage inventory established under this permit condition.

C.2 Limitations on Treatment of Hazardous Waste in Containers

(a) The Permittee is authorized to treat 150 short tons per hour of hazardous waste in the permitted treatment areas B, D, and T located in the Stabilization/Containment Building, which are described above in Table C-2. The Permittee must treat hazardous waste in containers in the manner described in Section D of the permit application.
(i) The Permittee is prohibited from treating hazardous waste containing free liquids in treatment area T which is described above in Table C-2 or the campaign bin located in the Stabilization/Containment Building.

(ii) Permit Condition C.2(a)(i) shall not apply to incidental free liquids resulting from phase separation or precipitation during the transportation of bulk hazardous waste solids to the facility.

(b) Permit Condition C.2(a) shall not apply to the Permittee’s activities as a generator treating hazardous waste in containers on-site in compliance with OAC Rule 3745-52-34.

However, when treating waste within the permitted treatment area, in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste treated, exceed the maximum throughput capacity established under this condition.

C.3 Waste Identification and Storage/Treatment Prohibitions

(a) The Permittee must store or treat in containers only the hazardous waste codes specified in Part A of the permit application.

(b) The Permittee is prohibited from storing bulk hazardous waste containing free liquids in container storage areas M, N or T.

(c) Permit Condition C.3(b) shall not apply to incidental free liquids resulting from phase separation or precipitation during the transportation of bulk hazardous waste solids to the facility.

(d) The Permittee is prohibited from storage or treatment of the following categories of hazardous waste:

(i) Hazardous waste which exhibits the characteristic of an ignitable compressed gas as defined in OAC Rule 3745-51-21(A)(3),

(ii) Hazardous waste which exhibits the characteristic of an ignitable oxidizer as defined in OAC Rule 3745-51-21(A)(4),

(iii) Hazardous waste which exhibits the characteristic of reactivity as defined in OAC Rule 3745-51-23(A). This prohibition excludes cyanides and sulfides as defined in OAC Rule 3745-51-23(A)(5) and Section C of the permit application,

(iv) Radioactive wastes regulated by the Nuclear Regulatory Commission,

(v) Infectious wastes as defined in OAC Rule 3745-27-01(A), and
(vi) Any waste in gaseous form.

(vii) Liquid hazardous waste which requires treatment via Chemical Oxidation, Chemical Reduction or Carbon Adsorption.

(e) The Permittee is prohibited from treating hazardous waste listed in Table B.1 of Permit Condition B.1(C).

C.4 Condition of Containers
OAC Rule 3745-55-71

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee must transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit and the hazardous waste facility chapters of the OAC.

C.5 Compatibility of Waste with Containers
OAC Rule 3745-55-72

The Permittee must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

C.6 Management of Containers
OAC Rule 3745-55-73

(a) The Permittee must keep all containers closed during storage, except when it is necessary to add or remove waste, and must not open, handle, or store containers in a manner which may rupture the container or cause it to leak. This condition does not apply to mixing bins and encapsulation boxes within the Stabilization/Containment Building.

(b) In the event lab-pack wastes are generated they must be handled in compliance with applicable storage requirements.

(c) In the event lab-pack wastes are generated they must be packaged in drums containing absorbent material that is compatible with the waste.

(d) As described in Section D of the permit application, loading and unloading of containers or drums must be conducted at locations where secondary containment capable of minimizing the release of spilled material to the environment is provided. Unloading of containers or drums containing hazardous waste containing free liquids must be conducted within permitted container storage areas H, K or T, permitted container storage areas G, I
or L when constructed, within the secondary containment pads outside of the Stabilization/Containment Building at doors 121, 122, 125, 126, 127, 133, 134 and 135, or within the Stabilization/Containment Building in accordance with Permit Condition H.5(a)(viii).

(e) As described in Section D of the permit application, when handling containers, the Permittee must take all reasonable steps to prevent damage to or rupture of containers. Container movement must be accomplished by trained personnel using a forklift, two wheel drum cart, or other specialized container handling unit.

(f) Containers that can be placed on pallets must be stored on pallets in rows no more than two (2) pallets wide and no more than two (2) layers high.

(g) De-heading of drums and/or transfer of drum or container contents must occur only within areas provided with secondary containment.

(h) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must label containers storing hazardous waste, with the following information:

(i) waste type and description;

(ii) date waste was received into the storage area;

(iii) Permittee load number and/or container sequence number (for on-site generated waste);

(iv) generator name; and,

(v) Waste Stream Identification Number (WSID).

C.7 Containment Systems
OAC Rule 3745-55-75

(a) The Permittee must construct and maintain the containment system in accordance with the plans and specifications contained in Section D of the permit application.

(b) The Permittee must maintain the containment systems as described in the permit application, designed with sufficient capacity to contain ten percent of the total volume of the containers or the volume of the largest container, whichever is greater. The containment system must be free of cracks and gaps and sufficiently impervious to contain leaks and spills and accumulated precipitation until the collected material is detected and removed.
(c) The base of the containment system must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids.

(d) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in Permit Condition C.7(b) above.

(e) Spilled or leaked waste and accumulated precipitation and other spilled liquid must be removed from the spill containment areas, storage areas, unloading areas, sumps and collection areas within twenty-four (24) hours from the time discovered or, if this is not possible, in as timely a manner as necessary to prevent overflow of the containment system.

(f) The Permittee must maintain and operate the railroad car storage and loading/unloading area liquid collection and removal system to collect and remove contaminated liquids created by waste, wash water, or rain water. The liquid collection system must be maintained and operated as to allow the system to function without clogging through the scheduled closure of the railroad car storage and loading/unloading area.

C.8 Railroad Spur Track – Areas M, N and T

(a) Railroad locomotives are not permitted to enter the Stabilization/Containment Building.

(b) Rail car movements into and away from the Permittee’s facility will occur at speeds less than 10 mph.

(c) The Permittee must, at all times, maintain access to the paved road adjacent to Storage Areas M and N.

(d) The Permittee must advise the generator to line the gondola railcars and intermodal freight containers with a polyethylene liner (or equivalent) prior to shipment of waste to the facility.

(e) The Permittee must label all railroad cars arriving at the facility in accordance with OAC Rule 3745-270-50(A)(2)(a).

C.9 Inspection Schedules and Procedures
OAC Rules 3745-54-15 and 3745-54-73

(a) The Permittee must inspect the container storage area in accordance with the inspection schedule contained in Section F of the permit application and in accordance with OAC Rule 3745-54-15. The inspection schedule must be designed to detect for leaking containers,
deteriorating containers, and/or containment systems. The Permittee must note the results of these inspections in the inspection log along with any remedial action taken.

(b) Areas subject to spills, such as loading or unloading areas, shall be inspected daily when in use pursuant to the inspection procedure described in Section F of the permit application. The Permittee must maintain these inspection results in the facility operating record.

(c) In accordance with OAC Rule 3745-55-71, the Permittee must transfer the contents of any drums or containers found to be leaking, corroded, deteriorated or incompatible with its contents to a compatible container or storage tank, or into an over pack drum, or stabilization treatment operation as soon as possible after the inspection in which the deteriorated drums are found.

(d) All railroad cars must be inspected by trained personnel prior to entering and/or exiting the facility, and in accordance with OAC Rule 3745-55-74.

C.10 Recordkeeping
OAC Rule 3745-54-73

(a) The Permittee must comply with all recordkeeping requirements of OAC Rule 3745-54-73 as part of the facility operating record.

(b) The Permittee must provide an information sheet explaining the proper loading procedures to prevent waste from leaking during transportation to generators who transport waste to the facility by rail car. The Permittee must document in the operating record that the information sheet was provided to the generator prior to receiving the generator’s first rail shipment.

(c) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must log into a container storage area daily report the following information:

(i) number of containers in the storage area;

(ii) waste type and description;

(iii) date waste was received into the storage area;

(iv) waste location (by storage area);

(v) date waste was removed from the storage area;

(vi) Permittee load number and/or container sequence number;
(vii) generator name; and,

(viii) Waste Stream Identification Number (WSID).

### C.11 Special Container Provisions for Ignitable or Reactive Waste

OAC Rules 3745-54-17 and 3745-55-76

(a) The Permittee must not store ignitable or reactive waste except in accordance with OAC Rules 3745-54-17 and 3745-55-76.

(b) The Permittee must not locate containers holding ignitable or reactive waste within one hundred (100) feet from the center of any public road or within fifteen (15) meters (50 feet) of the facility's property line.

(c) The Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and shall follow the storage procedures specified in Section D the permit application.

(d) In the event that the Permittee receives ignitable, flammable or combustible liquid wastes, the Permittee must store such wastes as follows:

   (i) The Permittee must store Class I flammable liquids (i.e., flashpoint less than 100°F) only in metal containers. The Permittee must store Class I and Class III combustible liquids only in metal or polyethylene containers. Note that Class II combustible liquids have a flashpoint between 100°F and 140°F, while Class III combustible liquids have a flashpoint greater than 140°F. The ignitable waste class of a contaminated waste must be identified based on the flash point of the waste and the ignitability class must be recorded on the Waste Characterization Data Sheet.

   (ii) All containers for storage of ignitable wastes must meet Department of Transportation (DOT) specifications (49 CFR 178 Subpart D). Ignitable wastes which are not received in DOT specified metal or polyethylene containers must be immediately transferred to a DOT specified metal or polyethylene container.

### C.12 Special Container Provisions for Incompatible Waste

OAC Rules 3745-54-17(B) and 3745-55-77

(a) The Permittee must not store incompatible waste except in accordance with OAC Rules 3745-54-17(B) and 3745-55-77.

(b) The Permittee must not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
(c) The Permittee must separate or protect (by means of a dike, berm, wall, or other device) a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments.

(d) The Permittee must store containers of incompatible waste in separate areas of the container storage areas located inside and outside of the Stabilization/Containment Building as classified by the following compatibility groups:

(i) Ignitable waste and/or non-ignitable wastes;

(ii) Oxidizers;

(iii) Reducers;

(iv) Acids;

(v) Bases;

(vi) Acid Sensitive (i.e., potential consequence of generating toxic hydrogen cyanide or hydrogen sulfide gas);

(vii) Alkaline Sensitive; and,

(viii) Water-Reactive.

C.13 Reserved

C.14 Closure and Post-Closure

OAC Rules 3745-55-10 through 3745-55-20, and 3745-55-78

At closure of the container areas, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment systems, in accordance with the procedures in the closure plan set forth in Section I of the permit application.
D. MODULE HIGHLIGHTS

The Permittee has constructed and operates four partially submerged open topped welded steel tanks within the limits of Cell M in the general location of Area O. These tanks are designated Landfill Tank 1, Landfill Tank 2, Landfill Tank 3 and Landfill Tank 4. The tank storage capacity is 14,360 gallons in each (Landfill Tanks 1 and 2) and 25,930 gallons in each (Landfill Tanks 3 and 4). The four landfill tanks may be used for the storage of hazardous and non-hazardous waste and to conduct treatment of hazardous waste using chemical fixation (stabilization) and encapsulation treatment technologies. Waste may be placed into these tanks by third party transportation trucks or by articulated dump trucks operated by the Permittee. The Permittee was granted a variance from the secondary containment requirements for these tanks on June 3, 2011. Details regarding these tanks can be found in Appendix D.28 of the permit application.

The Permittee also operates four 25,000 gallon aboveground tanks (S-100, S-200, S-300, and S-400) for the storage of hazardous waste from the container storage areas, laboratory, stabilization/containment building and multi-source leachate from closed and operating landfills. These tanks are located within a building with secondary containment for each tank designed to be capable of containing greater than 100 percent of the total volume of each tank.

The Permittee is also permitted to construct and operate four additional aboveground tanks (as yet to be constructed: S-4, S-5, S-6, and S-7), which are designed to manage oily waste that may be generated from on-site remedial or corrective measures activities. These tanks will be located outside. Secondary containment for these tanks is designed to be capable of containing greater than 100 percent of the total volume of the largest tank plus additional volume for the accumulation from a 25-year/24-hour storm event. All tanks are or will be placed within secondary containment areas and will be separated into various waste categories (i.e., leachate/aqueous waste and oily waste).

Waste transfer into tanks (S-100, S-200, S-300, S-400, S-4, S-5, S-6, and S-7) occurs via two methods: the tanker method by which waste is pumped into the tanks from tanker trucks that collect waste from various points throughout the facility; and, via an automatic pump and double walled auxiliary piping system. This latter method is particular to F039 leachate that is pumped from the primary collection system of the active Cell M into tanks S-100, S-200, S-300, and S-400. This pump system is equipped with an automatic high level shutdown override as presented in Drawings D2000-F-1 and D8102-101 of the permit application.

D.1 Tank Storage Quantity Limitation/Waste Identification

(a) The Permittee may store a total volume of 240,580 gallons of hazardous waste in twelve (12) tanks, subject to the terms of this permit and as detailed in the table below.
The Permittee shall store in tanks only the hazardous waste codes specified in the permit application and summarized below:

<table>
<thead>
<tr>
<th>Tank No.</th>
<th>Capacity (Gallons)</th>
<th>Dimensions of Tank (Feet)</th>
<th>Secondary Containment (Volume)</th>
<th>Location</th>
<th>Hazardous Waste No. &amp; Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill Tank 1</td>
<td>14,360</td>
<td>19.2 X 10.0 X 10.0</td>
<td>Cell M, Variance</td>
<td>Cell M</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>Landfill Tank 2</td>
<td>14,360</td>
<td>19.2 X 10.0 X 10.0</td>
<td>Cell M, Variance</td>
<td>Cell M</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>Landfill Tank 3</td>
<td>25,930</td>
<td>23.5 X 14.8 X 10.0</td>
<td>Cell M, Variance</td>
<td>Cell M</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>Landfill Tank 4</td>
<td>25,930</td>
<td>23.5 X 14.8 X 10.0</td>
<td>Cell M, Variance</td>
<td>Cell M</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>S-100</td>
<td>25,000</td>
<td>10 X 42.5</td>
<td>Pre-fabricated Steel, (27,500 Gallons)</td>
<td>Indoor</td>
<td>F039/D002 Leachate</td>
</tr>
<tr>
<td>S-200</td>
<td>25,000</td>
<td>10 X 42.5</td>
<td>Pre-fabricated Steel, (27,500 Gallons)</td>
<td>Indoor</td>
<td>F039/D002 Leachate</td>
</tr>
<tr>
<td>S-300</td>
<td>25,000</td>
<td>10 X 42.5</td>
<td>Pre-fabricated Steel, (27,500 Gallons)</td>
<td>Indoor</td>
<td>F039/D002 Leachate</td>
</tr>
<tr>
<td>S-400</td>
<td>25,000</td>
<td>10 X 42.5</td>
<td>Pre-fabricated Steel, (27,500 Gallons)</td>
<td>Indoor</td>
<td>F039/D002 Leachate</td>
</tr>
<tr>
<td>S-4 (as yet to be constructed)</td>
<td>15,000</td>
<td>12 X 20</td>
<td>HDPE 80 Mil Liner, (25,102 Gallons)</td>
<td>Outdoor</td>
<td>D018 Oily Waste</td>
</tr>
<tr>
<td>S-5 (as yet to be constructed)</td>
<td>15,000</td>
<td>12 X 20</td>
<td>HDPE 80 Mil Liner</td>
<td>Outdoor</td>
<td>D018 Oily Waste</td>
</tr>
<tr>
<td>S-6 (as yet to be constructed)</td>
<td>15,000</td>
<td>12 X 20</td>
<td>HDPE 80 Mil Liner</td>
<td>Outdoor</td>
<td>D018 Oily Waste</td>
</tr>
<tr>
<td>S-7 (as yet to be constructed)</td>
<td>15,000</td>
<td>12 X 20</td>
<td>HDPE 80 Mil Liner</td>
<td>Outdoor</td>
<td>D018 Oily Waste</td>
</tr>
</tbody>
</table>

During any calendar year, the Permittee must not manage through tank storage hazardous waste in excess of the maximum annual quantity set forth in Permit Condition B.1(b).

However, when storing waste in tanks in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste stored, exceed the maximum
volume established under this permit condition.

D.2 Limitations on Treatment of Hazardous Waste in Tanks

(a) The Permittee is authorized to treat hazardous waste in the tanks specified in the table below; at a rate not to exceed an average of one hundred (100) tons per hour as calculated on a daily basis.

The Permittee shall treat in tanks only the hazardous waste codes specified in the permit application and summarized below:

<table>
<thead>
<tr>
<th>Tank No.</th>
<th>Capacity (Gallons)</th>
<th>Treatment Type</th>
<th>Dimensions of Tank</th>
<th>Secondary Containment Volume (Gallons)</th>
<th>Description of Hazardous Waste</th>
<th>Hazardous Waste No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill Tank 1</td>
<td>14,360</td>
<td>Chemical Fixation and/or Encapsulation</td>
<td>19.2 X 10.0 X 10.0</td>
<td>June 3, 2011 Variance</td>
<td>Hazardous Waste Containing No Free Liquids per Permit Condition D.2(c)(i)</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>Landfill Tank 2</td>
<td>14,360</td>
<td>Chemical Fixation and/or Encapsulation</td>
<td>19.2 X 10.0 X 10.0</td>
<td>June 3, 2011 Variance</td>
<td>Hazardous Waste Containing No Free Liquids per Permit Condition D.2(c)(i)</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>Landfill Tank 3</td>
<td>25,930</td>
<td>Chemical Fixation and/or Encapsulation</td>
<td>23.5 X 14.8 X 10.0</td>
<td>June 3, 2011 Variance</td>
<td>Hazardous Waste Containing No Free Liquids per Permit Condition D.2(c)(i)</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>Landfill Tank 4</td>
<td>25,930</td>
<td>Chemical Fixation and/or</td>
<td>23.5 X 14.8 X 10.0</td>
<td>June 3, 2011 Variance</td>
<td>Hazardous Waste Containing No Free Liquids per Permit Condition D.2(c)(i)</td>
<td>All Permitted Waste Codes</td>
</tr>
</tbody>
</table>
The provision of Condition D.2(a) shall not apply to the Permittee's activities as a generator treating hazardous waste in tanks on-site in compliance with the provisions of OAC Rule 3745-52-34.

However, when treating waste in tanks in accordance with OAC Rule 3745-52-34, the Permittee shall not, for the total amount of hazardous waste treated, exceed the maximum throughput capacity established under this Condition.

The Permittee is prohibited from conducting the following activities in the treatment/storage tanks specified in Permit Condition D.2(a):

(i) Treatment or storage of hazardous waste containing free liquids which was identified as containing free liquids by the generator,

(ii) Size reduction and sorting of debris. Debris must be visually inspected at the Permittee's inbound scale located on the North side of York Street. Debris identified as requiring size reduction or sorting must be treated in the stabilization/containment building. This prohibition does not include incidental size reduction caused by mixing of the microencapsulation process or sorting of debris not observed during the initial visual inspection,

(iii) Treatment of dusty hazardous waste which could escape the treatment tank or container prior to or during treatment,

(iv) Treatment of hazardous waste containing greater than 50 ppm PCB's, and

(v) Treatment of hazardous waste containing asbestos.

The Permittee is not authorized to treat hazardous waste in tanks S-100, S-200, S-300, S-400, S-4, S-5, S-6, or S-7.

Landfill Tank 1, Landfill Tank 2, Landfill Tank 3, and Landfill Tank 4 may be moved provided that the tanks remain within the perimeter dikes of Cell M.
D.3 Design and Installation of New Tank Systems or Components
OAC Rule 3745-55-92

(a) The Permittee must construct the tanks S-4, S-5, S-6 and S-7 in accordance with Section D of the permit application.

(b) Prior to operation of the newly constructed tank system, the Permittee must submit the certification of installation of the tank system in accordance with OAC Rule 3745-55-92(B) to ensure that proper handling procedures were adhered to in order to prevent damage to the system during installation.

D.4 Containment and Detection of Releases.
OAC Rule 3745-55-93

(a) The Permittee must construct and operate the secondary containment system for tanks S-100, S-200, S-300, S-400, S-4, S-5, S-6, and S-7 in accordance with requirements of OAC Rule 3745-55-93(B) through (F), and Section D of the permit application.

(b) The Permittee must conduct a leak test or assessment of Landfill Tank 1, Landfill Tank 2, Landfill Tank 3, and Landfill Tank 4 at least annually using the procedures in the permit application.

(c) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment, the Permittee must comply with Permit Condition D.7 of this Permit and notify the Director in accordance with Permit Condition D.8. of this permit.

(d) All collection sumps must be provided with an HDPE liner and equipped with an HDPE collection pipe. The HDPE liner within the diked surfaces must be sloped such that all liquids must drain to a collection sump.

(e) The Permittee must design and operate all secondary containment system barriers to contain 100 percent of the total volume of the largest tank within a given area and the precipitation from a 25 year/24 hour storm event.

(f) The Permittee must design and install all external liner systems so as to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., the liner must be capable of preventing lateral as well as vertical migration of the waste).

(g) The Permittee must ensure that all external liner systems designed for secondary containment are free of cracks or gaps. The Permittee must check for visible damage
including small scratches, indentation, tears or punctures to the liner as it is installed. All such damage must be inspected by the liner installation contractor inspector and repaired.

(h) The Permittee must remove liquids or sludge from the secondary containment systems within twenty-four (24) hours, or in as timely a manner as is possible, after the inspection during which the materials were found in these areas.

D.5 Operating Requirements
OAC Rule 3745-55-94

(a) The Permittee must not place hazardous wastes or treatment reagents in the tank system if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.

(b) The Permittee must prevent spills and overflows from the tank or containment systems using the methods described in the permit application. The Permittee must comply with the requirements of OAC Rule 3745-55-96 if a leak or spill occurs in the tank system. The Permittee must, at a minimum, use the following controls and practices to prevent spills and overflows from tank or containment systems:

(i) The storage tanks and wastes must be compatible. Tanks must not be used for mixing non-compatible waste. Prior to adding to the contents of any tank, the tank inventory control logs must be reviewed to ensure that the tank is operated according to design specifications. Incompatible waste must be stored as specified in Permit Condition B.7(a).

(ii) Loading and unloading of transportation vehicles to or from tanks must be conducted at locations where secondary containment is capable of minimizing the release of spilled material to the environment.

(iii) Upon completion of the waste transfer, the valves must be closed and all hoses must be disconnected over a portable container to collect drippings. The storage tank must be gauged and the tank's valve locked.

(c) Organic emissions from the storage tanks must be controlled by utilizing carbon adsorption or other equivalent systems.

(d) Smoking must be prohibited and "No Smoking" signs must be placed in clear view in the storage tank areas. Open flames and heat sources must be prohibited in the storage tank areas, unless these areas are cleared of all ignitable wastes, residues, and vapors.

D.6 Inspection Schedules and Procedures
OAC Rule 3745-55-95

(a) The Permittee must inspect the tank systems, in accordance with the Inspection Schedule found in Section F of the permit application and must complete the items in Permit Conditions D.6(b) and D.6(c) as part of those inspections:

(b) The Permittee must inspect the overfill controls, in accordance with the procedure and schedule in the permit application.

(c) The Permittee must inspect the following components of the tank system once each operating day:

(i) Aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(ii) Data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(iii) Construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).
(d) For each storage tank in use, the Permittee must document in the Tank Inventory Control Log the following information on a daily basis:

(i) The quantity of each waste that was added or removed;

(ii) The EPA hazardous waste number of the waste material transferred;

(iii) Any additional information or comments concerning waste compatibility and/or the processing of the waste necessary for safe operation of the tank;

(iv) The tank volume after the waste transfer, how it was gauged, and a verification that overfilling control equipment is properly working; and,

(v) Proper operation of the level control devices/equipment.

(e) On an annual basis, all storage tanks must be emptied and inspected for signs of erosion and corrosion.

(f) The Permittee must document compliance with Permit Condition D.6 in the operating record of the facility.

D.7 Response to Leaks or Spills
OAC Rule 3745-55-96

(a) In the event of a leak or a spill from the tank system, from a secondary containment system, or if a system becomes unfit for continued use, the Permittee must remove the system from service immediately and complete the following actions:

(i) Immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(ii) If the release was from the tank system, the Permittee must, within twenty-four (24) hours after detection of the leak, or, if the Permittee demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

If the material released was to secondary containment system, all released materials must be removed within twenty-four (24) hours or in as timely a manner as possible to prevent harm to human health and the environment.

(iii) The Permittee must immediately conduct a visual inspection of all releases to the environment and based on that inspection: (1) prevent further migration of the
leak or spill to soils or surface water and (2) remove and properly dispose of any visible contamination of the soil or surface water.

(b) Unless the requirements of Permit Conditions D.7(b)(i) through D.7(b)(vi) are satisfied, the Permittee must close its tank system in accordance with OAC Rule 3745-55-97 and its closure plan if there has been a leak or spill from the tank system, from a secondary containment system, or if a system becomes unfit for continual use.

(i) For a release caused by a spill that has not damaged the integrity of the system, the Permittee must remove the released waste and make any necessary repairs to fully restore the integrity of the system before returning the tank system to service.

(ii) For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee must repair the primary system prior to returning it to service.

(iii) For a release to the environment caused by a leak from a component of the tank system that is below ground and does not have secondary containment, the Permittee must provide this component with secondary containment that meets the requirements of OAC Rule 3745-55-93 before the component can be returned to service.

(iv) For a release to the environment caused by a leak from the aboveground portion of the tank system that does not have secondary containment, and can be visually inspected, the Permittee must repair the tank system in accordance with Permit Condition D.7(c) before returning it to service.

(v) For a release to the environment caused by a leak from the portion of the tank system component that is not readily available for visual inspection, the Permittee must provide secondary containment for the entire component that meets the requirements of OAC Rule 3745-55-93 before the component can be returned to service.

(vi) If the Permittee replaces a component of the tank system to eliminate the leak, that component must satisfy the requirements for new tank systems or components in OAC Rules 3745-55-92 and 3745-55-93.

(c) For all major repairs (e.g., installation of an internal liner, repair of a ruptured tank, or repair or replacement of a secondary containment vault) to eliminate leaks or restore the integrity of the tank system, the Permittee must obtain a certification by a qualified professional engineer in accordance with OAC Rule 3745-50-42(D)(1) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system before returning the system to service. This certification must be submitted to the
D.8 Recordkeeping and Reporting
OAC Rules 3745-55-96, 3745-55-91(A), and 3745-55-92(G)

(a) The Permittee must report to the Director, within twenty-four (24) hours of detection, when a leak or spill occurs from the tank system or secondary containment system to the environment. A leak or spill of one (1) pound or less of hazardous waste, that is immediately contained and cleaned-up, need not be reported. Releases that are contained within a secondary containment system need not be reported.

(b) Within thirty (30) days of detecting a release to the environment from the tank system or secondary containment system, the Permittee must report the following information to the Director:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);

(iii) Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee should provide the Director with a schedule of when the results will be available. This schedule must be provided before the required thirty (30) day submittal period expires;

(iv) Proximity of downgradient drinking water, surface water, and populated areas; and

(v) Description of response actions taken or planned.

(c) The Permittee must obtain, and keep on file at the facility, the written statements by those persons required to certify the design and installation of the tank system.

(d) The Permittee must keep on file at the facility the written assessment of the tank system’s integrity.

(e) The Permittee must maintain at the facility a record of the results of leak tests and integrity tests, including all reports summarizing the inspection and assessment of tank condition and shell thickness/comparability in accordance with Permit Condition D.4(b).
D.9 Closure and Post-Closure Care
OAC Rule 3745-55-97
(a) At closure of the tank system(s), the Permittee must follow the procedures in the closure plan in Section I of the permit application.
(b) If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated, in accordance with the closure plan, then the Permittee must close the tank system(s) and perform post-closure care following the contingency procedures in the closure plan and in the post-closure plan.

D.10 Special Tank Provisions for Ignitable or Reactive Wastes
OAC Rule 3745-55-98
(a) The Permittee must not place ignitable or reactive waste in the tank system or in the secondary containment system, unless the procedures specified in the permit application and the below provisions are followed. The Permittee must document compliance with this condition and place it in the operating record.
   (i) The waste is stored in such a way that it is excluded from any material or from those conditions which may cause the waste to ignite or react; or
   (ii) the tank is solely used for emergencies in accordance with OAC Rule 3745-55-98(A)(3); or,
   (iii) the tank was designed and constructed for the purpose of storing ignitable or reactive waste and meets applicable fire codes.
(b) The Permittee must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in Tables 2-1 to 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1996 or most recent edition) incorporated by reference in OAC Rule 3745-50-11.

D.11 Special Tank Provisions for Incompatible Wastes
OAC Rule 3745-55-99
(a) The Permittee must not place incompatible wastes, or incompatible wastes and materials, in the same tank system or the same secondary containment system, unless the procedures specified in the permit application are followed. The Permittee must document compliance with this condition and place that documentation into the operating record.
(b) The Permittee must not place hazardous waste in a tank system that has not been
decontaminated and that previously held an incompatible waste or material, unless the requirements of Permit Condition D.11(a) are met.

D.12 Compliance Schedule

Reserved
MODULE E – CORRECTIVE ACTION REQUIREMENTS

E. MODULE HIGHLIGHTS

In 1987, a RCRA Facility Assessment (RFA) of the Permittee’s facility was conducted by a U.S. EPA contractor. The RFA consisted of a preliminary review of existing facility information and a visual site inspection. The RFA report was received by U.S. EPA on September 8, 1987. In October of 1991, the Permittee submitted a RCRA Facility Investigation (RFI) work Plan. The RFI Work Plan was approved by U.S. EPA on March 6, 1995. This RFI Work Plan, and a Supplemental RFI Work Plan issued by U.S. EPA in September of 1996, focused on an environmental investigation of the Northern Sanitary Landfill (aka Waste Management Unit (WMU) 6) only. The Permittee submitted a draft final RFI report to U.S. EPA on June 20, 1997. The Permittee also submitted a draft Corrective Measure Study (CMS) Work Plan for WMU 6.

On September 30, 1998, U.S. EPA modified the Permittee’s federal permit to include more specific corrective action requirements and include a specific list of WMU and Areas of Concern (AOC). On June 23, 2000, the Permittee submitted a Description of Current Conditions (DOCC) to U.S. EPA. The Permittee submitted a revised DOCC on November 28, 2000 to U.S. EPA and on February 21, 2001, U.S. EPA issued a conditional approval of the DOCC. The Permittee submitted a second revision to the DOCC on March 23, 2001 to address the conditions of approval.


On July 18, 2003, the Permittee submitted an RFI Phase I Report and Phase II Work Plan. This report presents the findings from the data collected during field work and sampling events beginning in mid-2002. Limited field work and sampling was completed at SWMU 5 during 2004. On April 12, 2006, Ohio EPA granted approval of the Phase II Work Plan.

On January 27, 2004, Ohio EPA became the lead agency with RCRA Corrective Action document approval and oversight responsibilities at the facility. All documents submitted by the Permittee, which have been approved by U.S. EPA, are included by reference into this permit. The Permittee continued implementation of the RFI Work Plan in accordance with Permit Condition E.5.

In 2007, based on Phase I findings, the Permittee implemented presumptive remedies at WMUs 1, 5, 6 and 7 (Cell F, Millard Road Landfill, North Sanitary Landfill, and Central Sanitary Landfill). Subsequently, on February 15, 2008, the Permittee submitted the RFI Report detailing the conclusions of the RFI. On June 30, 2009, Ohio EPA granted approval of the Permittee’s RFI Report and required a CMS Work Plan.

E.1 Corrective Action at the Facility
OAC Rules 3745-50-10 & 3745-54-101

In accordance with OAC Rule 3745-50-10, “waste management unit” (WMU) means any discernible unit at which solid waste, hazardous waste, infectious waste (as those terms are defined in ORC Chapter 3734), construction and demolition debris (as defined in ORC Chapter 3714), industrial waste or other waste (as those terms are defined in ORC Chapter 6111) has been placed at any time, irrespective of whether the unit was intended for the management of waste or hazardous waste. Such units include any area at a facility at which wastes have been routinely and systematically managed or released. As used in this permit, the term “waste management unit” shall be consistent with and equivalent to the term “solid waste management unit” (SWMU) as that term is used in the federal Corrective Action program. As Corrective Action was initiated under U.S. EPA, the Permittee may continue to use the terms interchangeably throughout the process. For Corrective Action, facility is defined as all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA. The terms Interim Measure (IM), RCRA Facility Investigation (RFI), Corrective Measures Study (CMS) and Corrective Measure Implementation (CMI) are defined in U.S. EPA’s Corrective Action Plan (CAP) (OSWER Directive 9902.3-2A, May 1994).

The Permittee must institute Corrective Action as necessary to protect human health and the environment for all releases of hazardous waste(s) or hazardous constituent(s) from any WMUs at the Facility, regardless of the time at which waste was placed in such units.

E.2 Corrective Action Beyond the Facility Boundary
OAC Rule 3745-54-101

The Permittee must implement Corrective Action beyond the Facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of Ohio EPA that, despite the Permittee’s best efforts, 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 addressed under the RFI, CMS, and CMI phases, as determined to be necessary on a case-by-case basis.
E.3 Identification of WMUs

OAC Rules 3745-50-44(D) & 3745-54-101

(a) The following WMUs and AOCs were identified at the facility either during the 1987 RCRA Facility Assessment (RFA) or during the RCRA Facility Investigation (RFI) that concluded in 2008.

WMU 1  Landfill Cell F
WMU 2*  Landfill Cell G
WMU 3*  Landfill Cell H
WMU 4*  Landfill Cell I
WMU 5  Millard Road Landfill
WMU 6  Northern Sanitary Landfill
WMU 7  Central Sanitary Landfill
WMU 8  Old Oil Pond #1 (South Pond)
WMU 9  New Oil Pond #2 (North Pond)
WMU 10  Ash Disposal Area
WMU 11  Former Teepee Burner
WMU 12  Former Bill’s Road Oil Operation
AOC 1  Toledo Water Lines
AOC 2  Truck Scales
AOC 3  Building “C” Equipment Maintenance Area
AOC 4  Building “C” Septic Tank and Leach Field
AOC 5  Decontamination Building
AOC 6  Oily Waste Above Ground Storage Tanks
AOC 7  Butz Crock Concrete Utility Vault
AOC 8  Staging Area
AOC 9  Cell M Water Retention Basin
AOC 10  Rail Spur
AOC 11*  Former Truck Scale
AOC 12  Building “C” Heating Oil Tank

* WMU 2, WMU 3, WMU 4, and AOC 11 were not retained for further investigation in the RFI that concluded in 2008.

(b) The following WMUs were identified during the 1987 RFA. These WMUs are currently operating and are subject to on-going ground water monitoring, closure, and post-closure, and perpetual care requirements, as applicable, and therefore were not included in the RFI.

WMU 13  Landfill Cell M
WMU 14  Leachate Storage Building
WMU 15  Containment Building
WMU 16  Area H Storage
WMU 17  Area K Storage
WMU 18  Rail Storage Areas M and N
E.4 Reserved

E.5 RCRA Facility Investigation (RFI)
OAC Rule 3745-54-101

The Permittee conducted an RFI, concluding in 2008, to thoroughly evaluate the nature and extent of the releases of hazardous wastes and hazardous constituents from all applicable WMUs identified in Permit Condition E.3(a). In the event of newly discovered units, the Permittee must conduct an RFI to thoroughly evaluate the nature and extent of the release of hazardous waste(s) and hazardous constituent(s) from WMUs and AOCs identified in Permit Condition E.10. The major tasks and required submission dates are shown below. The scope of work for each of the tasks is found in U.S. EPA’s CAP.

(a) RFI Workplan

The Permittee must submit a written RFI Workplan to Ohio EPA within the timeframe established by Ohio EPA.

(i) Within ninety (90) days of receipt of any Ohio EPA comments on the RFI Workplan, the Permittee must submit either an amended or new RFI Workplan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify an approve, in writing, the amended or new RFI Workplan. The RFI Workplan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Workplan must be authorized by Ohio EPA.

(b) RFI Implementation

Within sixty (60) days of Ohio EPA written approval of the RFI Work Plan, the Permittee must implement the RFI Work Plan according to the terms and schedule in the approved RFI Work Plan.

(c) RFI Final Report(s)

Within sixty (60) days after the completion* of each phase of the RFI, the Permittee must submit an RFI Final Report to Ohio EPA. The RFI Final Report must describe the procedures, methods, and results of the RFI phase completed. The Final Report must contain adequate information to support further decisions concerning corrective action at the facility.

(i) If necessary, Ohio EPA must provide written comments on each Final RFI Report to the Permittee.
(ii) Within sixty (60) days of receipt of Ohio EPA’s comments on the Final RFI Report, the Permittee must submit either an amended or new RFI Final Report that incorporates Ohio EPA’s comments.

(iii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Final Report. Each RFI Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Final Report(s) must be authorized by Ohio EPA.

*Completion occurs when all activities approved in the RFI Work Plan are completed except for report preparation.

E.6 Interim Measure (IM)

Based on the RFI Final Report or other information documenting a release of hazardous waste or constituents to the environment, Ohio EPA may require (or the Permittee may propose) the development and implementation of an interim measure (this may include an IM Work Plan) at any time during the life of the permit to mitigate or eliminate a threat to human health or the environment. The Permittee must implement the IM upon a time frame established by Ohio EPA.

E.7 Determination of No Further Action

(a) Permit Modification

Based on the results of the completed RFI and other relevant information, the Permittee may submit an application to Ohio EPA for a permit modification under OAC Rule 3745-50-51 to terminate the Corrective Action tasks of the Schedule of Compliance. Other tasks identified in the Schedule of Compliance must remain in effect. This permit modification application must conclusively demonstrate that there are no releases of hazardous waste or constituents from WMUs at the Facility that pose an unacceptable risk to human health and the environment.

If, based upon review of the Permittee’s request for a permit modification, the results of the completed RFI, and other information, Ohio EPA determines that releases or suspected releases which were investigated either are nonexistent or do not pose an unacceptable risk to human health and the environment, then Ohio EPA will approve the requested modification. Decisions regarding the completion of RCRA Corrective Action and no further action may be made for the entire Facility, for a portion of the Facility, or for a specific unit or release.

(b) Periodic Monitoring

A determination of no further action shall not preclude Ohio EPA from requiring continued or periodic monitoring of air, soil, ground water, or surface water, if necessary to protect
human health and the environment, when site-specific circumstances indicate that potential or actual releases of hazardous waste or constituents exists.

(c) Further Investigations

A determination of no further action shall not preclude Ohio EPA from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates that a release or potential release from a WMU at the Facility may pose an unacceptable risk to human health or the environment. In such a case, Ohio EPA shall initiate a modification to the terms of the permit to rescind the determination made in accordance with Permit Condition E.7(a). Additionally, in the event Ohio EPA determines that there is insufficient information on which to base a determination, the Permittee, upon notification, is required to develop a Work Plan and upon Ohio EPA approval of that Work Plan, perform additional investigations as needed.

E.8 Corrective Measures Study (CMS)

Ohio EPA has determined, based on the RFI Phase I and other relevant information, that implementation of containment corrective measures are necessary and appropriate for certain units while the Permittee completes the RFI. These specific corrective measures are outlined in permit condition E.9(b).

If Ohio EPA determines, based on additional or final results of the RFI and any other relevant information, that additional corrective measures are necessary, Ohio EPA will notify the Permittee in writing that the Permittee must conduct a CMS either as below or as described in Ohio EPA’s notification to the Permittee. The purpose of the CMS will be to develop and evaluate the corrective action alternative(s) and to outline one or more alternative corrective measure(s) that will satisfy the performance objectives specified in Permit Condition E.9.

(a) CMS Work Plan

The Permittee must submit a written CMS Work Plan to Ohio EPA within ninety (90) days from the notification by Ohio EPA of the requirement to conduct a CMS.

(i) Within ninety (90) days of receipt of Ohio EPA’s comments, the Permittee must submit either an amended or new CMS Work Plan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Work Plan. The CMS Work Plan, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Work Plan must be authorized by Ohio EPA.
(b) CMS Work Plan Implementation

The Permittee must implement the CMS Work Plan according to the terms and schedule in the approved CMS Work Plan.

(c) CMS Final Report

Within sixty (60) days after the completion* of the CMS, the Permittee must submit a CMS Final Report to Ohio EPA. The CMS Final Report must summarize the results of the investigations for each remedy studied and must include an evaluation of each remedial alternative.

(i) Within ninety (90) days of receipt of Ohio EPA’s comments, the Permittee must submit either an amended or new CMS Final Report that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Final Report. The CMS Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Final Report must be authorized by Ohio EPA.

*Completion occurs when all activities approved in the CMS Work Plan are completed except for report preparation.

E.9 Corrective Measures Implementation (CMI)

Based on the findings in the April 2012 CMS, the Permittee must implement one or more of the Corrective Measures authorized by Ohio EPA. Ohio EPA will authorize one or more of the Corrective Measures in the CMS, and will notify the Permittee in writing of the decision. The Corrective Measure selected for implementation must: (1) be protective of human health and the environment; (2) attain media clean-up standards; (3) control the source(s) of releases to reduce or eliminate further releases of hazardous waste(s) (including hazardous constituent[s]); and, (4) comply with all applicable standards for management of wastes.

If two or more of the Corrective Measures studied meet the threshold criteria set out above, Ohio EPA will authorize the Corrective Measures Implementation by considering remedy selection factors including: (1) long-term reliability and effectiveness; (2) the degree to which the Corrective Measure will reduce the toxicity, mobility or volume of contamination; (3) the Corrective Measure’s short-term effectiveness; (4) the Corrective Measure’s implement ability; and (5) the relative cost associated with the alternative.

(a) Permit Modification - Implementation

Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51 to require
implementation of the corrective measure(s) authorized.

The Permittee must not implement the corrective measure until the permit is modified pursuant to OAC Rule 3745-50-51.

(b) Selected Containment Corrective Measures

Based on results of the 2003 RFI Phase I and subsequent field work, Ohio EPA-determined that the appropriate remedy for WMUs 1, 5, 6 and 7 includes containment. ESOI implemented a containment remedy in 2006 through Ohio EPA’s permitting process. A public hearing for this action was held on May 3, 2006 and the public comment period closed on May 15, 2006. On December 21, 2009, Ohio EPA received a corrective measures completion report for WMU 1. Therefore, corrective measures Permit Conditions related to WMU 1 have been removed and ground water monitoring and post-closure operations and maintenance will continue. U.S. EPA has established containment as the presumptive remedy for municipal landfills to protect human health and the environment and save time and costs.

(i) WMUs 5, 6, & 7 – Leachate Collection System Performance Objectives

Leachate collection and removal systems for WMUs 5, 6 and 7 shall be maintained and operated as detailed in the Operations, Maintenance & Performance Monitoring (OMPM) Plan for the Leachate Collection Systems at Waste Management Unit Nos. 5, 6, and 7. The Permittee must maintain an inward gradient at each WMU to minimize impacts to ground water at each WMU. This performance objectives will be implemented by the following:

(a) The Permittee will maintain the leachate level at each deep interior piezometer below the piezometer’s target leachate level. The target leachate level is an elevation 3.0 feet below the lowest ground water elevation in the relevant shallow perimeter monitoring well(s). The deep interior piezometers and the relevant shallow ground water monitoring wells for each deep interior piezometer shall be as identified in Table 1.0 of the Operation, Maintenance, and Performance Monitoring Plan, and any other locations established in the future with concurrence from Ohio EPA.

(b) The Permittee will identify in the Operation, Maintenance, and Performance Monitoring Plan response actions that the Permittee will implement to return to the target leachate level in a reasonable timeframe in the event of a temporary excursion determined pursuant to Permit Condition E.9(b)(i)(a).

(c) Selected Corrective Measures (Remedy)

Based on the final RFI and CMS reports, and the remedial actions previously completed at the Facility, Ohio EPA proposes the following corrective measures are appropriate. These corrective measures are discussed in detail in ESOI’s CMS. The CMS includes engineering and
institutional controls. For engineering controls, the Permittee must prepare and submit preliminary design alternatives to Ohio EPA within ninety (90) days of the effective date of this permit condition. Ohio EPA will review the alternatives and select a remedy design. The Permittee must, within sixty (60) days of receiving notification from Ohio EPA of its selected remedy design, submit a Class 1 permit modification request requiring Director’s approval that includes final design plans for the enhanced or modified cap and an implementation schedule. After implementation of the remedy, an Environmental Covenant (EC) can be considered.

(i) Facility Wide

(a) Environmental Covenant

The selected facility-wide remedy (all WMUs and AOCs listed in Condition E.3) is an institutional control in the form of an environmental covenant.

Institutional controls, including but not limited to, a restriction prohibiting ground water use, and a land use restriction to ensure that facility-wide land use remains industrial until such time when risk values for unrestricted land use are achieved. Under this permit, the institutional controls will consist of measures that limit the future use of the property in a manner that is consistent with the risk values for the facility. This will be accomplished through an environmental covenant. An environmental covenant, as set forth in ORC §5301.80 and through §5301.92, is a written agreement between Ohio EPA and the property owner arising under an environmental response project that imposes activity and/or use limitations on specific portions of a facility.

The environmental covenant(s) must be filed with the Lucas County Recorder in accordance with state law governing recording and priority of interest in real property. The environmental covenant(s) will run with the land and be binding upon a future property owner should the property be sold. Monitoring the property owner’s adherence to the environmental covenant(s) will help to ensure continued protection of human health and the environment. A violation of the environmental covenant(s) is enforceable by Ohio EPA. The environmental covenant(s) cannot be amended or terminated without the consent of Ohio EPA.

(i) The Permittee must supply Ohio EPA with a legal description of each parcel to be restricted by an environmental covenant, and a list of all encumbrances on each parcel. To complete the environmental covenant(s), the Permittee must be prepared to enter into good faith negotiations with Ohio EPA at least ninety (90) days prior to the projected filing date for the covenant(s).
(ii) The Permittee must finalize and record the environmental
covenant(s) and submit a file and date stamped copy to Ohio EPA.

(b) Maintain engineering controls (i.e., fencing)

(c) Health and Safety Plan

Amend the Facility’s Health and Safety Plan to prevent exposure hazards
(Section F of ESOI’s Part B Permit).

(d) Ground Water Monitoring

Amend the Facility’s ground water monitoring program to incorporate
corrective action ground water monitoring as stipulated in Module K.

(e) Restoration

Restore areas disturbed during implementation of corrective measures.

(ii) Institutional Control Only

The selected remedy for the following WMUs is an institutional control in the form
of an environmental covenant (Condition E.9(d)(i)), since the results of the facility-
wide RFI, Human Health Risk Assessment (HHRA) and Ecological Risk Assessment
(ERA) indicate that this measure is currently appropriate and adequate to provide
protection of human health and the environment. For AOC 6, an active remedy was
previously completed as a post-closure project.

WMU 2 Landfill Cell G
WMU 3 Landfill Cell H
WMU 4 Landfill Cell I
WMU 10 Ash Disposal Area
WMU 11 Former Teepee Burner
WMU 12 Former Bill's Road Oil Operation
AOC 2 Truck Scales
AOC 4 Building “C” Septic Tank and Leach Field
AOC 6 Oily Waste Above Ground Storage Tanks
AOC 8 Staging Area
AOC 9 Cell M Water Retention Basin
AOC 10 Rail Spur
AOC 11 Former Truck Scales

(iii) Leachate Management

The selected remedy for managing leachate is via direct connection to sewer system
for nonhazardous leachate.

(iv) WMU 1 Cell F Landfill

The selected remedy for WMU 1 is

(a) Expand/improve the leachate recovery program by modifying the existing leachate maintenance program for cleaning/jetting the existing 6-inch perforated lateral leachate collection pipes.

(b) Continuation of existing landfill gas venting and monitoring program as specified in the Explosive Gas Monitoring Plan (EGMP).

(v) WMU 5 Millard Road Landfill

The selected remedy for WMU 5 is

(a) Improve storm water drainage by re-grading and lining perimeter storm water drainage ditches to prevent potential for storm water ponding and infiltration into the landfill.

(b) Continuation of existing landfill gas venting and monitoring program as specified in the Explosive Gas Monitoring Plan (EGMP).

(vi) WMU 5 LNAPL

The selected remedy for WMU 5 NAPL is to initiate and maintain active recovery of LNAPL on west side of WMU 5.

(vii) WMU 6 Northern Sanitary Landfill

The selected remedy for WMU 6 is

(a) Excavation and transportation of off-site waste to ESOI’s active landfill for disposal.

(b) Continuation of existing landfill gas venting and monitoring program as specified in the Explosive Gas Monitoring Plan (EGMP).

(viii) WMU 7 Central Sanitary Landfill

The selected remedy for WMU 7 is the continuation of existing landfill gas venting and monitoring program as specified in the Explosive Gas Monitoring Plan (EGMP).
(ix) WMU 8 Old Oil Pond

The selected remedy for WMU 8 is

(a) Contain waste in-place by repairing cap at locations where NAPL tar seeps have been observed, installing leachate/NAPL recovery wells, installation of passive gas recovery/vents, and installation of barrier wall surrounding limits of waste.

(b) Removal (including floor slabs) and replacement of Building C (AOC 3) (in an alternate location), and removal of AOC 12, AOC 7, and AOC 5.

(x) WMU 9 New Oil Pond

The selected remedy for WMU 9 is:

(a) Upgrade Cap to a Composite Cover. This includes re-contouring of the landfill cover to provide positive drainage, and minimizing accumulation and infiltration of storm water.

(b) Installation of recovery wells.

(c) Excavate current cap to remove top zone of stabilized waste.

(xi) AOC 1 Toledo Water Line

The selected remedy for AOC 1 is to reduce volume of water in trenches by removing vegetation from drainage ditches along this AOC, and re-grading and recapping the areas along waterline right-of-way to improve runoff and reduce infiltration.

(xii) AOC 5 Decontamination Building Underground Storage Tanks (UST)

The selected remedy for WMU 8 (Condition E.9(d)(ix)) also addresses AOC 5.

(xiii) AOC 7 Butz Crock – Utility Vault

The selected remedy for WMU 8 (Condition E.9(d)(ix)) also addresses AOC 7.

(xiv) AOC 12 Building “C” Heating Oil Tank

The selected remedy for WMU 8 (Condition E.9(d)(ix)) also addresses AOC 12.
(d) **Permit Modification**

In case of a newly discovered waste management unit that requires corrective measures or Ohio EPA determination that additional corrective measures are necessary, Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51 to require implementation of the corrective measures authorized.

(e) **Financial Assurance**

OAC Rule 3745-54-101

Within forty-five (45) days after receiving approval of the CMI, the Permittee must provide financial assurance in the amount necessary to implement the corrective measure(s) as required by OAC Rule 3745-54-101 (B) and (C).

**E.10 Newly Identified WMUs or Releases**

OAC Rule 3745-54-101

(a) **General Information**

The Permittee must submit to Ohio EPA, within thirty (30) days of discovery, the following information regarding any new WMU identified at the Facility by Ohio EPA or the Permittee:

(i) The location of the unit on the site topographic map;

(ii) Designation of the type of unit;

(iii) General dimensions and structural description (supply any available drawings);

(iv) When the unit was operated; and

(v) Specification of all waste(s) that have been managed at the unit.

(b) **Release information**

The Permittee must submit to Ohio EPA, within forty-five (45) days of discovery, all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing WMU.

**E.11 Corrective Action for Newly Identified WMUs or Releases**

OAC Rule 3745-54-101

If Ohio EPA determines that a RFI is required for newly identified WMUs, the Permittee must submit a written RCRA Facility Investigation Work Plan to Ohio EPA upon a time frame established in written notification by Ohio EPA in accordance with Permit Condition E.5. This determination will be made...
based on the information submitted in accordance with Permit Condition E.10.

Further investigations or corrective measures will be established by Ohio EPA.

The Permittee must make such a submittal in accordance with time frames established by Ohio EPA.

E.12 Completion of Corrective Action
OAC Rule 3745-54-101

Within ninety (90) days of completing Corrective Action as necessary to protect human health and the environment for all releases of hazardous wastes or hazardous constituents from any WMUs at the Facility, the Permittee shall submit a Corrective Measures Completion of Work (CMCW) Report, Operation and Maintenance (O&M) Plan, and if necessary, a performance monitoring plan for each corrective measure (remedy). The CMCW Report shall document that Corrective Action construction is complete, cleanup objectives and standards have been met, and any releases of hazardous waste or constituents no longer pose an unacceptable risk to human health and the environment. The CMCW Report may be submitted for any part of the Facility for which corrective measures are complete, or for the entire Facility. The CMCW Report, O&M Plan, and performance monitoring plan must be submitted as a request for permit modification pursuant to OAC Rule 3745-50-51.

E.13 Documents Requiring Professional Engineer Stamp
ORC 4733.01

Preparation of the following Corrective Action documents constitutes the "practice of engineering" as defined by ORC 4733.01:

Final Interim Measures Report
Corrective Measures Final Design
Corrective Measures Construction Completion Report
Corrective Measures Attainment of Ground Water Performance Standards Report
Corrective Measures Completion of Work Report

As such, the Permittee must ensure that these documents, as submitted to Ohio EPA, are stamped by a Professional Engineer licensed to practice in the State of Ohio.

E.14 Schedule of Compliance

The Permittee must provide Ohio EPA with the following items according to the schedule below:

<table>
<thead>
<tr>
<th>Facility Submission</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Revisions</td>
<td>Sixty (60) days from date of receipt of deficiencies from Ohio EPA.</td>
</tr>
<tr>
<td>Newly identified WMU</td>
<td>Thirty (30) days after discovery.</td>
</tr>
<tr>
<td>RFI Implementation</td>
<td>Sixty (60) days after approval of the RFI Work Plan.</td>
</tr>
</tbody>
</table>
RFI Report(s) | Sixty (60) days after completion of each phase of the RFI.
---|---
CMS Work Plan | Sixty (60) days from the notification of the requirement to conduct the CMS.
CMS Implementation | Sixty (60) days after Ohio EPA written approval.
Corrective Measures Report | Thirty (30) days after completion of the CMS.
Progress Reports | Monthly, by the 12th of each month. If the 12th falls on a non-work day, the report will be submitted on the first work day after the 12th.
MODULE F - POST-CLOSURE CARE

POST-CLOSURE CARE

The Permittee maintains and monitors four hazardous waste landfill units that are currently undergoing post-closure care, Cells F, G, H and I; and, one landfill unit that is currently active, Cell M. Landfill Cells F, G, H and I were closed under Resource Conservation and Recovery Act (RCRA) Closure Plans specific to those units. Cell M will begin post-closure after completion of closure as described in Section I of the permit application. This module addresses the requirements for post-closure care, monitoring and maintenance in accordance with OAC Rules 3745-55-17 through 3745-55-20 and the landfill specific post-closure requirements of OAC Rule 3745-57-10. The Permittee’s post-closure activities include the following:

- maintenance of facility security systems;
- ground water monitoring;
- leachate collection and removal;
- maintain and monitor leak detection system;
- maintenance of landfill covers;
- maintenance of support facilities (e.g., access roadways and storm water management systems); and,
- periodic inspections of the unit.

These ongoing post-closure activities are designed to maintain the integrity of the final cover, liners and other components of the containment system, and the function of the units’ monitoring systems. Each unit currently undergoing post-closure care is described below.

Cell F

Cell F is a permitted RCRA hazardous waste landfill unit located in the northwest corner of the Permittee’s facility. Cell F was operated from 1980 to 1983 for the disposal of both non-hazardous industrial and RCRA hazardous waste. Cell F encompasses an area measuring approximately three acres. Wastes disposed within the cell were bulk solids and containers, and were primarily treated sludges, landfarm soil, ignitable solids, refinery solids, paint solids and contaminated soils, along with non-hazardous industrial waste solids. Cell F has an estimated waste thickness of 50 to 55 feet, with a total disposed amount of waste of approximately 135,300 CY.

Cell F was constructed by excavating into in-situ clay soils and installing a leachate collection and removal system. The bottom soils consist of approximately 25 feet of in-situ grey silty clay till located on top of dolomite. The side wall is also comprised of in-situ soils consisting of brown and gray silty lacustrine clay, blue and gray silty clay till, and gray silty clay till. As part of the cell construction, a soil berm consisting of the same in-situ soils as the cell sidewalls was left in place to separate Cell F and the Northern Sanitary Landfill located east of Cell F. The leachate collection and
removal system consists of a network of pipes leading to a manhole for removal. The pipes leading
to the leachate removal manhole are six inch diameter perforated PVC pipes. The leachate
removal manhole is a 36-inch diameter reinforced concrete pipe.

Cell F was closed in accordance with the approved closure plan. The final cap design consisted of at
least three feet of upper till compacted clay covered by one foot of vegetative cover. As
constructed, the intermediate clay cover and final clay cap resulted in a landfill cover over five feet
thick. According to the Documentation of Cell F Closure Construction, dated March 18, 1987, the
closure construction began June 10, 1986 and was competed January 5, 1987.

The final cap of Cell F was constructed to accommodate a utility easement that traverses the
footprint of the cell. Specifically, the Toledo Edison Company holds a 100 foot wide easement that
traverses the central portion of Cell F. In order to comply with clearance requirements within the
National Electric Safety Code, the final grading plan was designed to provide an approximate
clearance of 20 feet between the lowest transmission wire and highest ground surface directly
beneath it. This necessitated lowering the final cap elevation within this easement relative to the
surrounding crown portion of the cap. The minimum five foot landfill thickness cover was
maintained within this easement area. Ohio EPA approved the final closure of Cell F on June 17,
1987.

Documentation relevant to Cell F is provided in Appendix F of the Description of Current Conditions,

Cell G

Cell G is a permitted RCRA hazardous waste landfill unit located in the southwest corner of the
Permittee’s facility, north of York Street. Cell G was operated from 1990 to 1994 for the disposal of
RCRA hazardous wastes and non-hazardous industrial wastes. The majority of the waste in Cell G
consists of electroplating sludges. Other waste types include wastewater treatment sludges, paint
wastes, incinerator ashes and RCRA contaminated soils. Cell G covers approximately 7.1 acres with
an average waste thickness of 89 feet. The total disposed volume of waste within Cell G is
approximately 479,000 cubic yards.

Cell G was constructed with below grade double geomembrane liners, a primary leachate collection
system and a secondary leak detection system. The design included a double composite liner
system along its entire bottom and a composite secondary liner system with a single primary liner
system along its below grade side slopes. The double composite liner system included a primary
system (two feet of recompacted natural clay and 80 mil geomembrane liner on the base of the cell
and 80 mil geomembrane liner along the sideslopes) overlain on an independent secondary system
(three feet of natural clay and 60 mil geomembrane liner).

Incorporated into Cell G’s construction is a below grade sheet piling wall system along the eastern,
southern and southwestern limits of the Cell G area. This system acts as a physical barrier and
provides additional structural support between the adjacent sanitary landfill (Central Sanitary Landfill) and the City of Toledo raw waterlines. This system was constructed between March 1988 and March 1989.

Cell G was closed in accordance with the approved closure plan. The final cover system design included a two foot recompacted clay layer, a 40 mil geomembrane liner, a geocomposite drainage layer, and four feet of protective cover/vegetative soil. Cell G closure was implemented in two phases. The first phase involved the construction of perimeter above grade dikes that were constructed during above grade waste placement activities. The construction of the dikes provided for the installation of the cap, which consisted of a recompacted clay layer and an additional 1.5 feet sacrificial clay layer. The second and final phase of the closure as initiated upon receipt of the final waste on June 9, 1994. Ohio EPA approved the final closure of Cell G on July 13, 1995.

Documentation relevant to Cell G is provided in Appendix G of the Description of Current Conditions, revised March 23, 2001.

Cells H and I

Cell H is a permitted RCRA landfill unit located in the northeast portion of the Permittee’s facility. Cell H was operated from December 1983 to May 1987 for the disposal of industrial and hazardous wastes. Cell H covers approximately nine acres and has an average waste thickness of 90 feet. The total approximate amount of waste disposed in Cell H is 737,639 tons. Cell H was constructed with a four foot recompacted clay liner, a single 60 mil geomembrane liner and a leachate collection system. Documentation relevant to Cell H is provided in Appendix H of the Description of Current Conditions, revised March 23, 2001.

Cell I is a permitted RCRA landfill unit located in the east-central portion of the Permittee’s facility between Cell H and York Street. Cell I was operated as a commercial landfill for the disposal of industrial and hazardous wastes from March 1987 to November 1990. The total disposed volume of waste within Cell I was approximately 677,200 cubic yards. Cell I covers approximately 8 acres and has an average waste thickness of approximately 88 feet.

Cell I was constructed with double geomembrane liners, a primary leachate collection system and a secondary leak detection system. The design included a double composite liner system along its entire bottom and composite secondary liner system with a single primary liner system along its below grade side slopes. The double composite liner system included a primary system (two feet of recompacted clay and 80 mil synthetic liner on the base of the cell and 80 mil synthetic liner along the sideslopes) overlain on an independent secondary system (three feet of recompacted clay and 60 mil synthetic liner). Documentation relevant to Cell I is provided in Appendix I of the Description of Current Conditions, revised March 23, 2001.

Cells H and I were constructed in the area of a former land treatment unit (referred to as the York Street Landfarm) that covered an area of approximately 8.9 acres. The York Street Landfarm
treatment unit was used for the treatment of various biodegradable wastes during the period of August 1980 to November 1984 and approximately 13,200 tons of primarily oil bearing waste were treated at this unit during its operational life. The treatment zone for the York Street Landfarm was surrounded with a recompacted earthen dike for run-on/run-off water control. Originally, the containment dike surrounded the entire land treatment unit; however, as part of the facility’s long-term plans to construct two landfill cells at this location, the dike was reconstructed to divide the unit into two separate areas: Areas A and B. Area A covered approximately 4.9 acres and was located entirely within the footprint of existing Cell H. Area B covered approximately 4.0 acres and was located entirely within the footprint of Cell I. Surface soils located between Areas A and B were removed and placed into the land treatment unit’s treatment zone, and clean soils were backfilled into this area. The land treatment unit was then converted into hazardous waste Cells H and I.

Cells H and I were closed in accordance with the approved closure plans. The final phase of closure for both units included clay cap surface preparation and the installation of the 40 mil geomembrane liner, geocomposite drainage layer, cover soils, vegetation and a drainage system. Ohio EPA approved the final closure of both Cells H and I on April 2, 1993.

Cell M

Cell M is currently active. Operational requirements for this landfill can be found in Module M of this permit.

F.1 Unit Identification

The Permittee must provide post-closure care for the following hazardous waste management units, subject to the terms and conditions of this permit:

<table>
<thead>
<tr>
<th>Type of Waste Unit</th>
<th>Unit No. or Other Designation</th>
<th>Maximum Waste Inventory</th>
<th>Description of Wastes Contained</th>
<th>Year Post-closure began</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Cell F</td>
<td>135,185 yd³</td>
<td>Treated sludges, landfarm soil, ignitable solids, refinery solids, paint solids, contaminated soils, and non-hazardous industrial waste solids.</td>
<td>06/17/1987</td>
</tr>
<tr>
<td>Landfill</td>
<td>Cell G</td>
<td>479,200 yd³</td>
<td>Electroplating sludges, waste-water treatment sludges, paint wastes, incinerator ashes, and RCRA contaminated soils.</td>
<td>07/13/1995</td>
</tr>
</tbody>
</table>
F.2  Post-closure Procedures and Use of Property
OAC Rule 3745-55-17

(a) The Permittee must conduct post-closure care for each hazardous waste management unit listed in Permit Condition F.1 above, to begin after completion of closure of the unit and continue for thirty (30) years after that date. The 30-year post-closure care period may be shortened upon application and demonstration approved by Ohio EPA that reduced period is sufficient to protect human health and the environment. The 30-year post-closure care period may be extended if the Director finds that the extended period is necessary to protect human health and the environment.

(i) No later than the end of year 29 of the post-closure care period for each unit, the Permittee must submit to the Director an assessment with a recommendation to continue, discontinue, or adjust the post-closure care period. For Cells F, G, H, and I, the date used to calculate the initial 30 year post closure period is 07/13/1995.

(b) The Permittee must maintain and monitor the ground water monitoring system and comply with all other applicable requirements of OAC Rules 3745-54-90 through 3745-54-101 during the post-closure period. Ground water must be monitored in accordance with Module K, Integrated Ground Water Monitoring Program.

(c) RESERVED

(d) The Permittee must comply with the requirements for landfills, as follows:

(i) Maintain the integrity and effectiveness of the final cover, including making repairs to the final cover, as necessary, to correct the effects of settling, subsidence, erosion, or other events.

(ii) Continue to operate the leachate collection and removal system until leachate is no longer detected. All existing leachate systems must be maintained in good repair.
They must be inspected monthly and repaired if required. Leachate found within the systems must be removed for shipment to an approved treatment, storage, or disposal facility. Pertinent information, including origin of leachates, quantities, and analytical results, must be recorded within the facility’s post-closure operations record;

(iii) Prevent run-on and run-off from eroding or otherwise damaging the final cover:

(a) Erosion control structures must be maintained during post-closure care. Erosion damage must be repaired and corrected.

(b) The facility must be inspected monthly or after every major rainfall (two or more inches per eight hour period). Erosion or pooling of water must be corrected.

(c) Erosion controls (slopes/vegetation) must be monitored and maintained in accordance with the facility’s post-closure care plan.

(iv) Protect and maintain surveyed benchmarks used in complying with the surveying and recordkeeping requirements of OAC Rule 3745-57-09.

(v) General Facility Care

(a) Grass cutting must be performed as needed, but at least annually. Damaged or dead vegetation must be removed and replaced with equivalent vegetation. No trees, shrubs, or other deep rooted plants must be allowed to grow on closed waste units. Areas damaged by erosion must be repaired and re-vegetated.

The Permittee must remove trees, shrubs or other deep-rooted plants in the fall quarter of each year. The Permittee must notify an Ohio EPA on-site inspector verbally, by letter, or by telephone at least forty-eight (48) hours prior to beginning the vegetation removal efforts. On-site staff at their discretion can exempt the Permittee from the 48 hour notification requirement. Any damage to the closed waste unit cover system caused by the growth or removal of trees, shrubs or other deep-rooted plants must be promptly repaired.

(b) Buildings located on-site must be maintained in good repair. Compliance with all permits, fire codes, etc., must be maintained.

(c) All existing roadways must be maintained in good repair. No new roadways shall be constructed over any final cover areas unless approved.
by Ohio EPA. The roadways must be maintained as necessary during inclement weather to provide access to all areas.

(d) All existing drainage ditches must be maintained and kept free of debris. No ditches must be constructed on closed hazardous waste areas. Drainage ditches must not be altered from the facility’s approved pattern unless approved by Ohio EPA.

(e) All utilities must be maintained and operational. Electrically operated security and monitoring devices must be provided with internal back-up power to allow operation in the event of a main power outage. No underground utility construction must occur in areas used previously for hazardous waste disposal.

(e) The Permittee must comply with all security requirements, as specified in the permit application and as follows:

(i) All fencing must be maintained in a manner that prevents unknowing entrance to the facility. Fencing must be inspected monthly and repaired or replaced as necessary.

(ii) All warning signs must be maintained or replaced to meet the readability requirements described in the OAC Rule 3745-54-14(C). Signs must be inspected monthly.

(iii) All site entrance/exit gates must be maintained in operable condition and securely locked when not monitored by a gate keeper. Gate locks must be inspected weekly.

(iv) The Permittee must inspect the ground water monitoring wells on a weekly basis. All ground water monitoring wells must have locking caps and remain locked except when being sampled.

(v) The Permittee must inspect the facility on a weekly basis for signs of unauthorized entry. If during the post-closure care period there are any signs of unauthorized entry, the Permittee must immediately notify the Director.

(f) The Permittee must not allow any use of the units designated in Permit Condition F.1 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.
(g) The Permittee must implement the post-closure plan. All post-closure care activities must be conducted in accordance with the provisions of the post-closure plan.

F.3 Inspections
OAC Rule 3745-55-18(B)

The Permittee must inspect the components, structures, and equipment at the facility in accordance with the inspection schedule found in the post-closure plan.

F.4 Notices and Certification
OAC Rules 3745-55-19 and 3745-55-20

(a) No later than sixty (60) days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the director, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the Permittee must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within sixty (60) days after certification of closure of the first and the last hazardous waste disposal unit, the Permittee must:

(i) Record, in accordance with Ohio law, a notation on the deed to the facility property that will in perpetuity notify any potential purchases of the property that:

(a) The land has been used to manage hazardous wastes;

(b) Its use is restricted under OAC Rules 3745-55-10 thru 3745-55-20; and

(c) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility have been filed with the director and the city of Oregon zoning authority.

(ii) Submit a certification to the Director, signed by the Permittee, that the Permittee has recorded the notation specified in Permit Condition F.4(b)(i), including a copy of the document in which the notation has been placed.

(c) If the Permittee wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, then the Permittee must request a modification to this permit in accordance with the applicable requirements in OAC Chapter 3745-50.
Permittee must demonstrate that the removal of hazardous wastes will satisfy the criteria of OAC Rule 3745-55-17(c).

By removing hazardous waste, the Permittee may become a generator of hazardous waste and must manage it in accordance with all applicable hazardous waste requirements.

If the Permittee is granted a permit modification or otherwise granted approval to conduct such removal activities, the Permittee may request that the Director approve either:

(i) The removal of the notation on the deed to the facility property or other instrument normally examined during title search or,

(ii) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

(d) No later than sixty (60) days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee must submit to the Director, by registered mail, a certification that the post-closure care period 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 a qualified professional engineer. Documentation supporting the qualified professional engineer’s certification must be furnished to the Director upon request until the Director releases the Permittee from the financial assurance requirements for post-closure care under OAC Rule 3745-55-45.

F.5 Financial Assurance
OAC Rule 3745-55-45

(a) The Permittee must maintain financial assurance during the post-closure period and comply with all applicable requirements of OAC Rules 3745-55-40 thru 3745-55-51.

(b) The Permittee must demonstrate to the Director that the value of the financial assurance mechanism exceeds the remaining cost of post-closure care, in order for the Director to approve a release of funds.

(c) The Permittee must submit itemized bills to the Director when requesting reimbursement for post-closure care.

F.6 Post-closure Permit Modifications
OAC Rule 3745-55-18(D)

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 OAC Rules 3745-
50-40 to 3745-50-66, and must include a copy of the proposed amended post-closure plan for approval by the Director. The Permittee must request a permit modification whenever changes in operating plans or facility design affect the approved post-closure plan, there is a change in the expected year of final closure, or other events occur during the active life of the facility that affect the approved 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.
G. MODULE HIGHLIGHTS

Two City of Toledo low pressure raw water transmission lines transect the Permittee’s property. These water transmission lines carry untreated water from Lake Erie to the City of Toledo Collins Park Water Treatment Plant located at 600 Collins Park, Toledo, Ohio, 43605. The Permittee installed monitoring and dewatering trenches on either side of these water transmission lines.

One of the two transmission lines is a 78 inch, bituminous-coated, steel pipe constructed in 1939 to 1940. This pipe was installed at a depth ranging from 11 to 21 feet below ground surface (bgs). Backfill consisted of “selected clay” that was compacted to 24 inches above the top of the pipe. In 1967, the second line, a 60 inch steel encased pre-stressed concrete pipe, was installed to the north and parallel to the original line at a depth ranging from 9 to 18 feet bgs. In 1973 to 1974, the first line was improved by adding a ½ inch thick cement grout lining to the inner-core of the pipe. The interior of the first line was inspected in 1984 and determined to be in good condition.

For the purpose of protecting the two waterlines, the Permittee installed waterline monitoring and dewatering trenches between the waste cells and the waterlines. These trenches were installed in various phases from 1984 to 1987 in conjunction with the facility’s waste disposal area development. Each trench was installed at least one foot below the depth of the adjacent waterline. The trenches are approximately 2.5 feet wide and are sloped at one percent grade with collection sumps located at each end and the middle of trenches 1 and 2, each end of trenches 3, 4 and 5 and the middle of trench 6. According to the 1986 Hazardous Waste Groundwater Task Force Evaluation of Fondessy Enterprises, Inc. Oregon, Ohio, the trenches along the north side of the waterlines were backfilled with gravel to a level of two feet bgs and then sealed with re-compacted blue clay as a means to prevent storm water infiltration. To enhance the collection of liquids in the trenches, a four inch slotted polyethylene flex hose is located at the bottom of each trench.

Waterline trenches 1, 2 and 6 have been historically clean and are designated waterline monitoring trenches by the Permittee. Trench 1 is located between Cell H and the waterlines; Trench 2 is located between Cell I and the waterlines; and, Trench 6 is located between Cell M and the waterlines. In 2013, the Permittee installed level-controlled dewatering pumps, electronic displays, and a force main to remove water from Trenches 1, 2, and 6. Trench 1 and Trench 2 discharge to the Cell H and/or Cell I surface water retention ponds. Trench 6 discharges to the Cell M storm water retention pond. The Permittee calculates the amount of water removed from the waterline trenches 1, 2, and 6 by recording the pump hour meter display located at the trench discharge points. The surface water from the retention ponds is discharged off-site through National Pollutant Discharge Elimination System (NPDES) outfalls.

Waterline trenches 3, 4 and 5 are known to be contaminated and are designated by the Permittee as waterline dewatering trenches. Trench 3 is located between the New Oil Pond and the
waterlines; Trench 4 is located between the Old Oil Pond and the waterlines; and, Trench 5 is located between Cell G and the waterlines. In 2013, the Permittee installed an automated system for the removal of contaminated liquids from Trenches 3, 4, and 5. The automated system includes level-controlled dewatering pumps, electronic level displays, a force main, and accumulation tanks for the contaminated liquids. The Permittee records the amount of contaminated liquids removed from each trench by reading the flow meter display dedicated to each dewatering trench. The liquids removed from dewatering Trenches 3, 4, and 5 are recycled, shipped off-site for treatment or handled with F039 (multi-source landfill leachate).

In the event of a power failure, liquids are removed from the trenches using other methods such as a generator, an on-site vacuum truck, tank, or tanker truck, etc. Trench locations can be found on drawing number F20D2A.

The purpose of this permit module is to detect if the liquids accumulated in waterline monitoring trenches 1, 2, and 6 become contaminated and to ensure that contaminated liquids accumulated in waterline dewatering trenches 3, 4, and 5 are removed and managed properly. Corrective action for the contaminated trenches is discussed in Module E of this permit.

G.1 Low Pressure Raw Waterline Security Agreement

(a) The Permittee must continue to be a party to the Waterline Security Agreement with the City of Toledo as found in Appendix B.2 of the permit application.

(b) The Permittee must remove and dispose of liquids in accordance with the Waterline Security Agreement and applicable regulations.

(c) The Permittee must allow access to the waterline easement to the City of Toledo, Division of Environmental Services, to conduct appropriate testing and monitoring to determine compliance with the Waterline Security Agreement during all normal and customary facility operating hours.

G.2 Waterline Monitoring Trench Constituents List

A listing of the various analytical methods utilized to evaluate the constituents listed in Table G-1 below is located in Appendix B.3 of the permit application.

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatile Organic Compounds</td>
<td>PQL</td>
</tr>
<tr>
<td>Semivolatile Organic Compounds</td>
<td>PQL</td>
</tr>
<tr>
<td>PCB’s</td>
<td>PQL</td>
</tr>
<tr>
<td>Lead (Dissolved)</td>
<td>0.01 mg/L</td>
</tr>
</tbody>
</table>
G.3 Waterline Trench Monitoring and Data Evaluation

For the purposes of this module, waterline monitoring trenches are defined as those trenches which have not exceeded limits for any of the constituents listed in Table G-1 above. Likewise, waterline dewatering trenches are defined as those trenches which have historically exhibited constituent levels at or above the limits defined in Table G-1.

(a) For waterline monitoring trenches, the Permittee must withdraw a sample from each waterline monitoring trench on a semi-annual basis and analyze the samples for the constituents listed in Table G-1.

(i) If the analysis shows any constituent in Table G-1 at or above the Limit specified for that constituent, then the Permittee must either designate the trench as a waterline dewatering trench or withdraw a confirmation sample from the affected waterline monitoring trench within thirty (30) days of receipt of the original analytical results by the Permittee.

(ii) If the analysis and the confirmation analysis, confirmed in accordance with OAC 3745-54-98(G)(3), shows any constituent in Table G-1 at or above the Limit specified for that constituent, then the Permittee must designate the waterline monitoring trench as a waterline dewatering trench.

(b) The Permittee must notify the Director in writing within fourteen (14) days of determining that a waterline monitoring trench must be designated a waterline dewatering trench.

G.4 Automated Waterline Trench Operations

(a) The Permittee must set and maintain the pump-on elevation of each automated sump pump at a depth equal to or below the invert elevation of the adjacent waterline.

(b) The Permittee must maintain adequate volume in the dewatering trench accumulation tanks to allow for the dewatering trench pumps to operate when the liquid level in the dewatering trenches reach the pump-on elevation. To ensure adequate volume in the dewatering trench accumulation tanks, the capacity should be less than two-thirds full for both tanks. If the capacity has exceeded two-thirds (indicated by yellow flashing lights) during normal business operation hours, then the Permittee must remove fluid to the adequate volume by the end of the next business day.

G.5 Inspection Schedules and Procedures
(a) The Permittee must inspect the following at least one time per week:

(i) the waterline easement boundaries for potential degradation and/or damage to the cover systems of nearby waste management units;

(ii) the waterline monitoring and dewatering trench caps for erosion and/or damage;

(iii) the waterline monitoring and dewatering trench collection sumps for damage;

(iv) the City of Toledo waterline easement for evidence of leakage from the waterlines; and,

(v) the presence of pumpable liquids in the waterline monitoring trenches.

(b) In the event that degradation and/or damage to the cover systems of nearby waste management units along the waterline easement boundaries, erosion or damage to the waterline monitoring and dewatering trench caps, or damage to the monitoring and dewatering trench collection sumps, is observed during the inspections required by Permit Condition G.4(a)(i) through G.4(a)(iii), the Permittee must notify Ohio EPA within twenty-four (24) hours, document the problem on the inspection form and make necessary repairs within thirty (30) days.

(c) In the event that evidence of leakage from the waterlines is observed during the inspections required by Permit Condition G.4(a)(iv), the Permittee must contact the City of Toledo and Ohio EPA within twenty-four (24) hours.

(d) The Permittee must inspect the following on the first and last business day of the workweek, usually on a Monday and Friday:

(i) The date and time of the inspection of the waterline trenches and accumulation tanks (e.g. Monday and Friday)

(ii) The liquid level elevations observed from each dewatering trench and accumulation tank.

(iii) The amount of liquid removed from each trench.

(e) In the event of the failure of the automated trench liquid removal system, the Permittee must inspect the liquid elevation levels in the waterline dewatering trench sumps and accumulation tanks every Monday, Wednesday and Friday until the automated system becomes operational. If one of these days is a holiday, the Permittee must conduct the inspection on that holiday or the following work day. If the liquid elevation in any
waterline dewatering trench sump is at or above a point twelve (12) inches below the invert elevation of the adjacent waterline, the Permittee must:

(i) Record the date and time that the inspection of the waterline trenches and accumulation tanks for that day (e.g. Monday, Wednesday and Friday) is completed.

(ii) Commence pumping from at least one sump in each of the affected waterline dewatering trenches within twenty-four (24) hours of the date and time recorded in Permit Condition G.S(e)(i).

(iii) Record the date and time that pumping commences at each of the waterline dewatering trenches required to be pumped by Permit Condition G.S(e)(ii).

(iv) Continue pumping the affected waterline dewatering trenches during the following work days until pump cavitation occurs or liquid flow ceases and the liquid elevation in all waterline dewatering trenches is below a point twelve (12) inches below the invert elevation of the adjacent waterline.

G.6 Recordkeeping and Reporting

(a) For waterline monitoring trenches, the Permittee must submit a waterline monitoring trench report (due thirty (30) days after receipt of all analytical data and data evaluation required by Permit Condition G.3(a)) to Ohio EPA and the City of Toledo. The report must contain the analytical results from the constituents listed in Table G-1.

(b) The Permittee must submit to Ohio EPA, on a monthly basis, a report detailing the date, and amount of liquids removed from each waterline monitoring and dewatering trench.

(c) In accordance with OAC Rule 3745-54-73, the Permittee must maintain a copy of the Toledo Waterline Elevation Weekly Summary Record (or an equivalent record) as part of the facility operating record.

(d) In accordance with OAC Rule 3745-54-73(B)(5), the Permittee must maintain a copy of the inspection records required by Permit Condition G.5 as part of the facility operating record.

1 The estimated number of gallons of water from each sump equipped with automated pumping controls will be calculated by recording the hours of energized usage for each pump multiplied by the gallons per hour that the pump has been demonstrated to produce when energized.
MODULE H – CONTAINMENT BUILDING STORAGE & TREATMENT

H. MODULE HIGHLIGHTS

The Stabilization/Containment Building is a steel frame constructed building with a footprint of approximately 1.2 acres in addition to four containment pads on the exterior of the building. Each area of the building is generally dedicated to a specific treatment and/or handling operation and includes the micro/macro encapsulation area, sort floor area, debris crusher area, waste mixing area with the excavator bridge for mixing, container storage areas, unloading areas, scale area and campaign bin area where larger volumes are mixed. The interior floor's wearing surface is constructed of multiple floating concrete slabs with grout filling the joints between the slabs. The building interior is divided into 10 drainage areas, each of which slope to concrete catch basins (sumps) constructed in the floor. The four exterior containment pads have similar catch basins. The building was designed and constructed with underlying double liner systems beneath the floating slab with liquid collection, removal and leak detection components (collectively called the Containment Building Sump System or CBS). There are 14 separate areas within the Stabilization/Containment Building, each with their own CBS. Riser pipes extend from these sumps to covered concrete sump boxes built into the floor or sight glasses mounted to an adjacent wall. These sumps are used to determine if any liquid is present on the liners and to remove any liquid that may be on the primary or secondary liners. The CBS components include a primary liner which is a continuous 80 mil High Density Polyethylene (HDPE) liner covered with a minimum of six inches of pea gravel. Beneath the primary liner is the secondary liner which is also a continuous 80 mil HDPE liner topped with a drainage geonet. Underlying the secondary liner is a layer of re-compacted clay that is a minimum of 3 feet thick.

Wastes are brought into the Stabilization/Containment Building via trucks, drums, containers, intermodal containers, gondola rail cars and rail hopper cars. Waste characteristics vary from wastes containing or primarily composed of liquids, sludges, fine and/or dusty solid wastes to soils and debris. For fugitive dust management, the building is equipped with Air Pollution Control Systems managing the building’s ventilation as well as for dump hoods used for pneumatic unloading, container unloading and truck unloading. A carbon adsorption system is present on four of six APC baghouses to provide organic emissions control. Additionally, the mixing stations are equipped with a water spray system to minimize the generation of particulate emissions during the mixing process. Trucks may enter or exit the Stabilization/Containment Building at doors 119-128, 133-136 and 138. Rail cars utilize doors 130 and 131 to enter and exit the Stabilization/Containment Building. Sumps are located within the Stabilization/Containment Building at doors 119-128, 133-136 and 138. Doors 121-122, 125-127, and 133-135 are equipped with containment pads and sumps outside the Stabilization/Containment Building.

H.1 Stabilization/Containment Building Storage/Quantity Limitation

(a) The Permittee is authorized to store 515 cubic yards of hazardous waste at any given time in the permitted Stabilization/Containment Building as detailed in the following table:
The Permittee must store hazardous waste in the manner described in Section D of the permit application. The Permittee must clearly mark each area/bin which contains hazardous waste restricted from land disposal under OAC Chapter 270 to identify its contents and the date each period of accumulation begins.

(b) Permit Conditions H.1(a) and H.2 shall not apply to the Permittee’s activities as a generator accumulating hazardous waste on-site in compliance with OAC Rule 3745-52-34.

However, when accumulating waste within the permitted Stabilization/Containment Building, in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste stored and accumulated, exceed the maximum Stabilization/Containment Building inventory established under this permit condition.

H.2 Limitations on Treatment of Hazardous Waste in Stabilization/Containment Building

(a) The Permittee is authorized to treat hazardous waste in the Stabilization/Containment Building at a rate not to exceed 150 tons per hour. No more than 250,000 tons of incoming and on-site generated waste can be processed by the Permittee in any calendar year using chemical treatment by fixation (stabilization), physical treatment by decanting and physical treatment by free liquid elimination via absorbent addition. The Permittee is authorized to treat hazardous waste solids with a volatile organic concentration less than 500 parts per million by weight in accordance with 40 CFR Subpart CC as outlined in ESOI’s Federal RCRA Permit using the following methods: chemical oxidation, chemical reduction and carbon adsorption. The Permittee must treat hazardous waste in the Stabilization/Containment Building in the manner described in Section D of the permit application.

(b) The Permittee must treat hazardous waste in the Stabilization/Containment Building in the manner described in Section D of the permit application. The Permittee must, prior to accepting any waste stream for chemical-physical treatment or encapsulation treatment, conduct a pre-acceptance analysis for each such waste stream and include an

<table>
<thead>
<tr>
<th>Storage Area</th>
<th>Description/Location</th>
<th>Capacity (Cubic Yards)</th>
<th>Type of Containment</th>
<th>Description of Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Debris Sort Floor Storage and Treatment Area</td>
<td>270</td>
<td>Modified Tank</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>A2</td>
<td>Campaign Bin Storage</td>
<td>230</td>
<td>Modified Tank</td>
<td>All Permitted Waste Codes</td>
</tr>
<tr>
<td>F</td>
<td>Oversized Material Storage Area Adjacent to Crusher</td>
<td>15</td>
<td>Modified Tank</td>
<td>All Permitted Waste Codes</td>
</tr>
</tbody>
</table>
analytical/treatment report in the WAR package. This report shall include the following data:

(i) waste code designation and analytical data showing its constituents, quantitatively. If available, generator knowledge and/or a SDS may be used in lieu of or in conjunction with analytical data;

(ii) the exact type, sequence, and/or combination of treatment methods designated for said waste;

(iii) bench scale test data that shows the composition of treatment reagents, waste material, or filler materials added to the waste, contact time, operating parameters to be monitored, safety precautions and measures, final product analysis; and,

(iv) Toxicity Characteristics Leachate Procedure test results, land disposal restrictions, and any other applicable regulatory requirements that the waste must meet prior to its final disposal.

(c) Review of a WAR package by Ohio EPA will not relieve the Permittee of the Permittee's responsibility to treat, store, or dispose of hazardous waste in an environmentally safe manner.

(d) The Permittee must prepare, document, and maintain on site data showing that dilution did not occur during treatment. This data must be complied for each grab and hold treatment batch process as required by Permit Condition B.3(h)(iii)(b).

(e) The Permittee may use the inorganic/organic waste constituent treatment additives referenced in Appendix C.13 of the permit application, or may use such other reagents as are deemed necessary to improve a waste handling characteristic or to achieve compliance with a treatment standard specified in OAC Rule 3745-270-40. The Permittee must request authorization from Ohio EPA (via a Class 1 prior approval modification) for any additions made to this list and submit any relevant technical and analytical data that supports the effectiveness of the treatment additive.

(f) Prior to conducting the treatment processes, Chemical Oxidation, Chemical Reduction and Carbon Adsorption in the Stabilization/Containment Building, the Permittee must conduct a pre-qualification treatment study on a total of ten (10) different waste streams to demonstrate that these treatment processes can meet applicable LDR treatment standard in OAC Rule 3745-270. Each study must be conducted in the facility laboratory using bench scale treatment of samples or waste materials representative of those that the Permittee plans to accept for treatment. At least two (2) waste streams must be tested for each treatment process. The pre-qualification treatment study reports must include the following information:
(i) A description of the waste material treated including the technical information and the results of testing described in Permit Conditions H.2(b)(i) through H.2(b)(iv).

(g) A total of ten (10) pre-qualification waste stream treatment study reports described in Permit Condition H.2(f) must be submitted to Ohio EPA for evaluation. The Permittee must not conduct treatment processes Chemical Oxidation, Chemical Reduction or Carbon Adsorption until the Permittee has received written confirmation from Ohio EPA that Permit Condition H.2(f) and H.2(g) have been met (each treatment process can be evaluated and confirmed individually as data becomes available). Thereafter, waste streams to be treated by Chemical Oxidation, Chemical Reduction or Carbon Adsorption must be authorized through the WAR process as described in Section C of the permit application.

(h) The Permittee is prohibited from performing incompatible treatment processes at the same time within the Containment Building which could cause a fire, explosion, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials.

H.3 Waste Identification

(a) The Permittee is authorized to store and treat in the Stabilization/Containment Building only the EPA hazardous waste numbers specified in Part A of the permit application.

(b) The Permittee is prohibited from storage or treatment of the following categories of hazardous waste in the Stabilization/Containment Building:

(i) Hazardous waste which exhibits the characteristic of an ignitable compressed gas as defined in OAC Rule 3745-51-21(A)(3),

(ii) Hazardous waste which exhibits the characteristic of an ignitable oxidizer as defined in OAC Rule 3745-51-21(A)(4),

(iii) Hazardous waste which exhibits the characteristic of reactivity as defined in OAC Rule 3745-51-23(A). This prohibition excludes cyanides and sulfides as defined in OAC Rule 3745-51-23(A)(5) and section C of the permit application,

(iv) Radioactive wastes regulated by the Nuclear Regulatory Commission,

(v) Infectious wastes as defined in OAC Rule 3745-27-01, and

(vi) Any waste in gaseous form.
(vii) Liquid hazardous waste which requires treatment via Chemical Oxidation, Chemical Reduction or Carbon Adsorption.

H.4 Design and Construction Standards
OAC Rule 3745-205-101(A) and (B)

The constructed Stabilization/Containment Building is described in Section D of the permit application and must comply with the following design and construction standards:

(a) The Stabilization/Containment Building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(b) The floor and containment walls of the Stabilization/Containment Building, including the secondary containment system, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the Stabilization/Containment Building; and to prevent failure due to pressure gradients, settlement, compression, or uplift; physical contact with the wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the Stabilization/Containment Building and contact of such equipment with the containment walls.

(c) The Stabilization/Containment Building must be designed so that it has sufficient structural strength to prevent collapse or other failure.

(d) All surfaces to be in contact with hazardous waste must be chemically compatible with those wastes.

(e) If appropriate to the nature of the waste management operation to take place in the Stabilization/Containment Building, an exception to the structural strength requirement may be made for lightweight doors and windows that meet these criteria:

(i) They provide an effective barrier against fugitive dust emissions.

(ii) The Stabilization/Containment Building is designed and operated in a manner that assures that waste will not penetrate these openings when they are closed.

(f) Incompatible hazardous waste or treatment reagents must not be placed in the Stabilization/Containment Building or its secondary containment system if they could cause the Stabilization/Containment Building or secondary containment system to leak, corrode, or otherwise fail.
(g) A Stabilization/Containment Building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the Stabilization/Containment Building during the operating life of the Stabilization/Containment Building and appropriate for the physical and chemical characteristics of the waste to be managed.

(h) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier.

(i) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the Stabilization/Containment Building.

(ii) The primary barrier must be sloped to drain liquids to the associated collection system.

(iii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(j) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detection failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(k) The leak detection system must be constructed with a bottom slope of one percent or more and be constructed of a granular drainage material with a hydraulic conductivity of $1 \times 10^{-2}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed or a synthetic or geonet drainage materials with transmissivity of $3 \times 10^{-5}$ m$^2$/sec or more.

(l) If treatment is to be conducted in the Stabilization/Containment Building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(m) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the Stabilization/Containment Building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the Stabilization/Containment Building.

(n) In addition to the requirements for secondary containment systems in Permit Conditions H.4(j), (k), and (m), the Stabilization/Containment Building must meet the requirements of paragraphs B, (C)(1), and (C)(2) of OAC Rule 3745-55-93 to be considered an acceptable secondary containment system for a tank.
(o) The Permittee must operate and maintain a run-on control system capable of preventing flow into the Stabilization/Containment Building and onto the outside containment pads onto the active portion of the Stabilization/Containment Building during peak discharge from a 25-year/24-hour storm.

(p) The Permittee must maintain a baghouse or an equivalent device on all Air Pollution Control Systems managing the Stabilization/Containment Building ventilation and on the dump hoods used for pneumatic unloading and truck unloading. Performance test results must be available on-site in the operating record. Performance evaluations must be conducted on a yearly basis during the operating life of the Stabilization/Containment Building. Vents and ducts must be inspected not less than annually to determine if an accumulation has occurred along the ducts. Records of these inspections must be maintained on-site for the life of the facility.

H.5 Operating Standards
OAC Rule 3745-205-101(C)

The Constructed Stabilization/Containment Building described in Section D of the permit application must comply with the following operating standards:

(a) The Permittee must use controls and practices to ensure containment of the hazardous waste within the Stabilization/Containment Building; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier.

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the Stabilization/Containment Building so that the height of any containment wall is not exceeded. This requirement is not applicable to inner “crowd walls”, stalls or other such structures inside the containment building that are structurally separate from the outer wall and doorway systems that form the primary containment barrier of the Stabilization/Containment Building.

(iii) Take measures to prevent the tracking of hazardous waste out of the Stabilization/Containment Building by personnel or by equipment used in handling the waste, including trucks off-loading and transferring waste.

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices. This state of no visible emissions must be maintained effectively at all times during routine
operating and maintenance conditions, including when vehicles and personnel are entering and exiting the Stabilization/Containment Building and during the unloading of pneumatic tank trucks.

(v) The Stabilization/Containment Building doors must remain closed at any doorway adjacent to waste handling activities and while waste is being processed, except when vehicles, personnel, or equipment are entering or exiting the building. The truck unloading side of the building must be equipped with a split curtain to control wind dispersal for unloading hoods and sort floors. The split curtain must be inspected periodically and be repaired or replaced as needed.

(vi) To the extent practicable, a conditioner/wetter must be applied as necessary to minimize dust from treatment reagents, wastes, or stabilized materials while they are being used in the treatment processes in the Stabilization/Containment Building to control fugitive dust emissions.

(vii) The Permittee must unload bulk hazardous waste containing free liquids within the Stabilization/Containment Building at doors 125 and 126 or container treatment areas B and D.

(viii) The Permittee must unload, stage, or transfer containers of hazardous waste containing free liquids within the Stabilization/Containment Building at doors 125, 126, 127, 133, 134, and 135, container treatment areas B, D, and T, or within a container management area in accordance with Permit Condition C.6(d).

(b) The Permittee must maintain a certification by a qualified professional engineer that the Stabilization/Containment Building design meets the requirements of paragraphs (A) to (C)(4) of OAC Rule 3745-205-101.

(c) Throughout the active life of the Stabilization/Containment Building, the Permittee must repair, promptly upon detection, any condition that could lead to or has caused a release of hazardous waste in accordance with OAC Rule 3745-205-101(C)(3)(a) through (c).

(d) The Permittee is authorized to operate two (2) pneumatic truck unloading stations at the Stabilization/Containment Building. The design and operation requirements of the stations are detailed in Section D of the permit application. The Permittee must not unload more than twenty-four (24) pneumatic tank trucks per day. The number of unloadings on pneumatic tank trucks permitted per day may be reduced if the Permittee is unable to prevent the release of hazardous waste from the Stabilization/Containment Building including tracking of hazardous waste out of the building by personnel, pneumatic tank trucks, or other waste handling equipment.
(e) The Permittee must maintain and operate the primary liquid collection and removal system to collect and remove liquids that may be potentially contaminated from the Stabilization/Containment Building. The primary leachate collection system must be operated in a manner that allows the system to function without clogging through the scheduled closure of the Stabilization/Containment Building. The Permittee must maintain and operate the secondary liquid collection and detection system installed immediately below the primary liner for the purpose of monitoring and removing any liquid that could pass through the concrete and the primary HDPE liner.

(f) The Permittee must expeditiously remove all accumulated liquids and solid material from collection and holding sumps located in the Stabilization/Containment Building. Each sump must be inspected on a daily basis (operating day) and after storms (2 inches per 8 hours) for the purpose of monitoring the accumulated water level. All water removed from the run-off collection system is to be treated as potentially contaminated.

(i) The Permittee must remove material from the sumps when such material has reached the bottom of the grate. All sumps within the Stabilization/Containment Building must be cleaned out once each calendar month regardless of the amount of material that has accumulated.

(ii) The Permittee must record in the facility operating record the dates when material is removed from the sumps; and, must also note on daily inspection forms any amount of material that is observed within the sumps at the time of the inspection and if removal of material from the sump(s) is necessary.

(iii) In the event that liquids freeze within a sump, the Permittee must note in the daily inspection log that accumulated materials are in the sump and the time of discovery. The Permittee must remove the accumulated material by allowing the frozen liquid to thaw or by other means that will not compromise the integrity of the sump. The Permittee must note in the daily inspection log the date and time the material was removed.

(g) When the presence of an aqueous phase is an appropriate active ingredient in the chemical-physical treatment process, the amount of liquid used in the process must be based upon treatment formulations derived from bench scale results and/or from existing documented information from similar treatment of similar wastes under similar conditions. Liquids used in the process must be legitimate treatment ingredients or a component of the waste being treated.

(h) D001 ignitable liquid waste must not be managed in the treatment process unless such waste can be effectively treated (i.e., remove the characteristic of ignitability by either destroying or removing the organic constituents that gave the waste its ignitable characteristic; as used herein, destruction is not achieved through dilution) as required by
the land disposal restrictions of OAC Chapter 3745-270. The Permittee must comply with the requirements of Permit Condition C.11 and 40 CFR Subpart CC as outlined in ESOI's Federal RCRA Permit.

(i) A central carbon adsorption or equivalent system must be maintained to control organic emissions from the Stabilization/Containment Building.

(j) Incompatible hazardous wastes or treatment reagents must not be placed in the Stabilization/Containment Building or its secondary containment system, if they could cause the Stabilization/Containment Building or secondary containment system to leak, corrode, or otherwise fail.

(k) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must label the hazardous waste storage area with the following information:
   (i) waste type and description;
   (ii) date waste was received into the storage area;
   (iii) Permittee load number and/or container sequence number (for on-site generated waste);
   (iv) generator name; and,
   (v) Waste Stream Identification Number (WSID).

H.6 Leak Detection for the Stabilization/Containment Building

(a) The Permittee must inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the Stabilization/Containment Building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste in accordance with OAC Rule 3745-205-101.

(b) The Permittee must follow the approved Response Action Plan (RAP) containing procedures for the detection, mitigation, notification and reporting of leakage into the leak detection system as found in Appendix D.22 of the permit application.

H.7 Inspection Schedules and Procedures
OAC Rules 3745-54-15 and 3745-54-73

The Permittee must inspect the Stabilization/Containment Building in accordance with the inspection schedule contained in Section F of the permit application, Permit Condition B.5(g) and in
accordance with OAC Rule 3745-54-15. The inspection schedule must be written such that the Permittee must inspect and record in the facility’s operating record data gathered from monitoring equipment, leak detection equipment, the Stabilization/Containment Building, and the area immediately surrounding the Stabilization/Containment Building at least once every seven (7) days in order to detect signs of releases of hazardous waste. The Permittee must note the results of these inspections in the inspection log along with any remedial action taken.

H.8 Recordkeeping
OAC Rule 3745-54-73

(a) The Permittee must comply with all record keeping requirements of OAC Rule 3745-54-73 as part of the facility operating record.

(b) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must log into a storage area daily report the following information:

(i) quantity of waste in the storage area;

(ii) waste type and description;

(iii) date waste was received into the storage area;

(iv) waste location (by storage area);

(v) date waste was removed from the storage area;

(vi) Permittee load number and/or container sequence number;

(vii) generator name; and,

(viii) Waste Stream Identification Number (WSID).

H.9 Special Provisions for Ignitable or Reactive Waste
OAC Rule 3745-54-17

(a) The Permittee must not store or treat ignitable or reactive waste except in accordance with OAC Rule 3745-54-17.

(b) The Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and must follow the storage or treatment procedures identified in Section D of the permit application.
H.10 Encapsulation Technology

The Permittee is authorized to treat certain waste within the Stabilization/Containment Building using encapsulation technology as detailed in Section D-5i through D-5l of the permit application.

(a) Waste that is primarily debris (based upon visual inspection) must be treated via encapsulation technology to meet Land Disposal Restrictions found in OAC Chapter 3745-270 prior to disposal into the active cell. “Debris,” and/or “non-debris,” is herein defined as set forth in OAC Rule 3745-270-45. The Permittee must not perform encapsulation treatment on the following types of waste:

(i) waste that the Permittee knows, or reasonably should know, has been deliberately mixed with non-debris waste by the generator in order to avoid numerical or technical treatment standards under OAC Chapter 3745-270; and,

(ii) any hazardous waste that is not authorized in Section A of the permit application

(b) The Permittee must use only materials compatible with the waste being encapsulated as an encapsulating agent. The Permittee must not use materials that will cause an adverse reaction with or otherwise degrade significantly when exposed to the waste.

(c) The Permittee must perform a quality control check on all waste that undergoes encapsulation treatment. The quality control inspection is detailed as follows:

(i) Microencapsulation:

(a) The Permittee must inspect a minimum number of microencapsulation boxes based on the cube root of the number of boxes present or ten percent of the boxes, whichever is greater, as determined by ESOI load number of WSID (waste stream identification number). Finished cardboard boxes used as containers must be inspected by opening the cardboard from near top to near bottom, directly exposing an area at least six inches wide and allowing more of the surface area to be viewed by pulling the cardboard away from the setup encapsulant.

(b) All waste that is microencapsulated in bulk must be sufficiently coated with the treatment reagents. This will be evaluated through visual inspection. All microencapsulated waste must be allowed to cure.

(ii) Macroencapsulation

(a) The Permittee must only use storage and handling pallets (or a combination of pallets) that are larger than the containers used in the
macroencapsulation process.

(b) The Permittee must use structural supports, when appropriate, around the macroencapsulation container to prevent rupture of the LDPE liner. The macroencapsulation containers may not be overfilled to cause rupture of the LDPE liner.

(c) Each container used in the macroencapsulation process must be inspected for damage to the liner. Containers with damaged liners must be reprocessed.

H.11 Closure and Post-Closure

OAC Rules 3745-55-10 through 3745-55-20, and 3745-205-102

At closure of the Stabilization/Containment Building, the Permittee must remove or decontaminate all hazardous waste and hazardous waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, in accordance with the procedures in the closure plan set forth in Section I of the permit application.
MODULE K – INTEGRATED GROUND WATER MONITORING PROGRAM

K. GROUND WATER MONITORING

The Permittee maintains a network of ground water monitoring wells around the facility for detecting releases of hazardous constituents from the active disposal unit (Cell M landfill) and closed disposal units. The monitoring network wells monitor three zones: 1) the lacustrine/upper till contact; 2) the upper till/lower till contact and sands at the contact; and 3) the Greenfield limestone bedrock, which is the uppermost aquifer at the facility. This network provides integrated monitoring of RCRA Waste Management Units (WMU) and Areas of Concern (AOC). Due to the proximity of these WMUs/AOCs to one another, except for the Millard Avenue Landfill (WMU 5) and Cell M Landfill (WMU 13), the facility is monitored with a network of wells circumscribing all the units and AOCs, and along York Street which bisects the facility.

The ground water monitoring program includes a network of 132 monitoring wells, which consist of 31 wells that monitor the upper-most aquifer (27 bedrock or “R” monitoring wells and 4 water level wells), 50 wells that monitor the contact zone between the shallow and deep tills, including the sand within this zone (deep till or “D” wells), and 51 wells that monitor the contact zone between the lacustrine and shallow till (shallow till or “S” wells).

This permit module institutes an Integrated Ground Water Monitoring Program (IGWMP) developed based on over 20 years of monitoring and the findings of a facility-wide RCRA corrective action program. This IGWMP is designed to coordinate the requirements of two programs, as follows:

1. **RCRA Facility Monitoring** for the uppermost aquifer in accordance with OAC Rules 3745-54-90 through 3745-54-100 consisting of: 1) on-going detection monitoring to detect concentrations above background levels, which may be an indication of a contaminant release; 2) compliance monitoring to assess concentrations relative to ground water protection standards where concentrations have been confirmed to be above background; and 3) corrective action monitoring when a release from the facility causes the uppermost aquifer ground water concentrations to exceed ground water protection standards.

2. **RCRA Corrective Action Monitoring** of shallow and deep till contact zones. The affected shallow and deep till wells with constituent concentrations above ground water protection standards are monitored to assess the effectiveness of corrective actions that have been implemented under OAC 3745-54-101. Specific RCRA Corrective Action requirements are provided in Module E of this permit.

Additional monitoring of shallow and deep till contact zones is also required in this Module for unaffected wells to provide early detection of releases which may eventually reach the uppermost aquifer and to detect releases that may cause shallow ground water concentrations to exceed action levels found in Permit Condition K.2(a).

The IGWMP applies to the entire facility, including all regulated and corrective action units listed in Module E. Under this IGWMP, the monitoring well system, sampling program (including parameters
monitored, appropriate sampling and analytical methods, and frequency of monitoring), data evaluation procedures, record keeping, reporting and any necessary corrective action are coordinated across the facility in order to facilitate protection of the uppermost aquifer and to support corrective action being implemented at a few of the WMUs/AOCs. The data quality requirements are the same for all wells regardless of the geologic unit being monitored.

Contamination detected in each zone is evaluated in accordance with the potential exposures relevant to each zone as described in the April 2012 Corrective Measures Study, ESOI Otter Creek Road Facility (CMS) and Appendix E.11 of the approved Part B Permit Application. All wells (shallow till wells, deep till wells, and uppermost aquifer wells) that do not indicate a potential or known release from the facility are considered to be “unaffected” and are monitored essentially as if they are in detection monitoring according to OAC Rule 3745-54-98. As defined in Permit Conditions K.9, K.12 and K.13, all wells with elevated constituent concentrations (concentrations exceeding background limits) are considered to be “affected”. If the affected well concentrations are below protection standards specified in Permit Condition K.2(a) they are monitored essentially as if they are in compliance monitoring according to OAC Rule 3745-54-99. Affected wells are also sampled to identify any additional elevated constituent concentrations above background. If concentrations exceed ground water protection standards, then the need for additional corrective action will be evaluated according to OAC Rule 3745-54-100 (uppermost aquifer wells) or OAC Rule 3745-54-101 (wells above the uppermost aquifer). Any constituent can be removed from “affected” status if it is no longer detected above background limits for four consecutive events.

In summary, the objectives of the IGWMP are as follows:

1. Satisfy requirements for detection monitoring in the uppermost aquifer (i.e., bedrock unit). The monitoring specified in this IGWMP satisfies all the requirements for ground water monitoring under OAC Rule 3745-54-91.

2. Provide monitoring under OAC Rule 3745-54-101 of current “Affected Wells” that monitor the two contact zones above the uppermost aquifer to assess the effectiveness of the selected corrective measures, which includes the evaluation of whether additional correctives measures or modification of the selected corrective measures are warranted.

3. Provide early detection of potential releases from unlined WMUs using the shallow till and deep till wells that are adjacent to unlined disposal units (and are not Affected Wells), and to assess if a detected release poses a significant risk as determined using the risk assessment methodology from the approved RCRA Facility Investigation (RFI); these procedures are provided in Appendix E.11 of the Part B Permit Application.

4. Maintain existing shallow till and deep till wells that are not Affected Wells and adjacent to only lined disposal units to allow for future ground water monitoring if monitoring is determined to be warranted based on the assessment of leachate management performance of the lined disposal units as required in this Permit. Additional information regarding the monitoring of leachate in the lined disposal units is provided in Appendix D.32 of the approved Part B Permit Application.
K.1. **Applicability**

OAC Rules 3745-50-44(B), 3745-54-90, 3745-54-91, and 3745-54-101

(a) The Permittee must comply with the applicable requirements in OAC Rules 3745-54-90 through 3745-54-100 for purposes of detecting, characterizing, and responding to releases to the uppermost aquifer from the units listed in Permit Condition E.3.

(b) The Permittee must comply with OAC Rule 3745-54-101 for responding to releases as necessary to protect human health and the environment. Compliance with this Rule may warrant monitoring of ground water present above the uppermost aquifer in accordance with the approved CMS and Rule 3745-54-101.

(c) OAC Rules 3745-54-90 through 3745-54-100 apply to the uppermost aquifer and 3745-54-101 applies to zones above the uppermost aquifer as described in K.1(a) and (b), during the active life, which includes the closure period, of the units listed in Permit Condition E.3. After closure of each regulated unit, OAC Rules 3745-54-90 through 3745-54-100 apply for the uppermost aquifer, as follows:

(i) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(ii) Apply during the post-closure care period under OAC Rule 3745-55-17 if the Permittee is conducting a detection monitoring program under OAC Rule 3745-54-98; or

(iii) Apply during the compliance period under OAC Rule 3745-54-96 if the Permittee is conducting a compliance monitoring program under OAC Rule 3745-54-99 or a corrective action program under OAC Rule 3745-54-100 or 101.

(d) The Permittee is subject to OAC Rules 3745-54-90 through 3745-54-100 for the uppermost aquifer and must conduct a monitoring and response program for the uppermost aquifer as follows:

(i) The Permittee must institute a detection monitoring program as specified in Permit Condition K.9;

(ii) If concentrations exceed background levels established pursuant to Permit Condition K.9 then Permittee must institute compliance monitoring as specified in Permit Condition K.10;

(iii) If concentrations exceed protection standards listed in Permit Condition K.2 then Permittee must institute corrective action monitoring program as specified in Permit Condition K.11.

(e) The Permittee is subject to Permit Conditions K.2 through K.8 and K.12 through K.14 for
zones above the uppermost aquifer and must conduct a monitoring program for these zones as specified therein. When referenced below, OAC Rule 3745-54-101 is only applicable to Affected wells with constituent concentrations above ground water protection standards specified in Permit Condition K.2(a).

K.2. Ground Water Protection Standard
OAC Rules 3745-50-44(B), 3745-54-92 through 3745-54-96, and 3745-54-100(A) for the uppermost aquifer and 3745-54-101 for zones above the uppermost aquifer.

The Permittee must ensure that the hazardous constituents listed in the table in Permit Condition K.2(a) that have been either detected in the ground water or wastes in the WMUs/AOCs do not exceed the concentration limits listed for the uppermost aquifer and do not exceed action levels listed for zones above the uppermost aquifer beyond the point of compliance as defined in OAC Rule 3745-54-95 during the compliance period defined in OAC Rule 3745-54-96. This ground water protection standard has been established to be protective of the uppermost aquifer and potential shallow ground water exposures due to hazardous constituents being detected in the ground water in zones above the uppermost aquifer at monitoring wells adjacent to several WMUs.

(a) The Permittee must monitor the ground water to determine whether regulated units are in compliance with the ground water protection standard under OAC Rule 3745-54-92. The hazardous constituents detected in the ground water underlying a regulated unit and reasonably expected to be contained in or derived from the waste contained in the regulated unit to which the ground water protection standard applies and their concentration limits and screening levels are listed in the table below.

(i) The Permit Condition K.2(a) Table presents a facility-specific list of hazardous constituents for the RCRA ground water monitoring program. This facility-specific list was identified based on past RCRA leachate and ground water monitoring and the results of the RCRA Facility Investigations.

(ii) Once every five (5) years, the Permittee shall perform leachate analysis of WMUs 1, 2, 3, 4, 5, 6, 7, 8, 9 and 13 (Landfill Cells F, G, H, and I, Millard Road Landfill, Northern Sanitary Landfill, Central Sanitary Landfill, Old Oil Pond, New Oil Pond, and Cell M) for all constituents in Appendix to OAC Rule 3745-54-98. All constituents detected in the leachate analysis that are not already listed in Permit Condition K.2(a), must be identified in the Annual Report required by Permit Condition K.8. The Permittee must include a determination of whether the additional constituent(s) should be added to the list. Unless demonstrated to be a false detection or an alternate source that is not from the Permittee, all constituents detected in the primary leachate collection system (PLCS) of WMUs 1, 3, 5, 6, 7, 8, and 9 or in the secondary leachate collection system (SLCS) at WMUs 2, 4 and 13 (Cells G, I, and M) at concentrations greater than the shallow till action level found in Permit Condition K.2(a) for the constituent or greater than 30 times the maximum PQL for the constituent listed in the Part B Permit Application Section E.9, Attachment C, must be added to the list. The addition of constituents to the list must be made through an application for a
permit modification per OAC Rule 3745-50-51.

(iii) Once every five (5) years (beginning in 2023), the Permittee shall perform an order of magnitude evaluation for each of the protection standards specified on the Table to Permit Condition K.2(a) to identify changes in models (e.g. Johnson & Ettinger no longer accepted) and toxicity data or other contaminant characteristic data on which these standards are based. If changes are identified that would result in an order of magnitude change in the protection standard, the Permittee must inform Ohio EPA and initiate a permit modification to update the protection standard.

(b) **Point of Compliance**
OAC Rules 3745-54-91(A)(3), 3745-54-95, and 3745-54-100(A)(3) & (E)(1) for the uppermost aquifer and 3745-54-101 for zones above the uppermost aquifer.

The point of compliance at which the ground water protection standard in Permit Condition K.2(a) applies is indicated on Figure E-15 in Section E of the approved Part B Permit Application. The Permittee must monitor the wells listed in Permit Condition K.3(b) representing the quality of ground water passing the point of compliance. If a concentration limit or action level found in Permit Condition K.2(a) is exceeded, and to the extent practicable, Permittee must also monitor the ground water, as necessary, between the point of compliance and the downgradient property boundary to determine if the concentration limit or action level has been exceeded at any point between the compliance point and the downgradient property boundary.

(c) **Compliance Period**
OAC Rule 3745-54-96 for the uppermost aquifer and OAC Rule 3745-54-101 for zones above the uppermost aquifer.

(i) The compliance period for the uppermost aquifer, during which the ground water protection standard of OAC Rule 3745-54-92 applies, begins when a well monitoring the uppermost aquifer is designated as affected in accordance with Permit Condition K.9(f) and continues until all uppermost aquifer affected wells have reverted to unaffected status and returned to detection monitoring in accordance with Permit Condition K.10(a)(iv)(c).

(ii) For the zones above the uppermost aquifer, the ground water protection standard specified in Permit Condition K.2(a) applies when a well monitoring a zone above the uppermost aquifer is designated as affected in accordance with Permit Condition K.12(d) or K.13(d) and will continue until all constituents monitored in zones above the uppermost aquifer have reverted to unaffected status in accordance with Permit Condition K.12(c)(iii) and K.13(c)(iii). Monitoring will continue in accordance with Permit Conditions K.12 and K.13 for unaffected wells.
<table>
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<th>Chemical Group</th>
<th>Hazardous Constituent</th>
<th>Concentration Limits (ug/L) OAC 3745-54-94</th>
<th>Protection Standard (1)</th>
<th>Action Levels (ug/L) OAC Rule 3745-54-101</th>
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<td>SVOC</td>
<td>Benzo(g,h,i)perylene</td>
<td>1,095 *</td>
<td>32,850 *</td>
<td>2,610</td>
</tr>
<tr>
<td>SVOC</td>
<td>Benzo(k)fluoranthene</td>
<td>12 *</td>
<td>350</td>
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</tr>
<tr>
<td>SVOC</td>
<td>Benzyl Alcohol</td>
<td>3,650 *</td>
<td>109,500 *</td>
<td>1,019,685</td>
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<tr>
<td>SVOC</td>
<td>bis(2-Ethylhexyl)phthalate</td>
<td>6</td>
<td>180</td>
<td>538</td>
</tr>
<tr>
<td>SVOC</td>
<td>Butylbenzylphthalate</td>
<td>448 *</td>
<td>13,447 *</td>
<td>44,271</td>
</tr>
<tr>
<td>SVOC</td>
<td>Chrysene</td>
<td>117 *</td>
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<tr>
<td>SVOC</td>
<td>Dibenz[a,h]anthracene</td>
<td>5 PQL</td>
<td>5 PQL</td>
<td>5 PQL</td>
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<tr>
<td>SVOC</td>
<td>Dibenzofuran</td>
<td>5 PQL</td>
<td>5 PQL</td>
<td>335</td>
</tr>
<tr>
<td>SVOC</td>
<td>Diethylphthalate</td>
<td>29,200 *</td>
<td>876,000 *</td>
<td>9,943,650</td>
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<tr>
<td>SVOC</td>
<td>2,4-Dimethylphenol</td>
<td>730 *</td>
<td>21,900</td>
<td>41,169</td>
</tr>
<tr>
<td>SVOC</td>
<td>Di-n-octylphthalate</td>
<td>1,460 *</td>
<td>43,800 *</td>
<td>3,888</td>
</tr>
<tr>
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<td>Fluoranthene</td>
<td>1,460 *</td>
<td>43,800 *</td>
<td>14,889</td>
</tr>
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<td>SVOC</td>
<td>Fluorene</td>
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<td>43,800 *</td>
<td>41,696</td>
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<td>Hexachlorophene</td>
<td>40 PQL</td>
<td>329 *</td>
<td>40 PQL</td>
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<tr>
<td>SVOC</td>
<td>Indeno(1,2,3-cd)pyrene</td>
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<td>35</td>
<td>8.3</td>
</tr>
<tr>
<td>SVOC</td>
<td>2-Methylnaphthalene</td>
<td>146 *</td>
<td>4,380 *</td>
<td>542</td>
</tr>
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<td>Chemical Group</td>
<td>Hazardous Constituent</td>
<td>Concentration Limits (µg/L)</td>
<td>Protection Standard&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Action Levels (µg/L) OAC Rule 3745-54-101</td>
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<tr>
<td></td>
<td></td>
<td>Uppermost Aquifer - Bedrock Wells&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Deep Till Wells&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Shallow Till Wells&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>SVOC</td>
<td>2-Methylphenol</td>
<td>1,825 *</td>
<td>54,750 *</td>
<td>585,486</td>
</tr>
<tr>
<td>SVOC</td>
<td>3-Methylphenol</td>
<td>1,825 *</td>
<td>54,750 *</td>
<td>609,067</td>
</tr>
<tr>
<td>SVOC</td>
<td>4-Methylphenol</td>
<td>183  *</td>
<td>5,475  *</td>
<td>25,673</td>
</tr>
<tr>
<td>SVOC</td>
<td>Naphthalene</td>
<td>730  *</td>
<td>21,900  *</td>
<td>1,057</td>
</tr>
<tr>
<td>SVOC</td>
<td>2-Nitrophenol</td>
<td>5 PQL</td>
<td>5 PQL  *</td>
<td>1,951</td>
</tr>
<tr>
<td>SVOC</td>
<td>Phenanthrene</td>
<td>1,095 *</td>
<td>32,850  *</td>
<td>24,454</td>
</tr>
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<td>SVOC</td>
<td>Phenol</td>
<td>10,950 *</td>
<td>328,500  *</td>
<td>586,231</td>
</tr>
<tr>
<td>SVOC</td>
<td>p-Phenylenediamine</td>
<td>6,935 *</td>
<td>208,050  *</td>
<td>1,590,817</td>
</tr>
<tr>
<td>SVOC</td>
<td>Pyrene</td>
<td>1,095 *</td>
<td>32,850  *</td>
<td>11,330</td>
</tr>
<tr>
<td>PEST</td>
<td>Aldrin</td>
<td>0.05  *</td>
<td>1.5    *</td>
<td>0.8</td>
</tr>
<tr>
<td>PEST</td>
<td>alpha-BHC</td>
<td>0.14  *</td>
<td>4     *</td>
<td>50</td>
</tr>
<tr>
<td>PEST</td>
<td>beta-BHC</td>
<td>0.47  *</td>
<td>14    *</td>
<td>178</td>
</tr>
<tr>
<td>PEST</td>
<td>delta-BHC</td>
<td>0.05 PQL</td>
<td>0.05 PQL</td>
<td>0.05 PQL</td>
</tr>
<tr>
<td>PEST</td>
<td>gamma-BHC</td>
<td>0.2</td>
<td>6</td>
<td>163</td>
</tr>
<tr>
<td>PEST</td>
<td>Chlordane(total)</td>
<td>2</td>
<td>60</td>
<td>21</td>
</tr>
<tr>
<td>PEST</td>
<td>4,4'-DDD</td>
<td>3.5   *</td>
<td>106    *</td>
<td>62</td>
</tr>
<tr>
<td>PEST</td>
<td>4,4'-DDE</td>
<td>2.5   *</td>
<td>75    *</td>
<td>7.1</td>
</tr>
<tr>
<td>PEST</td>
<td>4,4'-DDT</td>
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<td>75    *</td>
<td>9.2</td>
</tr>
<tr>
<td>PEST</td>
<td>Dieldrin</td>
<td>0.05  *</td>
<td>1.6    *</td>
<td>4.1</td>
</tr>
<tr>
<td>PEST</td>
<td>Endosulfan</td>
<td>219   *</td>
<td>6,570  *</td>
<td>6,313</td>
</tr>
<tr>
<td>PEST</td>
<td>Endosulfanll</td>
<td>219   *</td>
<td>6,570  *</td>
<td>6,313</td>
</tr>
<tr>
<td>PEST</td>
<td>Endosulfan sulfate</td>
<td>219   *</td>
<td>6,570  *</td>
<td>8,687</td>
</tr>
<tr>
<td>PEST</td>
<td>Endrin</td>
<td>2</td>
<td>60</td>
<td>300</td>
</tr>
<tr>
<td>PEST</td>
<td>Endrinaidehyde</td>
<td>11   *</td>
<td>329    *</td>
<td>459</td>
</tr>
<tr>
<td>PEST</td>
<td>Heptachlor</td>
<td>0.4</td>
<td>12</td>
<td>4.1</td>
</tr>
<tr>
<td>PEST</td>
<td>Heptachloropoxide</td>
<td>0.2</td>
<td>6</td>
<td>2.3</td>
</tr>
<tr>
<td>PEST</td>
<td>Methoxychlor</td>
<td>40</td>
<td>1,200</td>
<td>548</td>
</tr>
<tr>
<td>Chemical Group</td>
<td>Hazardous Constituent</td>
<td>Table to Permit Condition K.2(a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concentration Limits (ug/L)</td>
<td>Protection Standard  (^{(1)})</td>
<td>Action Levels (ug/L) OAC Rule 3745-54-101</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uppermost Aquifer - Bedrock Wells (^{(2)})</td>
<td>Deep Till Wells (^{(3)})</td>
<td>Shallow Till Wells (^{(4)})</td>
</tr>
<tr>
<td>PEST</td>
<td>Toxaphene</td>
<td>3</td>
<td>90</td>
<td>69</td>
</tr>
<tr>
<td>PCB</td>
<td>PCBs (total)</td>
<td>0.5</td>
<td>15</td>
<td>0.69</td>
</tr>
<tr>
<td>INORG</td>
<td>Antimony</td>
<td>6</td>
<td>180</td>
<td>593</td>
</tr>
<tr>
<td>INORG</td>
<td>Arsenic</td>
<td>16 Bkg</td>
<td>300</td>
<td>2,577</td>
</tr>
<tr>
<td>INORG</td>
<td>Barium</td>
<td>2,000</td>
<td>60,000</td>
<td>149,340</td>
</tr>
<tr>
<td>INORG</td>
<td>Beryllium</td>
<td>4</td>
<td>120</td>
<td>159</td>
</tr>
<tr>
<td>INORG</td>
<td>Cadmium</td>
<td>5</td>
<td>150</td>
<td>272</td>
</tr>
<tr>
<td>INORG</td>
<td>Chromium (total)</td>
<td>100</td>
<td>3,000</td>
<td>707</td>
</tr>
<tr>
<td>INORG</td>
<td>Cobalt</td>
<td>11 *</td>
<td>329 *</td>
<td>23,292</td>
</tr>
<tr>
<td>INORG</td>
<td>Copper</td>
<td>1,300 (^{(7)})</td>
<td>39,000</td>
<td>220,868</td>
</tr>
<tr>
<td>INORG</td>
<td>Cyanide (total)</td>
<td>200</td>
<td>6,000</td>
<td>330</td>
</tr>
<tr>
<td>INORG</td>
<td>Lead</td>
<td>15 (^{(7)})</td>
<td>450</td>
<td>3 PQL</td>
</tr>
<tr>
<td>INORG</td>
<td>Mercury</td>
<td>2</td>
<td>60</td>
<td>106</td>
</tr>
<tr>
<td>INORG</td>
<td>Nickel</td>
<td>730 *</td>
<td>21,900 *</td>
<td>37,751</td>
</tr>
<tr>
<td>INORG</td>
<td>Selenium</td>
<td>50</td>
<td>1,500</td>
<td>27,608</td>
</tr>
<tr>
<td>INORG</td>
<td>Silver</td>
<td>183 *</td>
<td>5,475 *</td>
<td>3,568</td>
</tr>
<tr>
<td>INORG</td>
<td>Thallium</td>
<td>1 PQL</td>
<td>60</td>
<td>1 PQL</td>
</tr>
<tr>
<td>INORG</td>
<td>Tin</td>
<td>10,950 *</td>
<td>328,500 *</td>
<td>1,656,509</td>
</tr>
<tr>
<td>INORG</td>
<td>Vanadium</td>
<td>183 *</td>
<td>5,475 *</td>
<td>2,901</td>
</tr>
<tr>
<td>INORG</td>
<td>Zinc</td>
<td>10,950 *</td>
<td>328,500 *</td>
<td>2,051,484</td>
</tr>
<tr>
<td>HERB</td>
<td>2,4-D</td>
<td>70</td>
<td>2,100</td>
<td>10,934</td>
</tr>
<tr>
<td>HERB</td>
<td>2,4,5-T</td>
<td>365 *</td>
<td>10,950 *</td>
<td>9,037</td>
</tr>
</tbody>
</table>

1. The presence of multiple chemicals in ground water are to be evaluated relative to the ground water protection level defined as a cumulative cancer risk level of 10^-6 and a noncancer hazard index of 1 (chemicals with an MCL are not included in the computation of cumulative risks).
Table to Permit Condition K.2(a)

<table>
<thead>
<tr>
<th>Chemical Group</th>
<th>Hazardous Constituent</th>
<th>Protection Standard (1)</th>
<th>Action Levels (ug/L) OAC Rule 3745-54-101</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Concentration Limits (ug/L) OAC 3745-54-94</td>
<td>Deep Till Wells (3)</td>
</tr>
<tr>
<td>Uppermost Aquifer - Bedrock Wells (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. The uppermost aquifer ground water concentration limit is set to the MCL. If a MCL is not available, then the equivalent drinking water level (EDWL) is calculated at the lower of the target cancer risk of $10^{-3}$ or hazard quotient of 1. EDWL values are noted with a “**”.

3. The deep till well action level is equal to the drinking water standard or EDWL times the default bedrock dilution factor of 30:1, which represents the lowest dilution factor as specified in Permit Condition K.12. Unit-specific action levels may be computed as provided in Permit Condition K.12 (see Section E, Appendix E.11 of the approved RCRA Part B Permit Application). Action levels based on EDWL values are noted with a “**”.

4. The shallow till well action level is the lower of the risk-based criteria for: (a) dermal contact with shallow ground water and inhalation of vapors from ground water by workers during excavations; and (b) vapor intrusion into industrial buildings. The risk-based criteria for each pathway are calculated at the lower of the target cancer risk of $10^{-3}$ or hazard quotient of 1.

5. The shallow till well action level for monitoring of WMU 5 (Millard Road Landfill) and WMUs 1/6 (Cell F / North Sanitary Landfill) is the lower of the (a) shallow till risk-based criteria and (b) groundwater to surface water criteria calculated using the minimum human health and ecological surface water criteria and unit-specific dilution attenuation factors (see Section E, Appendix E.11 of the approved RCRA Part B Permit Application). WMU 5 criteria apply to monitoring wells MR-25, MR-35, and MR-065 (proposed). WMU 1/6 criteria apply to monitoring wells F-3S, F-2S, SW-2S, and SW-01S.

6. 1,4-Dioxane is analyzed as a VOC; this constituent is analyzed as an SVOC if other SVOCs are being analyzed.

7. The criterion for copper and lead in bedrock wells are the federal treatment standards.

8. The concentration limit for 1,4-dioxane in the Uppermost Aquifer is 8.5 ug/l unless the PQL exceeds 8.5 ug/l. The PQL for the analysis of Uppermost Aquifer samples will be in accordance with the following: Using analysis method SW846:8260 the maximum PQL is 50 ug/l; for Method SW846:8270 or alternate selected to achieve a lower PQL, the maximum PQL shall be <8.5 ug/l. A PQL less than 8.5 ug/l is required for Uppermost Aquifer wells when conducting compliance monitoring or corrective measures monitoring in the Uppermost Aquifer, or if concentrations in a deep till well exceeds the specified Action Level. In detection monitoring if 1,4-dioxane is detected at an estimated level in the uppermost aquifer with a PQL that is <8.5 ug/l, resampling shall be conducted to confirm the detection with a PQL that is <8.5 ug/l. In detection monitoring if 1,4-dioxane is detected at an estimated level in the uppermost aquifer with a PQL that is >8.5 ug/l, resampling shall be conducted to confirm the detection with a PQL that is <8.5 ug/l.

PQL = Uppermost Aquifer Bedrock Concentration Limit or Till Action Level is the PQL.

Bkg = Uppermost Aquifer Bedrock Concentration Limit or Till Action Level is the background groundwater concentration.
The Permittee’s ground water monitoring system must consist of a sufficient number of wells, installed and screened at appropriate locations and depths to yield ground water samples from the Greenfield limestone bedrock zone which is considered to be the uppermost aquifer, the lacustrine/upper till contact zone, and the upper till/lower till contact zone/sands at the contact zone. The well system must be as effective as the compliance ground water monitoring system required by OAC Rule 3745-54-99 in determining compliance with the ground water protection standard defined in Permit Condition K.2 and in determining the success of the corrective action program required under OAC Rule 3745-54-100 for the uppermost aquifer and OAC Rule 3745-54-101 for zones above the uppermost aquifer. The samples must:

(i) Represent the quality of background water that has not been affected by leakage from the regulated unit;

(ii) Represent the quality of ground water passing the point of compliance, between the point of compliance and the downgradient property boundary, and beyond the property boundary, where necessary, to protect human health and the environment;

(iii) Allow for the detection and measurement of contamination when hazardous waste or hazardous constituents have migrated from the waste management area consisting of one or more WMUs/AOCs to the uppermost aquifer; and

(iv) Demonstrate the effectiveness of the corrective action program.

The monitoring system consists of the ground water wells as specified on Figure E-15 found in Section E of the approved Part B Permit Application and in conformance with the following list:

<table>
<thead>
<tr>
<th>Monitoring Wells in the Integrated Ground Water Monitoring Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>“S” Wells</strong></td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>F-1S</td>
</tr>
<tr>
<td>F-2S</td>
</tr>
<tr>
<td>F-3S</td>
</tr>
<tr>
<td>G-1S</td>
</tr>
<tr>
<td>G-2S</td>
</tr>
<tr>
<td>G-3S</td>
</tr>
<tr>
<td>G-4S</td>
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<tr>
<td>G-12S</td>
</tr>
<tr>
<td>G-13S</td>
</tr>
<tr>
<td>H-1S</td>
</tr>
<tr>
<td>H-2S</td>
</tr>
<tr>
<td>H-3S</td>
</tr>
<tr>
<td>H-4S</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>
### Monitoring Wells in the Integrated Ground Water Monitoring Program

<table>
<thead>
<tr>
<th><strong>S</strong> Wells</th>
<th><strong>D</strong> Wells</th>
<th>Uppermost Aquifer Bedrock <strong>R</strong> Wells</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-5S</td>
<td>MR-15A</td>
<td>R-14</td>
</tr>
<tr>
<td>H-6S</td>
<td>MR-2S</td>
<td>R-15</td>
</tr>
<tr>
<td>I-3SA</td>
<td>MR-3S</td>
<td>R-16</td>
</tr>
<tr>
<td>I-4S</td>
<td>MR-4S</td>
<td>R-17 (Cell M)</td>
</tr>
<tr>
<td>I-5SA</td>
<td>MR-5S</td>
<td>R-18 (Cell M)</td>
</tr>
<tr>
<td>I-6S</td>
<td>MR-6S</td>
<td>R-19 (Cell M)</td>
</tr>
<tr>
<td>I-7S</td>
<td>MR-7S</td>
<td>R-20 (Cell M)</td>
</tr>
<tr>
<td>I-8S</td>
<td>SW-1S</td>
<td>R-21 (Cell M)</td>
</tr>
<tr>
<td>M-1S</td>
<td>SW-2S</td>
<td>R-22 (Cell M)</td>
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<tr>
<td>M-2S</td>
<td>SW-3S</td>
<td>R-23</td>
</tr>
<tr>
<td>M-3S</td>
<td>SW-4S</td>
<td>R-24</td>
</tr>
<tr>
<td>M-5S</td>
<td>M-3D</td>
<td>R-25***</td>
</tr>
<tr>
<td>M-6S</td>
<td>M-10S</td>
<td></td>
</tr>
</tbody>
</table>

* New Bedrock wells to be installed in accordance with permit condition K.3(b)(ii).

** Bedrock Water Level Recording Wells. These wells are utilized for collection of water level measurements only.

*** Bedrock water level recording well DUG-1 to be redesignated and incorporated into the bedrock monitoring network in accordance with Permit Condition K.3(b)(ii).

(i) To meet the requirements of Permit Condition K.3(a), two (2) new bedrock monitoring wells will be installed within sixty (60) days of the approval of this permit modification. One well is to be located on the east side of WMU 4 (Cell I), north of well nest I-4. The second well is to be located on the north side of WMU 6 (North Sanitary Landfill) approximately midway between bedrock monitoring wells R-16 and R-3.

(ii) To meet the requirements of Permit Condition K.3(a), existing bedrock water level recording well DUG-1 will be incorporated into the monitoring network as bedrock well R-25, and shallow till wells G-12S, G-13S, MR-5S, MR-6S, MR-7S, and SW-4S will be incorporated into the monitoring network.

(c) Wells identified in Permit Condition K.3(b) must be cased in a manner that maintains the integrity of the monitoring well bore hole and complies with the detailed plans and specifications presented in Section E3b of the approved Part B Permit Application. The casing must be screened and packed with gravel or sand, where necessary, to enable collection of ground water samples. The annular space above the sampling depth must be sealed to prevent contamination of samples and the ground water.

Section E Appendix E.13 of the approved Part B Permit Application contains a "Master Boring and Well Log", which references the location of boring logs and well construction diagrams.
Illustrating compliance with this Permit Condition.

(d) The addition, removal or replacement of any monitoring well identified in Permit Condition K.3(b) must be conducted in accordance with the Appendix to OAC Rule 3745-50-51 permit modification process. Each change must be accompanied by a revised map as specified on Figure E-15 of Section E of the approved Part B Permit Application for Permit Condition K.3(b). Within thirty (30) days from the date a well is added to the ground water monitoring well network, the Permittee must submit to the Director and Ohio EPA, Northwest District Office, all well construction details.

(e) All wells replaced or removed in accordance with Permit Condition K.3(d) must be plugged and abandoned in accordance with Ohio EPA’s Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring (Chapter 9 (2009)). Well plugging and abandonment methods, and certification must be submitted to the Director within thirty (30) days from the date the wells are removed from the monitoring program.

(f) Whenever any well specified in Permit Condition K.3(b) is replaced for any reason or, if any other well is added to the network (i.e., any well that is not already installed), the Permittee must:

(i) Conduct sampling for all constituents listed Permit Condition K.2(a) at that well within one (1) year from the date of installation;

(ii) Within one (1) year of the date of installation, collect from that well all ground water samples necessary to develop background limits for data from that location for naturally occurring constituents in accordance with Permit Condition K.6 and K.7;

(iii) Whenever any of the wells specified in Permit Condition K.3(b) are replaced, the Permittee must demonstrate to Ohio EPA that the ground water chemistry at the replacement well meets the criteria in Permit Condition K.3(a) prior to submittal of the next semi-annual data report according to Permit Condition K.8(b)(ii) using means appropriate to the reason for replacement. For all replacement wells, the Permittee must perform a statistical comparison of the water quality at the replacement well with that of the original well;

(iv) Submit a report to Ohio EPA, Northwest District Office detailing the results of testing conducted pursuant to Permit Conditions K.3(f)(i), (ii), and (iii). This report is to be provided with the semi-annual data report for the event immediately following the end of the first year after the installation of the new well. The schedule for semi-annual reports is found in Permit Condition K.8(b)(ii)(a). The Permittee must enter the sampling and analysis data generated pursuant to Permit Condition K.3(f)(i) into the operating record as described in Permit Condition K.8(a);

(v) If the comparison of ground water quality pursuant to Permit Condition K.3(f)(iii) shows a statistically significant difference between that of the original well and the
replacement well, then the report described in Permit Condition K.3(f)(iv) must include an evaluation as to whether this difference has an effect on the groundwater monitoring program, including the influence on cumulative risk estimates for the groundwater above the uppermost aquifer calculated in accordance with Permit Condition K.2(a); and,

(vi) If any changes are necessary to the groundwater monitoring program because of a statistically significant difference in groundwater quality between a replacement well and the well it replaced, the Permittee must submit a request for a permit modification in accordance with Permit Condition K.8(b)(ii)(h).xxiv).

K.4. Sampling and Analysis Procedures
OAC Rule 3745-54-97 (D) and (E) for the uppermost aquifer and 3745-54-101 for zones above the uppermost aquifer.

The Permittee must use the following techniques and procedures when obtaining and analyzing samples from the groundwater monitoring wells described in Permit Condition K.3:

(a) Ground water elevations must be measured using the techniques described in Appendix E.9 of the approved Part B Permit Application.

(b) Each well must be checked for the presence of immiscible layers using an interface probe prior to purging where dissolved concentrations of any facility-specific parameter indicates that immiscible layers could be present using the methods described in Appendix E.9 of the approved Part B Permit Application.

(c) Sample Collection

(i) Samples must be collected and handled (including well evacuation, sample withdrawal, preservation, containerization, filtration and shipment) to ensure representative samples are obtained using the techniques and equipment described in Appendix E.9 of the approved Part B application.

(ii) The Permittee must collect samples from the wells least likely to exhibit groundwater contamination prior to collecting samples from wells with known or suspected groundwater contamination.

(d) Field analysis must be performed using instruments, procedures and forms described in the approved Part B Permit Application. Instruments must be calibrated as described in Appendix E.9 of the approved Part B Permit Application.

(e) Sampling equipment must be decontaminated using techniques described in Appendix E.9 of the approved Part B Permit Application.

(f) Purge water must be disposed in accordance with procedures described in Appendix E.9 of
the approved Part B Permit Application.

(g) Laboratory Analysis

(i) Laboratory analytical methods, detection limits and sample holding time must be in accordance with techniques described in Appendix E.9 of the approved Part B Permit Application.

(ii) Laboratory selection for sample analysis shall not be contingent upon Ohio EPA approval of laboratories.

(h) Quality Assurance/Quality Control

(i) Quality assurance, including field/lab/equipment blanks, duplicate samples and identification of potential interferences, must be in accordance with the methods described in Appendix E.9 of the approved Part B Permit Application.

(ii) Field and analytical data must be validated in accordance with the procedures specified in Appendix E.12 of the approved Part B Permit Application and reported as specified in Permit Condition K.8(b)(ii)(b)(vii).

(iii) Chain of custody procedures, including standardized field tracking reporting forms, and sample labels, must be in accordance with Appendix E.9 of the approved Part B Permit Application.

K.5. Ground Water Surface Elevation

OAC Rule 3745-54-97(F) for the uppermost aquifer and 3745-54-101 for zones above the uppermost aquifer.

(a) The Permittee must determine the ground water surface elevation at each well each time the well is sampled, and submit the information in accordance with Permit Condition K.8(b)(ii)(b). Ground water surface elevation from each of the chart recorder wells DUG-2, DDG-3, DDG-1 and CR-1 must be reported for each semi-annual sampling event.

(b) The Permittee must report, in writing to the Ohio EPA, Northwest District Office, the surveyed elevation of the tops of casing, ground surface and/or aprons, and protective casings of any new or replacement monitoring wells specified in Permit Condition K.3(d) within thirty (30) days of the date of installation.

K.6. Sampling Frequency for Setting Background Limits

OAC Rule 3745-54-97(G) for the uppermost aquifer and 3745-54-101 for zones above the uppermost aquifer.

Data on each hazardous constituent specified in Permit Condition K.2(a) will be collected from the wells specified in Permit Condition K.3(b). The sampling methods, sampling frequency and data
evaluation procedures are described in Appendices E.7 and E.9 of the approved Part B Permit Application and Permit Conditions K.4, K.7, and K.9 through K.13.

(a) The number and kinds of samples collected to establish background must be appropriate for the form of statistical test employed, following generally accepted statistical principles.

(b) The sample size must be as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected.

(c) Background data must be updated as necessary in accordance with Permit Condition K.7(c) to provide an accurate representation of background ground water quality. New or revised background values must be established in the permit through the permit modification process in OAC Rule 3745-50-51.

K.7. Statistical Procedures

OAC Rule 3745-54-97 (H) and (I) for the uppermost aquifer and 3745-54-101 for zones above the uppermost aquifer.

The Permittee must use the following evaluation and statistical procedures to establish background limits to be used to identify ground water monitoring results showing statistically significant evidence of contamination for each hazardous constituent in Permit Condition K.2(a) in each well listed in Permit Condition K.3(b):

(a) For those constituents for which background values have not been collected and established at the time of Permit Application, the Permittee must choose and submit to Ohio EPA the appropriate statistical method within sixty (60) days after the receipt of the last background sampling event data through the permit modification process in OAC Rule 3745-50-51.

(i) For inorganics listed in Permit Condition K.2(a), dissolved inorganics data will be used, when available, to establish background levels for future monitoring. If dissolved data are not available, then “total” inorganics data will be used. If data are not available, then sampling for dissolved inorganic concentrations must be conducted as specified in Permit Condition K.7(c).

(ii) For all deep and shallow till zone wells, background levels will be established as the facility-wide maximum intrawell prediction limit among all deep till monitoring wells and shallow till zone monitoring wells, respectively.

For those constituents for which background values have been collected, the derivation of the statistical background limit is presented in Section E of Appendix E.7 of the approved Part B Permit Application.

(b) The Permittee’s statistical procedures to determine background limits must be protective of human health and the environment, provide reasonable confidence that the migration of hazardous constituents from a regulated unit into and through the aquifer will be indicated,
and will determine whether such leakage of hazardous constituents into the ground water exceeds specified ground water protection standard specified in Permit Condition K.2(a). The statistical procedures must comply with the following performance standards:

(i) The statistical evaluation of ground water monitoring data must be conducted separately for each hazardous constituent specified in Permit Condition K.2(a) in each well.

(ii) The statistical method must be appropriate for the distribution of the data used to establish background or concentration limits. If the distribution for the constituents differs, more than one statistical method may be needed.

(iii) The statistical method must provide a reasonable balance between the probability of falsely identifying a non-contaminating and/or exceeding unit and the probability of failing to identify a contaminating and/or exceeding regulated unit using U.S. EPA Guidance document as a reference “Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance”, March 2009.

(iv) If a control chart approach is used, the specific type of control chart and its associated parameter values must be proposed by the Permittee and incorporated into the permit in accordance with OAC Rule 3745-50-51.

(v) If a tolerance or prediction interval procedure is used, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, must be proposed by the Permittee and incorporated into the permit in accordance with OAC Rule 3745-50-51. These parameters must be determined after considering the number of samples in the background data base, the data distribution, and the range of concentration values for each constituent of concern.

(vi) The statistical method must account for data below the limit of detection with one or more statistical procedures. Any practical quantitation limit (PQL) approved in the permit that is used in the statistical method must be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the Permittee.

When 100% of the background data is less than the PQL, the background statistical limit is equal to <PQL. In this case any compliance data result equal to or greater than the PQL is considered to be statistically above background.

(vii) If necessary, the statistical method must include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(c) Data used to develop background must be demonstrated to be representative of ground water quality that has not been affected by leakage from a regulated unit. Background must consist of a minimum of eight (8) data points and must be updated in accordance with the
following procedures when less than sixteen (16) data points.

(i) Background is not updated with less than four (4) new data points at any one time.

(ii) The new background (previous background data plus new background data) must be checked for slowly increasing trends. If a slowly increasing trend is identified, then the background must not be updated unless concurrence from Ohio EPA is received that the Permittee has adequately demonstrated that the increasing trend is not the result of a release from the facility.

(iii) Background updates must be accumulative and not a moving window, unless a trend or shift is identified in the background data. As required in Permit Condition K.7(c)(ii), the Permittee must adequately demonstrate that the identified trends are not the result of a release from the facility before the background update would be accepted by Ohio EPA.

(iv) When a trend or shift in background data has been identified and it has been adequately demonstrated to not be the result of a release from the facility, then a moving window background should be used. The size of the moving window will be dependent upon the rate of change and the best balance between background size and variance.

(v) Background data for wells with established background statistical limits based on a background size of less than 16 must be re-evaluated on a fixed schedule of every four years, beginning in calendar year 2012. Data points available to the Permittee on July 1, 2012 (and on the first day of July every four years thereafter) will be used for recalculation of background statistical limits, provided that four or more new data points are available for the constituent-well combination being monitored as required by Permit Condition K.7(c)(i). Recalculated background statistical limits must be submitted to Ohio EPA in the form of a Permit modification by the last day of the calendar year during which the recalculation is performed, based on the four-year schedule beginning in 2012. The Permittee may elect to recalculate individual background statistical limits at any well more frequently than specified herein, if the Permittee complies with the requirements of Permit Conditions K.7(c)(i) through K.7(c)(iv).

K.8. Operating Record and Reporting

OAC Rules 3745-54-73, 3745-54-75, 3745-54-77 and 3745-54-100(G) for the uppermost aquifer, and 3745-54-101 for zones above the uppermost aquifer.

(a) Operating Record

The Permittee must maintain all the following information obtained in accordance with Permit Module K in the operating record:

(i) Ground water monitoring data collected in accordance with this permit including
actual levels of constituents.

(ii) The laboratory results from each of the wells and their associated qualifiers including the laboratory sheets for the full volatile and semi-volatile analyses (must include method codes, method detection limits, and units of measurement).

(iii) The date each well was sampled (in tabular format).

(iv) The date, time, and identification of all blanks and duplicates.

(v) Any field log documentation of deviation from the procedures in the Ground Water Monitoring Program Sampling and Analysis Plan in Appendix E.9 of the approved Part B Permit Application, including documentation of parameter omissions during the sampling event.

(vi) The date the Permittee received the results from the laboratory.

(vii) The date the Permittee completed their review of the analytical laboratory’s verification of the accuracy and precision of the analytical data and determined its quality.

(viii) The results of the data validation review per Permit Condition K.8(a)(vii) including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results.

(ix) Results of all blanks and duplicates (trip, field, equipment, and method).

(x) Results of the field parameters.

(xi) The statistical evaluation of the data (must include all computations, results of statistical tests, and date the statistical evaluation was completed).

(xii) Any change in well status (i.e., going from unaffected to affected status and vice versa).

(xiii) Ground water surface elevations taken at the time of sampling each well.

(xiv) Data and results of the semi-annual determination of the ground water flow rate and direction.

(xv) The results of the last three years of all inspections required under OAC Rule 3745-54-15(D) related to ground water monitoring and equipment as required under OAC Rule 3745-54-73(B)(5).
(xvi) Evaluation of the efficiency of any corrective actions performed to bring the ground water quality into compliance with the ground water protection standard specified in Permit Condition K.2.

(b) Annual, Semi-Annual, & Other Periodic Required Reporting

(i) Required Annual Reporting

The Permittee must submit an annual report to the Director by March 1st of the following year. The annual reports must reference the titles and dates of any other periodic reports required by the permit or any updates to those reports, but generally do not need to include duplicates of hard copies previously submitted. The annual reports must include, at a minimum:

(a) The analytical results required by Permit Conditions K.9, K.10, or K.11, and K.12, K.13, or K.14.

(b) The ground water elevation data required by Permit Condition K.5.

(c) The results of any statistical analyses required by Permit Conditions K.9, K.10, K.11, K.12, K.13 or K.14.

(d) A copy on disk of all ground water and blank data must be submitted electronically in the format supplied by the Director.

(e) A hard copy of well-specific information (location (latitude and longitude, depth, construction, etc.) for any new/replacement wells.

(f) Any other information specified in the instructions for the annual report not addressed in this Permit Condition must be submitted in accordance with OAC Rules 3745-54-75 and 97(J).

(g) Evaluation of the efficiency of any corrective actions performed to bring the ground water quality into compliance with the ground water protection standard specified in Permit Condition K.2.

(h) Double lined WMU monitoring data including a table of leachate volumes for the calendar year, the results of the ALR analysis described in Appendix D.32 of the approved Part B Permit Application.

(i) Leachate analysis results per Permit Condition K.2(a)(ii) beginning 2023.

(j) Evaluation of the double-lined WMU leachate system performance.
(ii) Required Semi-Annual Reporting

(a) The Permittee must submit semi-annually a Data Report and Evaluation for each semi-annual sampling and analysis event, conducted in April and October each year. Semi-Annual Data Reports and Evaluations must be submitted on or before September 1st for April events and March 1st for October events. If any of these dates fall on a weekend or state holiday, the reports will be due no later than the following business day. The reports must be submitted to Ohio EPA Northwest District Office and entered into the operating record in accordance with OAC Rule 3745-54-73. The Permittee must maintain all documentation from the laboratories regarding analysis of ground water samples. Ohio EPA may require submission of a copy of the full quality assurance/quality control (QA/QC) report for a particular event if circumstances warrant; but, in general, this will not be required.

(b) Semi-Annual Data Reports required by Permit Condition K.8(b)(ii)(a) must include all the information listed below for: Replacement well sampling required by Permit Condition K.3(f); Background sampling required by Permit Condition K.6 and K.7; and Semi-annual and annual sampling and analysis events required by Permit Conditions K.9 through K.14.

(i) The laboratory results from each of the wells, including duplicates, and their associated data qualifiers.

(ii) The date each well was sampled (in tabular format).

(iii) The date, time and identification of all blanks and duplicates (tabulated).

(iv) All Ground Water Sampling Field Data Sheets and documentation of deviations from the procedures specified in Appendix E.9 of the approved Part B Permit Application including documentation of parameter omissions during the sampling event.

(v) The date the Permittee received the results from the laboratory.

(vi) The date the Permittee completed their preliminary review of the analytical laboratory's verification of the accuracy and precision of the analytical data and determined its quality. This review must be based upon the data validation procedures in Appendix E.12 of the approved Part B Permit Application. Compliance will be facilitated by referring to: Ohio EPA Technical Guidance Manual for
(vii) The results of the data validation review including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results consistent with the U.S. EPA and Ohio EPA guidelines for data review.

(viii) The results from all blanks (temperature, trip, field, equipment, method, etc.), matrix spike analysis, and laboratory control samples.

(ix) Results of the field parameters.

(x) All Chains-of-Custody.

(xi) A list of affected wells.

(xii) The constituent lists for the affected wells.

(xiii) Identification of the person(s) performing the statistical evaluation;

(xiv) Ground water elevation data, tabulated as required by Permit Conditions K.5(a);

(xv) Potentiometric surface maps for each monitored zone (one map for each zone) based on the ground water elevation data based on data from all wells, whether the data are contourable or not.

(xvi) A discussion of flow characteristics, including any changes in ground water flow direction in the bedrock zone.

(xvii) The information specified in Permit Condition K.8(b)(ii)(b)(i) through (x) for all resampling and analysis and confirmation sampling and analysis conducted to satisfy Permit Condition K.9(f).

(xviii) The date of completion of all data evaluation (e.g., cumulative risk estimates, statistical analysis, etc.).

(xix) Identification in change in well-constituent status:

(a) Identification of elevated constituents for each well in accordance with Permit Conditions K.9(d) and (f); K.10(a)(iv) and (vi); K.12(c); and K.13(c)
(b) Notice of change in well status from unaffected to affected in accordance with Permit Condition K.9(g);

(c) Notice of change in well status from affected to unaffected, and change in constituent from elevated to non-elevated in accordance with Permit Condition K.10(a)(iv)(c); and

(d) Notice of intent to submit a false positive demonstration in accordance with Permit Condition K.9(g)(vi).

(xx) The date the Permittee completed their final review of the analytical laboratory's verification of the accuracy and precision of the analytical data and determined its quality and a signed statement of validity. This review must be based upon the elements in Permit Condition K.8(b)(ii)(b)(i) through (x) and the data validation procedures in Appendix E.12 of the approved Part B Permit Application.

(xxi) Plan maps, cross sections, and evaluations for each elevated constituent showing the extent of the plume in accordance with Permit Condition K.10(a)(iv)(b).

(xxii) The results of cumulative risk estimates, including a discussion of the effect of using any qualified data.

(xxiii) A report on the effectiveness of the IGWMP, performed by a qualified hydrogeologist in accordance with Permit Conditions K.14(i), K.9(h), and K.10(d).

(xxiv) A report on, and schedule for, any permit modification requests to be submitted. Permit modification requests may include, but are not limited to, those required by Permit Conditions:

(a) K.3(d) to add, remove or replace wells;

(b) K.3(f)(vi) for changes to the program as a result of a difference in ground water quality between a well and a replacement well;

(c) K.6(c) for establishing new or revised background values;

(d) K.7(a) for identifying appropriate statistical method for establishing background values;

(e) K.7(c) for implementing recalculated background statistical limits;
(f) K.9(g)(iv) and K.10(a)(iv) to change well status from unaffected to affected, add constituents to sampling and analysis lists for affected wells and adjacent wells, and/or change monitoring frequency, sampling and analysis procedures;

(g) K.10(b) to establish a corrective action program meeting the requirements of OAC Rules 3745-54-100;

(h) K.9(g)(vi) and K.10(c) for changes to the program because of an alternate source demonstration;

(i) K.10(a)(vi) add wells to determine extent; and,

(j) K.9(h), K.10(d), and K.11 changes because of the Permittee or the Director determining that the IGWMP established by this Permit no longer satisfies the regulatory requirements.

(xv) Report on any monitoring well maintenance performed, including copies of any maintenance forms, and any maintenance scheduled to be performed.

(iii) Other Reports
OAC Rule 3745-54-77(C)

The Permittee must comply with any reporting requirements that become necessary under Permit Conditions K.9, K.10, K.11, K.12, K.13 and K.14 in accordance with the schedules covered by that permit condition and as required by OAC Rule 3745-54-77(C).

UPPERMOST AQUIFER MONITORING PROGRAM

K.9. Detection Monitoring Program
OAC Rule 3745-54-98

(a) The Permittee must establish and implement a detection ground water monitoring program as required by OAC Rule 3745-54-98 at all uppermost aquifer wells listed in Permit Condition K.3(b) that have not been identified as an affected well. An affected well is a well where the Permittee has determined there is statistically significant evidence of contamination in accordance with Permit Condition K.9(f) and K.9(g)(ii).

(b) The Permittee must determine concentrations of the parameters in the following table that provide a reliable indication of the presence of hazardous constituents in ground water at each uppermost aquifer monitoring well listed in Permit Condition K.3(b) semi-annually during the active life of the regulated unit(s) plus the closure period and post closure care period. These concentrations will be compared to the background concentrations set forth below in accordance with Permit Conditions K.6 and K.7.
### Hazardous Constituent CASRN Background Concentration Limit

<table>
<thead>
<tr>
<th>VOCs</th>
<th>CASRN</th>
<th>Background Concentration Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>&lt;PQL&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>&lt;PQL&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<tr>
<td>2-Butanone</td>
<td>78-93-3</td>
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<td>Carbon Disulfide</td>
<td>75-15-0</td>
<td>&lt;PQL&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<td>Chlorobenzene</td>
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<td>&lt;PQL&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<td>Chloroethane</td>
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<td>&lt;PQL&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<tr>
<td>Chloromethane</td>
<td>74-87-3</td>
<td>&lt;PQL&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<tr>
<td>Dibromomethane</td>
<td>74-95-3</td>
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### Inorganics

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<tr>
<th>Inorganics</th>
<th>CASRN</th>
<th>Background Statistical Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium (dissolved)</td>
<td>7440-39-3</td>
<td>Background Statistical Limit&lt;sup&gt;(2)&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cadmium (dissolved)</td>
<td>7440-43-9</td>
<td>Background Statistical Limit&lt;sup&gt;(2)&lt;/sup&gt;</td>
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<td>Total Chromium (dissolved)</td>
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<td>Background Statistical Limit&lt;sup&gt;(2)&lt;/sup&gt;</td>
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<td>Cyanide (total)</td>
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<td>Background Statistical Limit&lt;sup&gt;(3)&lt;/sup&gt;</td>
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<tr>
<td>Lead (dissolved)</td>
<td>7439-92-1</td>
<td>Background Statistical Limit&lt;sup&gt;(2)&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

1. Practical Quantitation Limit (PQL). A confirmed detection at or above the PQL is considered a statistical significant increase above background. Maximum PQLs are listed in Attachment C of Appendix E.9 of the approved Part B Permit Application.

2. Background Statistical Limit: For the uppermost aquifer, background limits are specified as intrawell statistical limits derived and listed in Appendix E.7 of the approved Part B Permit Application.

In addition to the hazardous constituents listed above, the Permittee must monitor the following parameters:

<table>
<thead>
<tr>
<th>Ground Water Field Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
</tr>
<tr>
<td>specific conductance</td>
</tr>
</tbody>
</table>
Ground Water Field Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>temperature</td>
</tr>
<tr>
<td>turbidity</td>
</tr>
</tbody>
</table>

Note: These field parameters will be measured in the field in accordance with the Permittee’s Standard Operating Procedures for the collection of ground water samples as described in Appendix E.9 of the approved Part B Permit Application. These parameters will be collected to demonstrate that the collected ground water samples are representative of formation water.

(c) The Permittee’s ground water monitoring program must include collection, preservation, and analysis of samples for the constituents and parameters listed in Permit Condition K.9(b) pursuant to Permit Conditions K.4, K.5, and K.6. The Permittee must maintain a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance under Permit Conditions K.7 and K.8.

(d) Statistical analysis shall be conducted semi-annually to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in Permit Condition K.9(b).

(e) The Permittee must determine the ground water flow rate and direction in the uppermost aquifer semi-annually using the procedures specified in Appendix E.9 of the Approved Part B Permit Application and Permit Condition K.5.

(f) The Permittee must determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Permit Condition K.9(b) semi-annually and include the results in the semi-annual data report in accordance with Permit Condition K.8(b)(ii)(b).

In determining whether statistically significant evidence of contamination exists, the Permittee must use the methods specified in Permit Conditions K.6 and K.7 to compare data collected at the compliance point(s) to the background ground water quality data.

When the initial sample concentration of a constituent exceeds its associated background statistical limit, the Permittee may re-sample the well(s) in question in duplicate in accordance with Permit Condition K.9(g)(iii). The duplicate samples must be analyzed by two independent laboratories. If the independent laboratory results have a relative percent difference of 30% or less, then the exceedance will be considered confirmed only if the analysis results from both laboratories exceed the associated background limit. If the independent laboratory results have a relative percent difference greater than 30%, then the exceedance will be considered confirmed if either result exceeds the associated background limit. If the exceedance is confirmed, the constituent will be considered elevated and the well will be considered to be affected unless demonstrated otherwise pursuant to Permit Condition K.9(g)(vi). If the exceedance is not confirmed, then the constituent will be considered to not be elevated and the well will remain unaffected and in detection.
monitoring. If re-sampling in duplicate is not conducted the constituent will be considered elevated based on the initial sample concentration and the well will be considered affected.

(g) If the Permittee determines, pursuant to Permit Condition K.9(f), that statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Permit Condition K.9(b) has been confirmed at any monitoring well at the compliance point, then the Permittee must:

(i) Notify the Director of this finding in writing in the semi-annual data report in accordance with Permit Condition K.8(b)(ii) of that determination. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination, the corresponding analytical results, and the well(s) with the confirmed evidence;

(ii) Sample the ground water prior to or during the next semi-annual sampling event in affected well(s), nested wells, and adjacent wells listed in Permit Condition K.3(b) and determine whether constituents listed in Permit Condition K.2(a) are present, and if so, at what concentration. A well need only be sampled once within a given sampling event, excluding re-sampling for confirmation, to meet the requirements of this Permit Condition, even if it is identified for this sampling more than once due to an overlap in sampling events.

(iii) For any constituents listed in Permit Condition K.2(a) detected in samples collected pursuant to Permit Condition K.9(g)(ii), the Permittee may re-sample affected wells in accordance with the re-sampling procedures in Permit Condition K.9(f) within thirty (30) days of receiving all final data validation results for the sampling event (target dates are April and October for initial samples and July and January for resamples). If the results of the second analysis confirm the initial results, or if the Permittee elects not to re-sample, then these constituents form the basis for compliance monitoring specified in Permit Condition K.10.

(iv) Within ninety (90) days of the semi-annual data report submittal date in Permit Condition K.8(b)(ii), submit to the Director an application for a permit modification adding the affected well(s) to the affected well list in Appendix E.9, Attachment D of the approved Part B Permit Application, and implement the compliance monitoring program meeting the requirements of OAC Rule 3745-54-99 in Permit Condition K.10. The application must include the following information:

(a) Identification of the concentration of any constituents listed in Permit Condition K.2(a) detected in the ground water at each monitoring well at the point of compliance or between the compliance point and the downgradient facility boundary;

(b) Any proposed changes to the ground water monitoring system at the facility necessary to meet the requirements of compliance monitoring under OAC Rule 3745-54-99 including wells necessary to meet OAC Rule 3745-54-
91(A)(3) with a visual representation of the point of compliance required by OAC Rule 3745-54-95;

(c) Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of OAC Rule 3745-54-99;

(d) For each hazardous constituent detected at the compliance point or between the compliance point and the downgradient property boundary, a proposed concentration limit under OAC Rule 3745-54-94(A)(1) or (A)(2), or a notice of intent to seek an alternate concentration limit for a hazardous constituent under OAC Rule 3745-54-94(B);

(e) The compliance period as defined in OAC Rule 3745-54-96; and

(f) A statement that the Permittee will begin or has begun sampling and analyzing for the new constituents at the next regularly scheduled sampling event following the event in which they were determined to be present.

(v) Within one hundred and eighty (180) days of determining a statistically significant increase submit to the Director:

(a) All data necessary to satisfactorily justify an alternate concentration limit under OAC Rule 3745-54-94(B) if a concentration limit has not already been established for the constituent in Permit Condition K.2(a); and

(b) An engineering feasibility plan (EFP) for a corrective action program necessary to meet the requirements of OAC Rule 3745-54-100 if concentrations exceed the concentration limit in Permit Condition K.2(a).

(vi) If the Permittee determines, pursuant to Permit Condition K.9, that there is a statistically significant difference for chemical parameters or hazardous constituents specified in Permit Condition K.9(b) at any monitoring well at the compliance point or between the compliance point and the downgradient property boundary, a demonstration may be submitted to the Agency that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, statistical evaluation, or natural variation in the ground water.

The Permittee may make this demonstration in addition to, or in lieu of, submitting a permit modification application for a compliance ground water monitoring program under OAC Rule 3745-54-99. However, the Permittee is not relieved of the requirement to submit a permit modification application within ninety (90) days unless the demonstration made under this Permit Condition is deemed successful by the Agency prior to the ninety (90) day time limit.

In such cases, the Permittee must:
(a) Notify the Director in writing in the semi-annual data report in accordance with Permit Condition K.8(b)(ii) of determining a statistically significant evidence of contamination at the compliance point or between the compliance point and the downgradient property boundary that such a demonstration will be made;

(b) Within ninety (90) days of the date of the semi-annual data report, submit a report to the Director which successfully demonstrates that a source other than a regulated unit caused the contamination or that the increase resulted from error in sampling, analysis, or evaluation;

(c) Within ninety (90) days of the date of the semi-annual data report, submit to the Director, in accordance with OAC Rule 3745-50-51, an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility; and

(d) Continue to monitor in accordance with the approved detection monitoring program established under this permit.

(h) If the Permittee determines in the evaluation required by Permit Condition K.8(b)(ii)(b)(xxiii) that the detection monitoring program no longer satisfies the requirements of OAC Rule 3745-54-98, the Permittee must, within ninety (90) days of the date of the semi-annual data report, submit an application for a permit modification in accordance with OAC Rule 3745-50-51 to make any appropriate changes to the program.

K.10. Compliance Monitoring Program
OAC Rule 3745-54-99

(a) The Permittee required to establish and implement a compliance ground water monitor program under OAC Rules 3745-54-90 through 54-100 must at a minimum, discharge the following responsibilities:

(i) The Permittee must monitor the ground water to determine whether regulated units are in compliance with the ground water protection standard under OAC Rule 3745-54-92 as specified in Permit Condition K.2.

(ii) The Permittee must install a ground water monitoring system at the compliance point as specified under OAC Rule 3745-54-95 as defined in Permit Condition K.2(b). The ground water monitoring system must comply with the requirements in Permit Condition K.3.

(iii) The program must include collection, preservation, and analysis of samples pursuant to Permit Conditions K.4, K.5, and K.6. Statistical analysis must be conducted pursuant to Permit Condition K.7.
(a) The Permittee must conduct a sampling program semi-annually for each chemical parameter and hazardous constituent specified in Permit Condition K.9(b) and those additional constituents identified in accordance with Permit Conditions K.9(g)(ii) and K.10(a)(vi) from each uppermost aquifer compliance well specified in Appendix E.9, Attachment D of the approved Part B Permit Application.

(b) The Permittee must maintain a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance under Permit Condition K.7 and K.8 for the compliance period defined in Permit Condition K.2(c).

(iv) The Permittee must determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in Permit Condition K.9(b) and those additional constituents identified in accordance with Permit Conditions K.9(g)(ii) and K.10(a)(vi) semi-annually during the compliance period.

(a) In determining whether statistically significant evidence of increased contamination exists, the Permittee must identify all elevated constituents using the statistical procedures specified in Permit Conditions K.6 and K.7. The Permittee must compare data for all identified elevated constituents collected at each uppermost aquifer compliance well specified in Appendix E.9, Attachment D of the approved Part B Permit Application to the concentration limits specified in Permit Condition K.2(a).

(b) The Permittee must determine whether there is statistically significant evidence of increased contamination at each uppermost aquifer compliance well specified in Appendix E.9, Attachment D of the approved Part B Permit Application and report the results within the semi-annual report in accordance with Permit Condition K.8(b)(ii). The report shall include for each elevated constituent the extent of the plume. The extent shall be shown on isoconcentration maps and isoconcentration cross sections for each elevated constituent. The concentration must be printed on the map and cross section next to the appropriate well location and concentration contours must be drawn on the map cross section when applicable (maps and cross sections which highlight the affected well with the identified concentrations may be used as appropriate). The estimated extent of the plume must be indicated on the map and cross section. The report must include an evaluation of the need for additional monitoring wells to determine the full extent of the plume. If additional wells are needed to determine the extent of the plume, a permit modification shall be submitted in accordance with Permit Condition K.10(d) to add any necessary wells to the monitoring system or make any appropriate changes to the program.

(c) An elevated non-naturally occurring constituent may return to un-elevated
status when it has not been detected at or above the PQL for 4 consecutive sampling events. A naturally occurring constituent may return to un-elevated status when it has not been detected above its statistical background limit for 4 consecutive sampling events. An affected well will return to unaffected status and return to detection monitoring requirements in Permit Condition K.9 when there have been no elevated constituents as defined above at the well for a minimum of two consecutive years documented by a minimum of 4 sampling and analysis events.

(v) The Permittee must determine the ground water flow rate and direction in the uppermost aquifer at least semi-annually using the procedures specified in Appendix E.9 of the Approved Part B Permit Application and in accordance with Permit Condition K.5.

(vi) The Permittee annually must determine whether additional hazardous constituents listed in Permit Condition K.2(a), which could possibly be present above background but are not on the affected well monitoring list in Appendix E.9, Attachment D of the Approved Part B Permit Application, are actually present in the uppermost aquifer and, if so, at what concentration, pursuant to procedures in Permit Condition K.7. The Permittee must perform sampling for hazardous constituents listed in Permit Condition K.2(a) during the Spring event each year at affected uppermost aquifer compliance wells listed in Appendix E.9, Attachment D of the Approved Part B Permit Application at the compliance point.

If the Spring event indicates that constituents from the constituent list in Permit Condition K.2(a) are present above background in the ground water that are not already identified on the affected wells monitoring list in Appendix E.9, Attachment D of the Approved Part B Permit Application, the Permittee may resample within thirty (30) days of receiving all final data validation results for the sampling event (target dates are April for initial samples and July for resamples), and repeat the analysis following the re-sampling procedures in Permit Condition K.9(f). If the second analysis confirms the presence of new constituents, the Permittee must report the concentration of these additional constituents to the Director within the semi-annual data report required by Permit Condition K.8. If the Permittee chooses not to resample, then the concentrations of these additional constituents must be reported to the Director within the semi-annual data report and added to the monitoring list in Permit Condition K.10(a)(iv).

(a) Within ninety (90) days, the Permittee must submit to the Agency an application for a permit modification to incorporate the additional constituent(s) identified in Permit Condition K.10(a)(vi) into the affected well, nested wells, and adjacent wells monitoring list in Appendix E.9, Attachment D of the Approved Part B Permit Application.

(b) The Permittee must begin sampling and analyzing for the new constituents at the next regularly scheduled sampling event.
If the Permittee has determined that any concentration limits identified in Permit Condition K.2(a) are being exceeded in any uppermost aquifer monitoring well either at the compliance point or between the compliance point and the downgradient property boundary, the Permittee must:

(i) Notify the Director of this finding in the semi-annual data report in accordance with Permit Condition K.8(b)(ii) of that determination. The notification must indicate which parameter concentration limit(s) have been exceeded by well location.

(ii) The Permittee must submit to the Director an application for a permit modification to establish a corrective action program meeting OAC Rule 3745-54-100 requirements within one hundred and eighty (180) days of determining that any concentration limit has been exceeded, or within ninety (90) days if the Permittee has previously submitted an engineering feasibility study pursuant to Permit Condition K.9(g)(v)(b). The application must at a minimum include the following information:

(a) A detailed description of corrective actions, including time frames, that will achieve compliance with the ground water protection standard specified in Permit Condition K.2; and

(b) A plan for a ground water monitoring program that will demonstrate the effectiveness of the corrective action. Such a ground water monitoring program may be based on a compliance monitoring program developed to meet the requirements of OAC Rule 3745-54-99.

(c) If the Permittee determines, pursuant to Permit Condition K.10(b) that any concentration limits specified in Permit Condition K.2(a) are being exceeded at any monitoring well at the compliance point or between the compliance point and the downgradient property boundary, the Permittee may submit a demonstration to the Agency that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, statistical evaluation or natural variation in the ground water. In making such a demonstration, the Permittee must:

(i) Notify the Director in writing within the semi-annual data report in accordance with Permit Condition K.8(b)(ii) that the Permittee intends to make such a demonstration;

(ii) Within ninety (90) days of determining an exceedance, submit a report to the Director which demonstrates that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, statistical evaluation or natural variation in the ground water;

(iii) Within ninety (90) days of determining an exceedance, submit to the Director an application for a permit modification to make any appropriate changes to the monitoring program at the facility; and
(iv) Continue to monitor in accordance with the compliance monitoring program under this Permit.

(d) If the Permittee determines the compliance monitoring program established by this permit no longer satisfies the requirements of OAC Rule 3745-54-99, the Permittee must, within ninety (90) days of the determination, submit an application for a permit modification per OAC Rule 3745-50-51 to make any appropriate changes to the program.

K.11. Corrective Action Program
OAC Rules 3745-50-44(B)(8) and 3745-54-100

[Reserved]

MONITORING GROUND WATER ABOVE UPPERMOST AQUIFER

K.12. Deep Till Contact Zone Monitoring Program
OAC Rule 3745-54-101 for zones above the uppermost aquifer.

(a) The Permittee must implement a routine ground water monitoring program at all deep till contact zone wells listed in Permit Condition K.3(b) with constituent concentrations below ground water protection standards in Permit Condition K.2(a) or returned to concentrations levels below protection standards in accordance with Permit Condition K.14(h). This monitoring program will be conducted as follows based on the current designation of the well as affected or unaffected and the construction of leachate collection systems in any adjacent WMU:

(i) Unaffected wells listed in the Table below adjacent to double-lined WMU:

<table>
<thead>
<tr>
<th>Wells adjacent to double-lined WMUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-1DA</td>
</tr>
<tr>
<td>G-2DA</td>
</tr>
<tr>
<td>G-3D</td>
</tr>
<tr>
<td>G-8</td>
</tr>
<tr>
<td>G-9D</td>
</tr>
<tr>
<td>G-11</td>
</tr>
<tr>
<td>I-3D</td>
</tr>
<tr>
<td>I-4D</td>
</tr>
</tbody>
</table>

For unaffected wells located adjacent to a double-lined WMU, sampling and analysis at these wells may be suspended in accordance with the following:

(a) Monitoring wells are maintained and monitored annually for water level.

(b) Sampling is required for constituents listed in Permit Condition K.9(b) if the ALR
and secondary-leachate concentration limits established for the adjacent lined WMU are exceeded. Appendix D.32 of ESOI’s approved Part B Permit Application provides ALRs and secondary-leachate concentration limits for WMUs 2, 4, and 13 (Cells G, I, and M), which are all double-lined WMUs. Monitoring will begin with the next event scheduled for other deep till contact zone monitoring wells, but no sooner than one (1) year from exceeding the ALR and action limits. Monitoring shall continue at a frequency of once every five years until it is successfully demonstrated that it is no longer necessary.

(ii) Unaffected wells listed in the Table below adjacent to non-double-lined WMU:

<table>
<thead>
<tr>
<th>Wells next to non-double-lined WMUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-1DA</td>
</tr>
<tr>
<td>F-2D</td>
</tr>
<tr>
<td>F-3D</td>
</tr>
<tr>
<td>G-6</td>
</tr>
<tr>
<td>G-7</td>
</tr>
</tbody>
</table>

For unaffected wells located adjacent to a non-double-lined WMU, monitor constituents specified in Permit Condition K.9(b). Monitoring shall be performed once every five years beginning with the year following the effective date of this permit modification.

(iii) Affected wells: Wells identified as affected in accordance with Permit Conditions K.12(c) and (d) are to be monitored for constituents specified in Permit Condition K.2(a) every five years.

(b) The Permittee’s ground water monitoring program must include collection, preservation, and analysis pursuant to Permit Conditions K.4, K.5, and K.7. The Permittee must maintain a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance under Permit Conditions K.7 and K.8.

(c) The Permittee must identify elevated constituents in the monitoring data as follows:

(i) For non-naturally occurring constituents, elevated constituents will be identified by concentrations that are equal to or greater than PQLs; and

(ii) For naturally occurring constituents, elevated metal constituents will be identified by concentrations that exceed facility wide statistical background levels, which will be based on the maximum intra-well prediction limits among all deep till wells. Determination of background limits will be conducted in accordance with Permit Conditions K.6 and K.7. Calculated background limits are listed in Appendix E.7 of the approved Part B Permit Application.

(iii) An elevated non-naturally occurring constituent may return to un-elevated status when it has not been detected at or above the PQL for 4 consecutive sampling events over a
minimum of two consecutive years. A naturally occurring constituent may return to un-
elevated status when it has not been detected above its statistical background limit for
four (4) consecutive sampling events over a minimum of two consecutive years. An
affected well will return to unaffected status and return to monitoring requirements for
unaffected wells in Permit Condition K.12(a) when there have been no elevated
constituents as defined above at the well for a minimum of two consecutive years
documented by a minimum of 4 sampling and analysis events. The Permittee may
schedule semi-annual sample and analysis events to achieve this status within the
minimum two-year period.

(d) The Permittee must identify all wells with elevated constituents as an affected well and
monitor the well as specified in Permit Condition K.12(a)(iii). Elevated constituent
concentrations that do not exceed the action levels specified in Permit Condition K.2(a) will be
added to the list of monitoring parameters for the particular WMU so that future monitoring
can assess any temporal trends. In addition,

(i) The Permittee must sample adjacent wells in the same formation for the elevated
constituent(s) and K.2(a) constituents in the same analyte group.

(ii) Elevated constituent concentrations that exceed the action level specified in Permit
Condition K.2(a) must be assessed to determine whether the cumulative cancer risk or
HI exceed the ground water protection standard defined in Permit Condition K.2. The
Permittee may utilize unit-specific bedrock dilution factors provided in Section E,
Appendix E.11 of the approved RCRA Part B Permit Application for this assessment.

(e) If the cumulative cancer risk or HI exceeds the ground water protection standard defined in
Permit Condition K.2, then the Permittee implement additional corrective measures or modify
the existing corrective measures in accordance with Permit Condition K.14. The Permittee
must also implement the monitoring program in Permit Condition K.14(d) at wells with
constituents exceeding the protection standards in Permit Condition K.2(a).

(f) The findings of the evaluation of sampling results in accordance with Permit Conditions K.12(a)
through (e) must be reported to the Director in the semi-annual data reports in accordance
with Permit Condition K.8(b)(ii).

K.13. Shallow Till Contact Zone Monitoring Program
OAC Rule 3745-54-101 for zones above the uppermost aquifer.

(a) The Permittee must implement a routine ground water monitoring program at all shallow till
contact zone wells listed in Permit Condition K.3(b) with constituent concentrations below
ground water protection standards specified in Permit Condition K.2(a) or returned to
concentrations levels below ground water protection standards in accordance with Permit
Condition K.14(h). This monitoring program will be conducted as follows based on the current
designation of the well in Appendix E.9, Attachment D of the approved Part B Permit
Application as affected or unaffected and the conditions of leachate levels in any adjacent
WMU:
(i) Assess leachate levels in adjacent WMUs in comparison with the elevation of the lacustrine/upper till contact zone ground water level. Leachate levels are the most recently recorded average of interior leachate head for each unit. The shallow till contact zone ground water level is the lowest ground water elevation in the adjacent shallow till wells. For double lined WMUs, the shallow till contact zone ground water elevation in the adjacent wells should be compared to the elevation of the leachate in the primary leachate collection system [leachate measurements required by Permit Conditions M.7(C) and F.2(D)(ii)].

(ii) Unaffected wells:

(a) For unaffected wells located adjacent to WMUs in which the average leachate level is above the elevation of the monitored lacustrine/upper till contact zone, monitor all adjacent wells with ground water elevations below the average interior leachate level for constituents listed in Permit Condition K.9(b) semi-annually until ground water elevations within the adjacent wells are above the average interior leachate head level.

(b) For unaffected wells located adjacent to WMUs in which the average leachate level is below the elevation of the monitored lacustrine/upper till contact zone, wells are maintained and monitored annually for water level.

(iii) Affected wells: Wells identified as affected in accordance with Permit Conditions K.13(c) and (d) are to be monitored as follows:

(a) If located adjacent to WMUs in which the average leachate level is below the elevation of the lacustrine/upper till contact zone level, monitor elevated constituents biennially and water levels annually.

(b) If located adjacent to WMUs in which the average leachate level is above the elevation of the lacustrine/upper till contact zone level, monitor constituents listed in Permit Condition K.9(b) and elevated constituents semi-annually. Constituents listed in Permit Condition K.2(a) VOCs and inorganics will be analyzed annually.

(b) The Permittee’s ground water monitoring program must include collection, preservation, and analysis pursuant to Permit Conditions K.4, K.5, and K.7. The Permittee must maintain a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance under Permit Conditions K.7 and K.8.

(c) Permittee must identify elevated organic constituents in the monitoring data as follows:

(i) For non-naturally occurring constituents, elevated constituents will be identified by concentrations that are equal to or greater than PQLs.
(ii) For naturally occurring constituents, elevated inorganic constituents will be identified by concentrations that exceed facility wide statistical background levels, which will be based on the maximum intra-well prediction limits among all shallow till wells. Determination of background limits will be conducted in accordance with Permit Conditions K.6 and K.7. Calculated background limits are listed in Appendix E.7 of the approved Part B Permit Application.

(iii) An elevated non-naturally occurring constituent may return to un-elevated status when it has not been detected at or above the PQL for four (4) consecutive sampling events over a minimum of two consecutive years. A naturally occurring constituent may return to un-elevated status when it has not been detected above its statistical background limit for four (4) consecutive sampling events over a minimum of two consecutive years. An affected well will return to unaffected status and return to monitoring requirements for unaffected wells in Permit Condition K.13(a) when there have been no elevated constituents as defined above at the well for a minimum of two consecutive years documented by a minimum of four (4) sampling and analysis events. The Permittee may schedule semi-annual sample and analysis events to achieve this status within the minimum two-year period.

(d) Permittee must identify all wells with elevated constituents as an affected well and monitor the well as specified in Permit Condition K.13(a)(iii). Elevated constituent concentrations that do not exceed the action level specified in Permit Condition K.2(a) will be added to the list of monitoring parameters for the particular WMU so that future monitoring can assess any temporal trends. In addition,

(i) The Permittee must sample adjacent wells in the same formation for the elevated constituent and constituents in the same analyte group specified in Permit Condition K.2(a).

(ii) Elevated constituent concentrations that exceed the action level specified in Permit Condition K.2(a) must be assessed to determine whether the cumulative cancer risk or HI exceed the ground water protection standard.

(e) If the cumulative cancer risk or HI exceeds the ground water protection standard defined in Permit Condition K.2, then the Permittee implement additional corrective measures or modify the existing corrective measures in accordance with Permit Condition K.14. The Permittee must also implement the monitoring program in Permit Condition K.14(d) at wells with constituents exceeding the protection standards in Permit Condition K.2(a).

(f) Findings of the evaluation of sampling results in accordance with Permit Conditions K.13(a) through (e) must be reported to the Director in the semi-annual data reports in accordance with Permit Condition K.8(b)(ii).

K.14 Corrective Action Program
OAC Rules 3745-54-101 for zones above the uppermost aquifer.
(a) The Permittee is required to establish and implement a ground water corrective action program under OAC Rule 3745-54-101 for affected deep and shallow till wells with constituent concentrations above protection standards specified in Permit Condition K.2(a) and must take corrective action to ensure that regulated units are in compliance with the ground water protection standard in Permit Condition K.2.

(b) The Permittee must implement a corrective action program that prevents hazardous constituents specified in Permit Condition K.2(a) from exceeding their respective protection standard specified in Permit Condition K.2(a) at the compliance point specified in Permit Condition K.2(b). If the protection standard is exceeded, then the Permittee must implement a corrective action program that lowers concentrations below the protection standard by removing or containing the hazardous waste constituents or by treating them in place.

(c) The Permittee must implement corrective action required under this Permit Condition and Permit Module E in accordance with the time schedule in Permit Module E and the approved Corrective Measures Plan.

(d) In conjunction with the corrective action program, the Permittee must establish and implement a ground water monitoring program to fully characterize contaminated ground water as required to demonstrate the effectiveness of the corrective action program. When the protection standard in Permit Condition K.2(a) is exceeded, the Permittee must implement the following:

(i) Monitoring frequency and constituents shall be:

   (a) For shallow till wells, semiannual for elevated constituents and constituents listed in Permit Condition K.9(b) and annually for constituents in Permit Condition K.2(a).

   (b) For deep till wells, annually for elevated constituents and constituents listed in Permit Condition K.9(b) and every five years for constituents in Permit Condition K.2(a).

(ii) Determine rate, extent, and concentration of any releases exceeding protection standard in Permit Condition K.2(a).

(iii) For current identified releases submit a new CMS if the assessment in Permit Condition K.12(e) or K.13(e) determines that additional corrective measures are necessary or if Ohio EPA does not concur that additional corrective measures are not necessary. The new CMS must be submitted within ninety (90) days of making the determination that additional corrective measures are necessary. Until the director selects new corrective measures, the Permittee must continue with the current Integrated Ground Water Monitoring Program.

(iv) For newly identified releases

   (a) Submit a new CMS within ninety (90) days of making the determination that
protection standards have been exceeded.

(b) Until the Director selects new corrective measures, continue implementing the current IGWP, including identifying all elevated constituents, determining if protection standards are exceeded and submitting trend charts for elevated constituents.

(e) The Permittee must conduct a corrective action program to remove, contain or treat in place any hazardous constituents specified in Permit Condition K.2(a) that exceeds the ground water protection standard specified in Permit Condition K.2(a) in ground water:

(i) Between the compliance point specified in Permit Condition K.2(b) and the downgradient facility property boundary, in accordance with the procedures specified in the approved Part B Permit Application.

(ii) Beyond the facility boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the Agency that, despite the Permittee’s best efforts, the Permittee was unable to obtain the necessary permission to undertake such action. 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.

(f) Corrective action measures required under Permit Condition K.14(e) must be initiated and completed within the time period outlined in the approved corrective measures plan referenced in Permit Condition K.14(d).

(g) Corrective measures under Permit Condition K.14(e) may be terminated once the concentration of hazardous constituents under Permit Condition K.2(a) are reduced to levels below the protection standard under Permit Condition K.2(a) for three consecutive years of monitoring per OAC Rule 3745-54-100(F), documented with a minimum of four (4) analysis results.

(h) The Permittee must continue corrective action measures during the compliance period specified in Permit Condition K.2(c) to the extent necessary to ensure that the ground water protection standard is not exceeded.

Since the Permittee is conducting source control corrective measures that must continue in perpetuity to ensure that the ground water protection standard will never be exceeded, the Permittee must continue the source control corrective action in perpetuity. However, a well monitored in accordance with corrective action monitoring requirements may revert to monitoring requirements in Permit Condition K.12 and K.13 if all elevated constituents have been below protection standards in Permit Condition K.2(a) for three (3) consecutive years documented with a minimum of four (4) analysis results.

(i) The Permittee must report in writing to the Director on the effectiveness of the corrective action program annually according to Permit Condition K.8(b).
(j) If the Permittee determines the corrective action program established by this permit no longer satisfies the requirements of OAC Rule 3745-54-101, the Permittee must, within ninety (90) days of that determination, submit an application for a permit modification pursuant to OAC Rule 3745-50-51 to make any appropriate changes to the program.
MODULE L – ADDITIONAL CONDITIONS

L.1  Reserved.

L.2  Fire Control Provisions

Prior to managing hazardous waste in any area of the modified portions of the facility, the Permittee must have available a sufficient supply of water at a nozzle pressure of 100 PSI for use with the Permittee’s fire suppression system.

L.3  Surface Water Management

The Permittee must follow the surface water management plan for the entire facility as found in Volume 3C, Appendix D.24 of the permit application.

L.4  Maintenance and Abandonment of Other Wells

All other wells or borings that have been installed at the facility that are not addressed in Modules K or E must be operated and maintained to perform to design specifications and when abandoned, should be plugged and abandoned in accordance with the State of Ohio Technical Guidance for Sealing Unused Wells (State Coordinating Committee on Ground Water, 2015) and Ohio EPA’s Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring, Chapter 9 (2009). Well plugging and abandonment methods, and certification must be submitted to the director within thirty (30) days from the date the wells are abandoned.
MODULE M – CELL M LANDFILL

M. MODULE HIGHLIGHTS

The Permittee maintains and operates one active landfill known as Cell M and shown on Drawing PRMO-T04 in Volume DRWG of the permit application. The scope of this permit module involves regulatory requirements for Cell M. Cell M, located south of York Street, was excavated and developed in a total of 3 phases. Cell M is approximately 25 acres at ground surface and extends approximately 45 feet below the original ground surface and is permitted for a maximum height of 120 feet (714 MSL) above the ground surface. Cell M was constructed with a multi-component bottom liner system that consists of a minimum of 9 feet of recompacted, engineered clay and multiple synthetic liners which is discussed in more detail below. The components of the liner and leachate collection systems are described in the Construction Quality Assurance report for Cell M, Phases 1, 2 and 3 Below Grade Liner Construction. As-built details of Cell M excavation and the secondary clay liner are provided within the Cell M, Phases 1, 2 and 3 As-Built Drawings. The total capacity for Cell M is approximately 3.338 million cubic yards.

The bottom of Cell M was designed and constructed with a double liner system that includes the following components (listed from bottom to top):

- A secondary composite liner consisting of a minimum of 9 feet (and a maximum of 21 feet) of recompacted clay layer covered by a 60-mil High Density Polyethylene (HDPE) geomembrane liner.

- A leak detection and collection system above the secondary liner consisting of a geotextile covering a 12-inch aggregate drainage layer covering another geotextile and a HDPE geonet.

- A primary composite liner consisting of 2 feet of recompacted clay support layer covered by an 80-mil HDPE geomembrane liner.

- A leachate collection system (LCS) above the primary liner consisting of a geotextile, a 12-inch aggregate drainage layer, another geotextile and an HDPE geonet.

The internal sideslopes of Cell M were designed and constructed with a double liner system that includes the following:

- A secondary liner consisting of a minimum of 6.5 feet of recompacted clay layer covered by a 60-mil HDPE geomembrane liner.

- A leak detection and collection system above the secondary liner consisting of a geonet.

- A primary liner consisting of an 80-mil HDPE geomembrane liner.

- An LCS above the primary liner consisting of a geotextile over a HDPE geomembrane geonet.
Liquids collected in the Cell M liner system drain to collection sumps. Liquids are pumped from the sumps through sideslope riser pipes and transported to the Leachate Storage Tank Building by tanker truck or a double walled force main pipe.

Drawing numbers PRMO-L06, L07, L08, L10, and L13 in the permit application provide details associated with the Cell M liner, final cover (or cap) design, and leachate tanker truck loading areas.

Site Staging Area O is located within the active area(s) of Cell M. Area O has a total staging capacity of 1,200 cubic yards. Also, some treatment processes (e.g., solidification, stabilization) could occur in tanks located within the landfill as described in Section D of the permit application. The Permittee operates four custom built open top welded steel tanks inside the perimeter dike of Cell M in the general location of Area O. The four tanks are identified as Landfill Tanks 1-4. A more detailed description of the tanks can be found in Appendix D.28 of the permit application and Module D of this permit.

The units located north of York Street, Cells F, G, H, and I, are closed and currently undergoing post closure care subject to the terms and conditions found in Module I of this permit. These cells are also shown on Drawing PRMO-T04 in Volume DRWG of the permit application.

M.1 Landfill Waste Disposal Limitations

(a) Subject to the conditions of this permit, the Permittee must dispose of only the hazardous wastes identified in Part A of the permit application and such other wastes as authorized by the Ohio hazardous waste rules or approved by Ohio EPA.

(b) The Permittee must adhere to the Waste Acceptance Review (WAR) approval process described in Section C of the permit application.

(c) Placement of wastes in Cell M must be no less than 100 feet from the respective center lines of York Street and Otter Creek Road, 70 feet from the facility boundary, and 40 feet from the City of Toledo's water lines.

(d) The following wastes are prohibited from disposal in landfill cells:

(i) any wastes containing free liquids as determined in accordance with OAC Rule 3745-57-14, except lab packs;

(ii) water reactive or pyrophoric wastes, except as specified in OAC Rule 3745-57-12;

(iii) Class 1 explosives, as defined in 49 CFR 173.50(b)(1) and (2);
(iv) shock sensitive wastes;
(v) polychlorinated biphenyls (PCBs) regulated by the Toxic Substances Control Act (TSCA) (greater than or equal to 50 ppm), except:
   (a) Waste that may be disposed in a RCRA facility in accordance with 40 CFR 761.61 that is a mixed RCRA-TSCA waste that complies with applicable Land Disposal Restriction (LDR) standards in OAC Rules 3745-270-32, 3745-270-48 and 3745-270-49.
(vi) radioactive wastes regulated by the Nuclear Regulatory Commission;
(vii) infectious wastes;
(viii) any waste in gaseous form;
(ix) any waste that under standard temperature and pressure, is capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard, as specified in OAC Rules 3745-51-21(B) and 3745-57-12(A);
(x) any lab pack container that is found either to be incorrectly packaged, incorrectly sealed, leaking, or which does not otherwise meet the requirements specified in OAC Rule 3745-57-16;
(xi) any ignitable, reactive, or incompatible wastes unless those wastes are containerized and physically separated by inert material to protect them from conditions that may cause them to ignite or react; and,
(xii) wastes that will, at the concentration accepted:
   (a) adversely affect the permeability of the clay liner(s);
   (b) produce leachate that is incompatible with the synthetic liner(s) and leachate collection system piping; and,
   (c) generate gases that adversely affect the permeability of the clay cap.
(xiii) Any wastes exhibiting a flashpoint below 100 degrees Fahrenheit as detailed in Sections C-2(f)(11) through C-2(f)(13) of the permit application.
(xiv) Any waste that will not achieve after 4 weeks of placement and maintain thereafter a minimum shear strength of 2000 pounds per square foot. Compliance with this permit condition is to be determined in accordance with condition M.2(q) of this permit.

(e) The Permittee must comply with all Landfill Disposal Restrictions as specified in OAC Chapter 3745-270.

M.2 Landfill Design and Installation
OAC Rule 3745-57-03

(a) The Permittee must construct Cell M in accordance with the plans and drawings contained in Section D of the permit application, terms and conditions of this permit, and the Ohio hazardous waste rules. Any design or construction plans for Cell M must be approved by Ohio EPA.

(b) The earthfills, where used, must consist of a well-graded soil mixture. The material must be free of debris, plant materials (except when earthfill is being used for vegetative cover material), rock fragments greater than six inches in maximum dimension, large clods, frozen material, or other foreign materials. In-situ density tests are required to verify the desired degree of compaction. Any construction utilizing earthfill must be in accordance with Appendix D.6 of the permit application. The material must be brought to the proper water content.

(c) The Permittee must perform leak testing and certification of the entire length of each seam in each synthetic liner; including caps, sump welds, and connections, by vacuum box unless an equivalent or more rigorous test method is used.

(d) For each day of synthetic liner seaming operations, the Permittee must subject at least one of the three trial seam samples to tensiometer testing for tensile strength and peel strength prior to making field seams during that day. A random field seam sample must also be subject to said testing each day of the liner seaming operation.

(e) The Permittee must require the liner installer to cap or otherwise repair synthetic liner seams for which representative samples failed destructive shear and/or peel tests.

(f) The outer perimeter of all liners and liner systems must be well protected and well-marked through all stages of landfill cell construction, partial closure, and final closure.

(g) The cap for Cell M must consist of a three foot thick uppermost soil layer composed of a six inch layer of soil that supports vegetation and a 30-inch layer of cover soil, underlain consecutively by a geotextile fabric, a synthetic drainage net, a 40-mil HDPE membrane liner, a two foot layer of re-compact soil, and geotextile fabric at the top between the
perimeter clay dikes. After the placement of the two-foot re-compacted clay, and prior to the placement of the remainder of the cap, the Permittee must submit certification to Ohio EPA that the re-compacted clay liner has not been exposed to freeze/thaw conditions and/or any other weather conditions which have impaired its desired permeability.

(h) In the event of the failure of any component of the landfill system or construction techniques to perform as required by the approved design plans, Ohio hazardous waste rules, and the terms and conditions of this permit, the Permittee must notify Ohio EPA, in writing, as soon as practicable or within seven (7) days, whichever is less.

(i) During construction of the phases of Cell M, the Permittee excavated to the top of the lower till. All materials located at the contact of the upper and lower tills, including sands, were completely removed over the entire base of Cell M.

(j) The lowest point of the three-foot re-compacted clay secondary liner, including any portion of the secondary clay liner below the leachate collection sumps, must be maintained no less than six feet above the top of the lower till. This installation must ensure a minimum of nine feet of re-compacted clay at the base of Cell M when measured from the top of the lower till.

(k) All below grade side-slopes of Cell M must have a minimum of 3.5 feet of re-compacted clay installed between the in-situ material and the outermost portion of the three foot re-compacted clay secondary liner, measured perpendicularly from the sidewall. This installation must ensure a minimum of 6.5 feet of re-compacted clay on all Cell M side slopes, measured perpendicularly from the sidewall. The constructed side-slopes must extend from the ground surface to the top of the lower till and must be effectively attached or otherwise “keyed” into both the clay liner base and the lower till. In the areas of Phase 3 where a 10% slope area has been designated, the side slope must extend to the 10% slope area and be effectively attached or otherwise “keyed” into the 10% slope area.

(l) The 10% slope area of Phase 3 must have a minimum of 3.5 feet of re-compacted clay installed between the in-situ materials and the outermost portion of the three-foot re-compacted clay secondary liner, measured perpendicularly from the slope. This installation must ensure a minimum of 6.5 feet of re-compacted clay for the 10% slope area, measured perpendicularly from the slope. The 10% slope area must also include a 12 inch granular layer and a geonet for the primary leachate collection system and structurally enhanced tri-planar geonet installed as a secondary collection system.

(m) The final cover (cap) and the bottom clay liners for Cell M must have permeabilities no greater than that of the in-situ upper till (represented as $3.6 \times 10^{-8}$ cm/sec as determined using the slug tests in upper till and utilizing the Bouwer and Rice method).

(n) The above-grade design and construction of Cell M must be as follows:
(i) the maximum above-grade side slope must not exceed 33.33%;

(ii) the slope of the final cover top surface must range from 3% to 5%; and,

(iii) The maximum above-grade elevation must not exceed 120 feet (i.e., 714 feet above mean sea level) including the final cap thickness.

(iv) All above grade side slopes must be designed to achieve a minimum deep-seated static slope stability factor of safety of 1.5 and a corresponding seismic factor of safety of 1.0.

(c) The landfill must maintain both a leak detection/collection system and primary leachate collection and removal system in accordance with the plans contained in the permit application, Ohio hazardous waste rules, and the terms and conditions of this permit.

(d) For each phase of landfill construction, the Permittee must have an independent, qualified, registered professional engineer monitor and examine the construction and certify, in accordance with OAC Rule 3745-50-42(D)(1), that construction is in accordance with the document, statements, designs, and plans contained in the permit application and the terms and conditions of this permit. Said engineer must be selected and paid for the Permittee and approved by Ohio EPA.

(q) The Permittee must not dispose of waste in Cell M which will cause the global slope stability factor for static condition to fall below 1.5. To ensure that the global slope stability factor for static condition remains above 1.5, the Permittee must follow the testing protocol outlined in section D.4(f)(5) of the approved permit application.

M.3. Containment and Detection of Releases

(a) The Permittee must monitor, operate, and maintain the primary leachate collection system (PLCS) and secondary leachate collection system (SLCS), as applicable, of Cell M.

(iv) The level of leachate accumulation on the primary synthetic liner, excluding the sumps, must not exceed the height of one foot, as required by OAC Rule 3745-57-30(A)(2), except for temporary excursions in Cell M when leachate infiltration rates temporarily exceed the capability of the PLCS pumps. Compliance will be evaluated in accordance with Permit Condition M.7(c).

(v) To minimize the potential for excursions, the Permittee must activate the PLCS pumps whenever the leachate levels on the liner exceed 10 inches above the primary liner as defined in Appendix D.5 for each sub-cell in Cell M.
(iii) The Permittee must return to a leachate level of less than 12 inches as defined in Appendix D.5 for each sub-cell in Cell M after a temporary excursion by operating the PLCS pumps in the affected landfill collection sumps 24 hours per day, 7 days per week.

(b) Reserved.

(c) The Permittee must monitor the SLCS for the presence of liquid. If commercially available level monitoring equipment (e.g., transducers) cannot be inserted into specific sub-cell sumps because of space constraints within a SLCS riser pipe, then the Permittee must monitor for the presence of liquid on a semi-weekly (Sunday through Saturday) basis by activation of the sub-cell pump until pump cavitation occurs or liquid flow ceases. If activation of the pump produces no liquids, then the Permittee will verify that the pump is operable before concluding that no liquid is present in the sub-cell sump. If the pump is found to be inoperable, then the Permittee must repair or replace it as appropriate to restore pumping capability.

(d) The Permittee must monitor the PLCS and SLCS of Cell M for the production of liquid. When a sub-cell that is not capped or closed that normally produces liquid every week produces no liquid for two sequential calendar weeks, the Permittee will, unless liquid production has resumed, verify that the pump and its control system are operable before concluding that no liquid is present in the sub-cell sump. If the pump or its control system is found to be inoperable, then the Permittee must repair or replace it as appropriate to restore pumping capability.

M.4 Operating Requirements

The Permittee must conduct landfill operations according to the approved practices and procedures set forth in Section D of the permit application and the terms and conditions of this permit including, but not limited to, the following:

(a) Trucks carrying wastes into a cell must be swept or brushed to remove all visible particles of waste from the tires and exterior of the bed prior to leaving the facility. Truck tires and frame that come into contact with hazardous waste must be decontaminated prior to leaving the facility;

(b) unloading of wastes into Cell M must be halted and mitigative steps must commence to minimize wind dispersal of waste whenever wind speed is high enough to blow wastes out of the cell;

(c) The Permittee must continue to monitor the temperature of incoming bulk waste loads. If such temperatures is less than 20 degrees Fahrenheit below the waste’s flashpoint, the load
must either be rejected or not disposed in the landfill until the temperature reaches the desired range.

(d) Wastes containing PCBs accepted in accordance with Permit Condition M.1(d)(v)(a) must be handled in the following manner:

(i) When required to be treated by the Permittee to meet LDR standards in OAC 3745-270-32 or OAC 3745-270-49 prior to disposal in the landfill, treatment must be conducted in the Stabilization/Containment Building and;

(ii) Following placement of waste in the landfill, the Permittee must cover the exposed surface of the waste with a daily cover material by the end of the working day. Suitable cover materials include treated waste materials unrelated to those accepted under M.4(d)(l), soil, synthetic materials such as tarps, or spray-applied cover systems in general use for landfill systems.

M.5 Inspection Schedules and Procedures
OAC Rule 3745-57-05

(a) The Permittee must inspect Cell M in accordance with the Inspection Schedule found in Section F of the permit application and must complete the items in Permit Conditions M.5(b) and M.5(c) as part of those inspections:

(b) Inspections during construction of landfill components, including but not limited to subsoil foundations, clay and synthetic cover and liners, leachate collection and leachate detection systems must be conducted in accordance with OAC Rules 3745-54-15, 3745-54-31, 3745-57-01, quality assurance and the inspection plans contained in the permit application, and the terms and conditions of this permit.

(c) The Permittee must inspect the following components of the landfill weekly and after storm events (2 inches or more of rain in 8 hours):

(i) deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(ii) proper functioning of wind dispersal control system; and

(iii) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(d) The Permittee must document compliance with Permit Condition M.5 in the operating record of the facility.
(e) The Permittee must record the amount of liquids removed from each leak detection sump at least once a week during the active life and closure period of the landfill. After final cover (cap), the amount of liquids removed from leak detection sumps must be recorded at least monthly. Additional conditions of reporting requirements listed in OAC 3745-57-05(C)(2) are incorporated by reference.

(f) The Permittee must perform the transducer maintenance check procedures described in Appendix D.19 for the leachate collection system in Cell M.

M.6 Response to Releases
OAC Rule 3745-57-03

(a) The Permittee must follow the Response Action Plan (RAP) found in Appendix D.32 of the permit application, which contains procedures for detecting, mitigating, notifying, and reporting leakage into the leak detection system present between the synthetic liners.

(b) Upon the discovery of leakage or an imminent hazard of leakage, the Permittee must notify the Director in accordance with the RAP and must expeditiously repair the damage to the liner system. Upon discovery of a tear or puncture in the liner system, the Permittee must notify the Ohio EPA on-site inspector and must expeditiously repair the damage. Within seven (7) days after the completion of the repairs, the Permittee must complete and file a “Liner System Repair Report,” and “Certification of Liner System Report,” into the facility’s operating record, both of which must be certified in accordance with OAC Rule 3745-50-42(D)(1).

(c) If the cell or sub-cell is active and the Permittee cannot implement the RAP, then the Permittee must cease waste disposal activity in this cell or sub-cell.

M.7 Recordkeeping and Reporting
OAC Rule 3745-57-09

(a) The Permittee must maintain the following items in the facility’s operating record in accordance with OAC Rule 3745-57-09:

(i) on a map, the location and dimensions, including depth, of each landfill cell with respect to permanently surveyed benchmarks;

(ii) the contents of each landfill area and each waste’s approximate location within the landfill; and,

(iii) the waste’s identification cross referenced to the manifest document number.

(b) For each operating day, the Permittee must record in the facility’s operating record:
(i) measurements of wind direction;

(ii) average and maximum wind speed; and,

(iii) precipitation accumulated over the previous 24 hour period.

(c) The Permittee must record leachate level readings in the Cell M sub-cells at the beginning of each working day and after completion of operator-assisted leachate storage or shipment activities at the end of each working day. The start time and end time of each working day is documented on inspection form MF-18b. These leachate level readings will be used to evaluate compliance with Permit Condition M.3(a)(i) and OAC Rule 3745-57-03(A)(2).

(i) In evaluating compliance with Permit Conditions M.3(a)(i), (ii), and (iii), Ohio EPA will consider factors such as power failures, equipment failures, maintenance activities, the safety of personnel or the environment, declared Level 2 or 3 snow emergencies affecting availability of transportation, or the consequences of other natural or manmade disasters.

(d) The Permittee must report to Ohio EPA on a monthly basis, the following information related to the primary and secondary leachate collection and removal systems of Cell M:

(i) daily on-site rainfall measurements;

(ii) as applicable, any daily operational problems associated with the systems (e.g., pumps inoperable, transducers inoperable, etc.);

(iii) daily leachate level readings for each sub-cell in Cell M recorded in accordance with Permit Condition M.7(c); and,

(iv) daily volumes of leachate removed from the systems.
M.8 Closure and Post-Closure Care
OAC Rules 3745-57-10, 3745-55-17, 3745-55-19, and 3745-55-20

(a) At closure of the landfill, the Permittee must follow the procedures in the closure plan in Section I of the permit application.

(b) After final closure, the Permittee must comply with all post-closure requirements contained in OAC Rules 3745-55-17, 3745-55-20, and Section I of the permit application; and, must provide maps, charts, and other required records to the Director and the local land authorities as required by OAC Rule 3745-55-19(B)(1)(c).

M.9 Special Provisions for Ignitable or Reactive Wastes
OAC Rule 3745-57-12

The Permittee must not place ignitable or reactive waste in the landfill, unless the procedures specified in the permit application are followed, the waste and landfill meet all applicable requirements of OAC Chapter 3745-270, and compliance with OAC Rule 3745-54-17(B) is achieved. The Permittee must document compliance with this condition and place it in the operating record.

M.10 Special Provisions for Incompatible Wastes
OAC Rule 3745-57-13

The Permittee must not place incompatible wastes, or incompatible wastes and materials, in the same landfill unless the procedures specified in the permit application and OAC Rule 3745-54-17(B) are followed. The Permittee must document compliance with this condition and place that documentation into the operating record.

M.11 Special Requirements for Containers
OAC Rule 3745-57-15

The Permittee must meet the requirements of OAC Rule 3745-57-15, Section D of the permit application, and the following requirements prior to the placement of containers of hazardous waste in the landfill:

(a) The Permittee must not dispose of containers in the landfill that are less than 90 percent full and hold free liquids unless the following conditions are present:

(i) the container is very small, such as an ampule;

(ii) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or,

(iii) the container is a lab pack as defined in OAC Rule 3745-57-16.
(b) For containers less than 90 percent full, the Permittee must either crush the container, or add other material so that the container is at least 90 percent full prior to landfill disposal.

(c) The Permittee must cover and enclose containers placed in the landfill with compatible bulk wastes, stabilized material, or intermediate cover. This material must be placed to fill void spaces between the containers.

M.12 Special Requirements for Disposal of Small Containers (Lab Packs)
OAC Rule 3745-57-16

The Permittee must meet the requirements of OAC Rule 3745-57-16 and Section D of the permit application prior to the placement of small containers of hazardous waste in overpacked drums (lab packs) in a landfill.

M.13 Special Requirements for F020, F021, F022, F023, F026 and F027
OAC Rule 3745-57-17

EPA hazardous waste numbers F020, F021, F022, F023, F026 and F027 must not be placed in a landfill unless the Permittee operates the landfill in accordance with a management plan for these wastes that is approved by the Director pursuant to the standards set forth in OAC Rule 3745-57-17, and in accordance with all other applicable requirements of OAC Chapter 3745-57.