BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

WASTE MANAGEMENT OF ILLINOIS, INC., Petitioner,	)	
v.	)	PCB 25-
	)	(RCRA – Ninety Day Extension)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	

NOTICE

Don Brown, Clerk
Illinois Pollution Control Board
60 East Van Buren St., Suite 630
Chicago, IL 60605
don.brown@illinois.gov

Waste Management of Illinois, Inc.
Attn: Ian Johnson, P.E.
21233 West Laraway Road
Joliet, IL 60436-9525

Jennifer T. Nijman
Nijman Franzetti, LLP
10 South LaSalle Street, Suite 3600
Chicago, IL 60603
jn@nijmanfranzetti.com

Waste Management of Illinois, Inc.
Attn: James Wilson
700 East Butterfield Road, Suite 400
Lombard, Illinois 60148-5671

PLEASE TAKE NOTICE that I have today caused to be filed a **REQUEST FOR NINETY DAY EXTENSION OF APPEAL PERIOD** with the Illinois Pollution Control Board, copies of which are served upon you.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

_____

Melanie A. Jarvis
Deputy Chief Counsel – Land Enforcement
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
217/782-5544
melanie.jarvis@illinois.gov
Dated: August 28, 2024

THIS FILING IS SUBMITTED ON RECYCLED PAPER

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

WASTE MANAGEMENT OF ILLINOIS, INC., Petitioner,	)	
v.	)	PCB 25-
	)	(RCRA – Ninety Day Extension)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	

REQUEST FOR NINETY DAY EXTENSION OF APPEAL PERIOD

NOW COMES the Respondent, the Illinois Environmental Protection Agency ("Illinois EPA"), by one of its attorneys, Melanie A. Jarvis, Assistant Counsel, and, pursuant to Section 40(a)(1) of the Illinois Environmental Protection Act (415 ILCS 5/40(a)(1)) and 35 Ill. Adm. Code 105.208, hereby requests that the Illinois Pollution Control Board ("Board") grant an extension of the thirty-five (35) day period for petitioning for a hearing to December 4, 2024, or any other date not more than a total of one hundred twenty-five (125) days from the date of receipt of the Illinois EPA's final decision. In support thereof, the Illinois EPA respectfully states as follows:

1. On or about July 29, 2024, the Illinois EPA issued a final decision to the Petitioner.

2. On August 26, 2024, the Petitioner made a written request to the Illinois EPA for an extension of time by which to file a petition for review, asking the Illinois EPA to join in requesting that the Board extend the thirty-five-day period for filing a petition by ninety days. Upon information and belief, Petitioner received the final decision on or about August 1, 2024.

3. The additional time requested by the parties may eliminate the need for a hearing in this matter or, in the alternative, allow the parties to identify issues and limit the scope of any hearing that may be necessary to resolve this matter.

WHEREFORE, for the reasons stated above, the parties request that the Board, in the interest of administrative and judicial economy, grant this request for a ninety-day extension of the thirty-five-day period for petitioning for a hearing.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

_____

Melanie A Jarvis
Deputy Chief Counsel – Land Enforcement
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276
217/782-5544
866/273-5488 (TDD)
melanie.jarvis@illinois.gov
Dated: August 28, 2024

CERTIFICATE OF SERVICE

I, the undersigned attorney at law, hereby certify that on August 28, 2024, I served true and correct copies of a **REQUEST FOR NINETY DAY EXTENSION OF APPEAL PERIOD** by the method(s) and to the persons identified below:

Electronic Service

Don Brown, Clerk
Illinois Pollution Control Board
60 East Van Buren St., Suite 630
Chicago, IL 60605
don.brown@illinois.gov

Jennifer T. Nijman
Nijman Franzetti, LLP
10 South LaSalle Street, Suite 3600
Chicago, IL 60603
jn@nijmanfranzetti.com

US Postal Service

Waste Management of Illinois, Inc.
Attn: Ian Johnson, P.E.
21233 West Laraway Road
Joliet, IL 60436-9525

Waste Management of Illinois, Inc.
Attn: James Wilson
700 East Butterfield Road, Suite 400
Lombard, Illinois 60148-5671

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

_____

Melanie A. Jarvis
Deputy Chief Counsel – Land Enforcement
Division of Legal Counsel
1021 North Grand Avenue East
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Jennifer T. Nijman
jn@nijmanfranzetti.com
312.251.5255

August 26, 2024

VIA EMAIL melanie.jarvis@illinois.gov
Melanie Jarvis
Illinois Environmental Protection Agency
Division of Legal Counsel

Re: 1970450002 – Will County
Laraway Recycling and Disposal Facility
ILD074411745
Log Nos. B-141R-M-167, B-141R-M-174, B141R-M-178, and B-141R-M-181
Log No. B-141R2
RCRA Permit File – 24A and 24D
Permit Approval/Permit Correspondence

Dear Melanie:

This letter is submitted on behalf of Waste Management of Illinois, Inc. to request a 90-day extension to appeal the final determinations issued by the Illinois Environmental Protection Agency (IEPA) on July 29, 2024 (Log Nos. B-141R-M-167, B-141R-M-174, B141R-M-178, and B-141R-M-181) and July 30, 2024 (Log No. B-141R2) (together, the "final determinations") as listed above. The final determinations are overlapping and closely related – we would appreciate your insight on whether the requests for extension, and the appeals, may be combined and filed together.

The final determinations provide the applicant thirty-five (35) days from the issuance of the final determinations to appeal, but with written notice from the applicant and IEPA, the thirty-five (35) day period may be extended for ninety (90) days. This letter is timely submitted within 35-days of July 29 and July 30, 2024. WMIL requests a 90-day extension for both final determinations from September 3 (September 2 is a holiday) to December 3, 2024.

Very truly yours,

Jennifer Nijman
Counsel for Waste Management of Illinois, Inc.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JAMES JENNINGS, INTERIM DIRECTOR

217/524-3301

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

JUL 29 2024

9589 0710 5270 0389 7096 90

Waste Management of Illinois, Inc.
Attn: Ian Johnson, P.E.
21233 West Laraway Road
Joliet, Illinois 60436-9525

Waste Management of Illinois, Inc.
Attn: James Wilson
700 East Butterfield Road Suite 400
Lombard, Illinois 60148-5671

Re: 1970450002 – Will County
Laraway Recycling and Disposal Facility
ILD074411745
Log Nos. B-141R-M-167, B-141R-M-174, B-141R-M-178, and B-141R-M-181
RCRA Permit File – 24A
Permit Approval

Dear Mr. Johnson and Mr. Wilson:

This letter is in response to the following listed documents submitted by Mr. Ian Johnson, P.E., of Waste Management of Illinois, Inc. on behalf of Laraway Recycling and Disposal Facility (Laraway). In accordance with Title 35 Illinois Administrative Code (35 IAC) Part 703, the subject documents were submitted and reviewed as Class 1* permit modification requests and addressed the revision to the financial assurance cost estimate and the commissioning of municipal solid waste disposal cells Phase 9C / 10B.

Document	**Dated**	**Received**
	Log No. B-141R-M-167	
Original Application	May 9, 2022	May 11, 2022
Additional Information	May 31, 2023	June 2, 2023
	Log No. B-141R-M-174	
Original Application	May 12, 2023	May 18, 2023
Additional Information	July 26, 2023	July 28, 2023

Document	Dated	Received
	Log No. B-141R-M-178	
Original Application	January 22, 2024	January 23, 2024
Additional Information	February 8, 2024	February 13, 2024
	Log No. B-141R-M-181	
Original Application	May 8, 2024	May 10, 2024
Additional Information	May 31, 2024 June 17, 2024 June 24, 2024 July 8, 2024	June 5, 2024 June 20, 2024 June 26, 2024 July 10, 2024

The subject permit modification requests included updated post-closure cost estimates and minor revisions to Laraway' s current RCRA Post-Closure Permit. The Illinois EPA has reviewed the information and hereby approves the subject submittals as a modification to the approved RCRA Permit (Permit) with the following conditions and modifications:

1. The Illinois EPA has evaluated the requirements for post-closure care, cost estimates, and financial assurance for Areas 1 and 2, the hazardous waste management unit(s), under 35 IAC Part 724. This evaluation has taken into consideration the financial risk to the Illinois EPA and citizens of Illinois, if the Illinois EPA would have to unexpectedly assume operation of the post-closure care at the facility. Such evaluation was performed pursuant to 35 IAC 703.241.

2. The Illinois EPA has determined that a rolling thirty (30)-year post-closure care cost estimate must be maintained by the facility, as required by 35 IAC 724.217(a) (1) and 35 IAC 703.282. This determination was also based on the Illinois EPA's review of: (1) the RCRA Post-Closure requirements; (2) requirements of 35 IAC 724.131, 724 Subpart G, 724.410, and 724 Subpart H; the information contained in the subject submittals. If any evidence shows that the estimated cost should be higher than the rolling 30-year cost estimate, then it should be adjusted to a higher number of years.

3. The proposed annual costs and one-time cost for post-closure care of Areas 1 and 2 in the updated cost estimate can be approved by the Illinois EPA. However, based on Conditions 1 and 2 above, the total post-closure care cost estimate for Areas 1 and 2 cannot be approved by the Illinois EPA. The Illinois EPA's evaluation of the requirements for post-closure care cost and financial assurance under 35 IAC Part 724 estimates as provided in Conditions 1 and 2 above has determined the total post-closure care estimate must reflect 30 years of post-closure care as required by 35 IAC 724.217.

A revised Permit is attached to this letter. Attachment A to this letter contains a summary of the changes made to the Permit. The information in the subject submittal has been incorporated into Laraway's approved permit application. Operations at Laraway must be in accordance with the revised Permit. Pursuant to 35 IAC 703.281 (a)(2), a notice of this modification shall be sent to all persons on the facility mailing list, maintained by the Illinois EPA in accordance with 35 IAC 705.163(a)(4), and the appropriate units of state and local government as specified in 35 IAC 705.163(a)(5). For a Class 1* modification, the notice must be made within ninety (90) days after the Illinois EPA approves the request.

This action shall constitute the Illinois EPA's final action on the subject submittal. The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Illinois Environmental Protection Act by filing a petition for a hearing within thirty-five (35) days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed 90 days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the request for an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276
217/782 5544

For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board, Clerk
State of Illinois Center
100 West Randolph, Suite 11-500
Chicago, IL 60601-3233
312/814 3620

Work required by this letter, this submittal, or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

For general questions regarding this Permit, please contact John Roop, P.E., by email at john.roop@illinois.gov or by phone at at 217/262-3071. For question regarding corrective action issues, please contact William Sinnott II by email at bill.sinnott@illinois.gov or by phone at 217/524-3310. For questions regarding solid waste groundwater issues, please contact Ed Wagner by email at ed.wagner@illinois.gov or by phone at 217/524-8964. For questions regarding hazardous waste groundwater issues, please contact Shawntay Dial by email at shawntay.dial@illinois.gov or by phone at 217/558-0177.

Sincerely,

(for JMC)

Jacqueline M. Cooperider, P.E.
Permit Section Manager
Bureau of Land

JMC:jjr/1970450002-RCRA-B141RM167-B141RM174-B141RM178-B141RM181-Approval.docx

Attachments: (1) Attachment A – Revisions to the Permit
(2) RCRA Post-Closure Permit

ATTACHMENT A

REVISIONS TO THE RCRA PERMIT

Laraway Recycling and Disposal Facility
Joliet, Illinois
STATE ID No: 1970450002
USEPA ID No: ILD074411745
Log Nos. B-141R-M-167, B-141R-M-174, B-141R-M-178, and B-141R-M-181

The following changes were made to the final permit:

Section III.B – Non-Hazardous Waste Landfill Unit Identification

Name of Constructed Area	Size (Acres)	Approval Date
Phase 9C / 10B	9.13	July 2024

Attachment D – Cost Estimate

I. HWMUs Post-Closure Care (In accordance with Condition I.F.1)

A. HWMUs Post-Closure Care (from Table I-2)	$16,456,185

II. Non-Hazardous Waste Landfill (In accordance with Condition III.K.6):

B. MSWLF Closure (from Table 13-1)	$9,524,326
C. MSWLF Post-Closure Care (from Table 13-2)	$4,709,258
D. Non-Hazardous Sub-Total	$14,233,584

III. South Stack Closure, Post-Closure Care, and Corrective Action Activities (In accordance with Condition V.K.1):

E. South Stack Closure (from Table 10-1)	$6,886,012
F. South Stack Post-Closure Care (from Table 11-2)	$5,553,746
G. Corrective Action (from Table 10-2)	$7,444,745
H. South Stack Sub-Total	$19,884,503

IV. Summary of Costs

I. HWMUs Post-Closure Care	$16,456,185
J. Non-Hazardous Sub-Total	$14,233,584
K. South Stack Sub-Total	$19,884,503
L. Grand Total	$50,574,272

Attachment F - Approved Permit Application Identification

127. Class 1* Permit Modification Requests, all approved on July XX, 2024.
Log No. B-141R-M-167 (2022 Cost Estimate) – Dated May 9, 2022
Log No. B-141R-M-174 (2023 Cost Estimate) – Dated May 12, 2023
Log No. B-141R-M-178 (Disposal Cell Phase
9C / 10B Construction Acceptance Report) – Dated January 22, 2024
Log No. B-141R-M-181 (2024 Cost Estimate) – Dated May 8, 2024

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 · (217) 782-3397
JB Pritzker, Governor James Jennings, Interim Director

RCRA POST-CLOSURE PERMIT

1970450002 – Will County
ILD074411745
Waste Management of Illinois, Inc.
Laraway Recycling and Disposal Facility
Log Nos. B-141R-M-167, B-141R-M-174, B-141R-M-178, and B-141R-M-181
RCRA Permit File – 24A

Issue Date: May 17, 2010
Effective Date: June 21, 2010
Expiration Date: June 21, 2020
Modification Date:

Waste Management of Illinois, Inc.
Attn: Ian Johnson, P.E.
21233 West Laraway Road
Joliet, Illinois 60436-9525
RCRA Permit File – 24A
Permit Approval

Waste Management of Illinois, Inc.
Attn: James Wilson
700 East Butterfield Road Suite 400
Lombard, Illinois 60148-5671

Dear Mr. Johnson and Mr. Wilson:

A modified RCRA Permit is hereby granted pursuant to the Illinois Environmental Protection Act (Act) and Title 35 Illinois Administrative Code (35 IAC) Parts 702, 703, 705, and 720 through 729 to Waste Management of Illinois, Inc. (WMI) for post-closure care of a waste management facility which was previously involved in the treatment and disposal of hazardous waste. This Permit also incorporates all previous and current non-hazardous waste disposal activities at the facility.

This Permit consists of the conditions contained herein (including those in any attachments and appendices), and applicable regulations contained in the Act and Title 35 IAC Parts 702, 703, 705, 720 through 729 and 811 through 812 in effect on the effective date of this Permit. The Act (415 ILCS 5/39) grants the Illinois Environmental Protection Agency (Illinois EPA) the authority to impose conditions on permits which are issued.

This Permit is issued based on the information submitted in the approved permit application identified in Attachment F of this Permit and any subsequent amendments. Any inaccuracies found in the information provided in the permit application may be grounds for the termination or modification of this Permit (see 35 IAC 702.187 and 702.186) and potential enforcement action (415 ILCS 5/44(h)).

Sincerely,

Jacqueline M. Cooperider (for JMC)

Jacqueline M. Cooperider, P.E.
Permit Section Manager
Bureau of Land

JMC:jjr/1970450002-RCRA-B141RM167-B141RM174-B141RM178-B141RM181-Approval.docx

2125 S. First Street, Champaign, IL 61820 (217) 278-5800
115 S. LaSalle Street, Suite 2203, Chicago, IL 60603
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000
595 S. State Street, Elgin, IL 60123 (847) 608-3131
2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

RCRA POST-CLOSURE PERMIT

Issued To

Laraway Recycling and Disposal Facility
Joliet, Illinois
STATE ID No: 1970450002
USEPA ID No: ILD074411745
Log Nos. B-141R-M-167, B-141R-M-174, B-141R-M-178, and B-141R-M-181

RCRA POST-CLOSURE PERMIT
LARAWAY RECYCLING AND DISPOSAL FACILITY
JOLIET, ILLINOIS
STATE ID No: 1970450002
USEPA ID No: ILD074411745

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IV.	Groundwater Monitoring for Non-Hazardous Waste Landfills	IV-1 – IV-15

Attachment 1
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Table 5-8b – Interim Maximum Allowable Predicted Concentrations
Table 5-8c – Maximum Allowable Predicted Concentrations
Attachment 2 – Background Values
Attachment 3 – 40 CFR 258 Appendix II and 35 IAC 620.410 reduced list for Assessment Monitoring.
Attachment 4 – Intrawell Background Values

V.	Corrective Action for SWMUs	V-1 – V-24
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- Monitoring Well Construction Diagram
- Illinois EPA Boring Log
- Completion Report for Groundwater Monitoring Well
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Attachment C - Prediction Limit Test

Attachment D - Cost Estimates

Attachment E - Construction Certification

Attachment F - Approved Permit Application Identification

Attachment G - Groundwater Reporting Forms

Attachment H - Statistical Procedures Flowchart

Attachment I - Facility Plan

Attachment J - Illinois EPA Determinations Regarding Specific Permit Modification Requests

GENERAL FACILITY DESCRIPTION

LARAWAY RECYCLING AND DISPOSAL FACILITY

Joliet, Illinois

ILD074411745

I. General

The Laraway Recycling and Disposal Facility is owned and operated by WMI. It was a commercial facility involved in storage, treatment, and disposal of solid and hazardous waste. At the present time, the facility is only permitted to receive construction and demolition debris (including asbestos), non-hazardous permitted special waste, and non-hazardous permitted special waste that is managed as non-special waste pursuant to Sections 3.45(c)(2), 22.29 and/or 22.48 of the Act into permitted solid waste landfill units at the facility. Nearly all hazardous wastes handled at the facility were generated off-site by various industries.

The total property encompasses approximately 1,011 acres. Of the total, 110 acres were permitted for waste management in 1972 by the Illinois EPA's Division of Land Pollution Control (DLPC). Of that 110 acres, Landfill Areas 1 and 2 occupy about 55 acres of what was previously permitted for solid and hazardous waste disposal. An additional 700 acres were added by a facility expansion included in the renewal of the facility's Part B Permit in 2009 (Log B-141R).

This Permit covers three major areas of site activities as follows:

A. Post-Closure Care for closed Hazardous Waste Management Units (HWMUs)

There are two closed hazardous waste landfill units (Areas 1 and 2) at the facility. These units must receive post-closure care for at least 30 years after closure. This care includes inspections, monitoring, maintenance, and operation of the leachate and gas collection systems. Permit Sections I, II, and VIII deal with post-closure care requirements. The units subject to RCRA post-closure care are identified as the "closed RCRA Unit" on the Facility Plan drawing included as Attachment I of this Permit.

B. Non-hazardous Solid Waste Landfills

Pursuant to 35 IAC 807.105 and 705.127, and a request by the Permittee, this Permit replaces the previous State of Illinois Permit Number 1995-313-LFM, and consolidates all design, construction, operation, maintenance, monitoring, and closure requirements for the non-hazardous waste landfills at the facility. There is a total of 16 solid (non-hazardous waste) landfill units at the facility, identified by the Permittee as the Solid Waste Unit, and Phases 1 through 15. Permit Sections III and IV deal with requirements for design, construction, operation, monitoring, maintenance, and closure of these units.

C. Corrective Action Activities

Corrective action activities under this Permit focus primarily around two historical solid waste management units (SWMUs) identified by the Permittee as the North Stack and the South Stack. The location of the South Stack is indicated on the Facility Plan included as Attachment I to this Permit. Because the North Stack will be consolidated with the South Stack, the Facility Plan does not indicate the location of the North Stack. However, the current location of the North Stack closely corresponds with the area identified as the North Sedimentation Basin on the Facility Plan. These units consist of phospho-gypsum stacks created when the property was owned by Olin Corporation. Under this Permit, these units will be consolidated, and the combined unit will be provided with a cover system. In addition, the Permittee will be providing groundwater monitoring and corrective action for groundwater contamination associated with these units. Sections V, VI, and VII deal with Corrective Action Activities.

II. Site Description

The Laraway Recycling and Disposal Facility is located within the W 1/2 of the NE 1/4 and E 1/2 of the NW 1/4, Section 31, Township 35 North, Range 10 East of the 3rd Principal Meridian, Will County, Illinois. The Laraway Recycling Disposal Facility is located approximately two miles southwest of Joliet, Illinois. The Laraway Recycling and Disposal Facility's mailing address is:

Laraway Recycling and Disposal Facility
21233 West Laraway Road
Joliet, Illinois 60436-9525

Section I: POST-CLOSURE CARE FOR HWMUs

A. SUMMARY

Hazardous Waste Management Units (HWMUs) where waste is left in-place must receive post-closure care for at least 30 years after the date the certification of closure is approved in writing by the Illinois EPA. As Areas 1 and 2 were used for the disposal of hazardous waste after July 26, 1982, and had closure approved on September 10, 1992. Activities required during post-closure care include, but are not limited to, (1) maintenance of the final cover, (2) management of leachate, (3) monitoring of the groundwater, and (4) providing financial assurance for post-closure activities pursuant to 35 IAC Part 724.

B. UNIT IDENTIFICATION

1. The Permittee shall provide post-closure care for the Area 1 and Area 2 hazardous waste landfills identified in Drawing B-1 of Submittal A.1 identified in Attachment F of this Permit, subject to the terms and conditions of this Permit.

2. Except for wastes exhumed from in and around Area 1 and Area 2 during corrective action activities, Area 1 and Area 2 are no longer permitted to accept hazardous or non-hazardous waste.

C. MONITORING, MAINTENANCE, AND RECORDKEEPING

1. The Permittee shall conduct post-closure care for each HWMUs listed in Condition I.B.1 above beginning after closure of each unit on July 26, 1982.

2. Prior to the minimum 30 year post-closure care requirement is due to expire, the Illinois Pollution Control Board (Board) will extend or the Illinois EPA may propose extension of the post-closure care period if it finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of waste at levels which may be harmful to human health and the environment).

3. The Illinois EPA may include restrictions upon the future use of the site if necessary to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. After administrative and judicial challenges to such restrictions have been exhausted, pursuant to the Uniform Environmental Covenants Act (EUCA), the Illinois EPA shall file such restrictions of record in the Office of the Recorder of the county in which the hazardous waste disposal site is located.

4. Other than exhumation and re-deposition of wastes during corrective action activities, wastes removed from the unit as part of maintenance activities (e.g., gas or leachate well cleaning or replacement), or management of spill residuals from within the permitted waste limits, the Permittee shall not allow any use of the units designated in Section I.B which will disturb the integrity of the final cover, liners, any components of the containment system, or function of the facility's monitoring systems during the post-closure care period, unless such use is necessary to protect human health or the environment.

5. The Permittee shall implement the approved Post-Closure Plan contained in the approved permit application. All post-closure care activities must be conducted in accordance with the provisions of the approved Post-Closure Plan.

6. The Permittee must submit a permit application to authorize a change in the approved Post-Closure Plan. This request must be in accordance with applicable requirements of 35 IAC Parts 702, 703, and 724 and must include a copy of the amended Post-Closure Plan for approval by the Illinois EPA.

7. The Illinois EPA may require a continuation of any of the security requirements during part or all of the post-closure period.

8. The Permittee shall maintain and monitor the groundwater monitoring system and comply with the other applicable regulations of 35 IAC Part 724 Subpart F (Groundwater Protection) during the post-closure period for both Area 1 and Area 2 landfills.

9. The Permittee shall maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, and other events.

10. The Permittee shall comply with the following requirements for Area 1 and 2 landfills as follows:

a. Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, cracking, or other events. Corrective action for the cover shall be taken if problems, including, but not limited to, the following, occur:

   i. Ponding
   ii. cracks greater than one-inch wide
   iii. gas problems
   iv. odor problems
   v. dead or stressed vegetation
   vi. vegetation with taproots growing in areas not designed to accommodate such
   vii. vector problems
   viii. leachate pop outs or seeps

b. Operate the leachate collection system to its capacity to reduce the amount (head) of leachate in Areas 1 and 2. Removal of leachate must not be solely based on the ability to maintain the operation of the flare. WMI must continuously remove all pumpable leachate until the required maximum depth of one-foot of leachate above the invert of the landfill liner is achieved. Upon achieving the required depth, leachate must continue to be removed as necessary to maintain the required depth. In order to accurately determine leachate levels throughout the landfill, the Permittee must monitor and evaluate the leachate levels within the leachate monitoring wells identified in condition I.C.10.g on a monthly basis. If such evaluation reveals that the improved leachate collection system is incapable of achieving the required leachate depth throughout the landfill, the Illinois EPA may require the Permittee to further improve the leachate collection system so that it is capable of achieving the required leachate depth throughout the landfill.

c. Four representative samples of leachate from the co-disposal hill and the drum trenches shall be collected annually and analyzed individually (no compositing) for the constituents listed in 35 IAC Part 724, Appendix I. These samples shall be collected during the first quarter inspections. The four samples will be taken from a subset of the withdrawal points listed in condition I.C.10.f. The sample points must be selected such that the leachate from both Area 1 and Area 2 are represented each year. Also, as there is currently a total of 15 withdrawal points listed in Condition I.C.10.f, no one withdrawal point should be sampled more than once in a four-year period unless otherwise directed by Illinois EPA. The results of these analyses shall be submitted to the Illinois EPA by June 1 each year. Leachate levels observed in each withdrawal point, the amount of leachate removed from each withdrawal point each month, leachate levels observed in each of the Leachate Monitoring Wells and an evaluation of the effectiveness of the leachate removal system shall also be included with these submittals.

d. The annual Appendix I analysis required by Condition I.C.10.c, may be reduced by the Permittee through a permit application, in accordance with 35 IAC 703.280, to reduce the annual leachate monitoring list. The Reduced List will be based on a review of the four most recent full Appendix I analyses, and include all parameters detected in any of these four Appendix I analysis, along with their appropriate STORET for electronic data submittal. Starting the next sampling event after Illinois EPA approval, this reduced list will be used in lieu of the Appendix I analysis for three out of four years, with the fourth year reverting to a full Appendix I analysis. Any parameters not included on the existing Reduced List detected in the fourth-year Appendix I analysis shall be added to the Reduced list, by means of a permit application in accordance with 35 IAC 703.280, for all future Reduced List analyses. This cycle of three years of Reduced List, followed by one year of Appendix I analysis, will repeat for the remainder of the post-closure period.

e. Information required by Condition I.C.10.c and I.C.10.d must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in Attachment A. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA's webpage titled, Electronic Reporting of Groundwater Data.

f. The following leachate withdrawal points will be used in leachate analysis required by conditions I.C.10.c and I.C.10.d. For purposes of electronic reporting, the points will be renamed as shown below.

Name in Application	Name for Electronic Reporting
DTM-1	L334
DTM-2	L335
DTM-3	L336
DTM-4	L337
DTM-5	L338
DTM-6	L339
DTM-7	L340
DTM-8	L341
DTM-9	L342
DTM-10	L343
PLER-1	L344
PLER-2	L345
PLER-3	L346
PLER-4	L347
PLER-6A	L348

g. The following Leachate monitoring wells will be used for purposes of the leachate level determination required by Condition I.C.10.b. For purposes of electronic reporting, the points will be renamed as shown below.

Name in Application	Name for Electronic Reporting
LW-1R	L321
LW-2R	L322
LW-3R	L323
LW-4R	L324
LW-5R	L325
LW-6R	L326
LW-7	L327
LW-8R	L328
LW-9	L329
LW-10R	L330
LW-11R	L331
LW-12R	L332
LW-13R	L333

h. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting form (LPC-592, a copy is provided in Attachment G) as a cover sheet for all leachate reports for identification purposes. The form is not to be used for permit applications.

i. Prevent run-on and run-off from eroding or otherwise damaging the final cover.

j. Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 35 IAC Part 724 Subpart F.

k. Protect and maintain surveyed benchmarks used in complying with surveying and recordkeeping requirements.

D. NOTICES AND CERTIFICATION

1. If the Permittee or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, then must request a modification to this Post-Closure Permit in accordance with the applicable requirements in 35 IAC Parts 703, 705, and 724. The owner or operator must, at a minimum, demonstrate that the removal of hazardous wastes will satisfy the criteria of 35 IAC 724.217.

2. No later than 60 days after establishing post-closure care period for each hazardous waste disposal unit has been completed, the Permittee shall submit to the Illinois EPA Bureau of Land Permit Section, by registered mail, a certification that the post-closure care for the hazardous waste disposal unit was performed in accordance with the specifications in the approved Post-Closure Plan. The certification must be signed by the owner or operator and a qualified Illinois licensed Professional Engineer. Documentation supporting the qualified Illinois licensed Professional Engineer's certification must be furnished to the Illinois EPA Bureau of Land Permit Section upon request until the Illinois EPA releases the Permittee from the financial assurance requirements for post-closure care.

3. A survey plat indicating the location and dimensions of Areas 1 and 2 and any other hazardous waste disposal units with respect to permanently surveyed benchmarks was prepared and certified by a professional land surveyor. The notes on the plat state the owner's and operator's obligation to restrict disturbance of Areas 1 and 2 in accordance with the applicable Subpart G regulations. These notes state:

a. The waste materials contained in Areas 1 and 2 are considered RCRA hazardous wastes. They include multiple hazardous waste codes from various industrial processes. See Table C-1 of Document F.1 of the approved permit application for a detailed list of waste codes received.

b. Any material removed from Areas 1 and 2 during future activities must be managed as a hazardous waste in accordance with 35 IAC Subtitle G: Waste Disposal.

c. The use of this area is restricted.

4. The Plat of Survey (P.I.N. numbers 7-31-100-002 and 7-31-200-008, Drawing 1) (PIN) were filed with the Will County Recorder's Office on August 16, 1993. The record data is included in Appendix 17 of Document F.1 of the approved permit application. The Plat of Survey was attached to the deed to the property and serves as an instrument which is normally examined during title search that will in perpetuity notify any potential purchaser of the property that:

a. The waste material in Areas 1 and 2 are considered a RCRA hazardous waste;

b. Use of Areas 1 and 2 are restricted; and

c. A survey plat and record of the type, location, and quantity of waste material in Areas 1 and 2 was filed with the Illinois EPA and the County Recorder.

E. SUBSURFACE GAS MANAGEMENT

1. The Permittee shall flare the subsurface gas generated at Area 1 as permitted by Illinois EPA Bureau of Air during the post-closure care period.

2. The Permittee shall operate the gas management system in accordance with Section I.5 of Document A.1 identified in Attachment F of this Permit.

3. A corrective action plan to modify the facilities existing gas control system shall be submitted to the Illinois EPA Bureau of Land Permit Section for approval if subsurface gas creates problems. Upon approval, the plan shall be implemented.

F. FINANCIAL ASSURANCE

1. The Permittee shall maintain financial assurance for post-closure care of Areas 1 and 2 of at least the amount shown in Attachment D, Section I. Financial Assurance shall be provided in accordance with Title 35 IAC Part 724 Subpart H.

G. 39(i) CERTIFICATION

1. The Permittee shall submit current 39(i) certifications and supporting documentation with all permit applications.

H. INSPECTION SCHEDULE

Post-closure inspections will be conducted quarterly during the post-closure period. Additional inspections will be performed following precipitation events in which two inches or more of precipitation are received at the site during a 24-hour period. If such precipitation events occur within one-month of one of the scheduled quarterly inspections, the precipitation event inspection will be substituted for the regular quarterly inspection. Findings made during each inspection will be recorded on the post-closure inspection log, included as Figure I-1 of the approved permit application or, on a similar log. Copies of all inspection logs will be kept at the landfill. Documentation of all repairs performed or replacements required to properly maintain the site will be kept with the inspection logs. General post-closure inspection procedures will include the following:

1. Visually inspect the perimeter fence and all gates. Check for fence integrity and note any areas of damage. Note the working condition of each gate and check to ensure that all locks and other security systems are in place and functioning.

2. Visually inspect the landfill cover and surrounding areas. Note any evidence of cover erosion, settling, or negative stress. Also note any unusual conditions such as odors, ponded water, or bubbling. Visually inspect the run-on/run-off control berms and ditches. Mark any areas requiring further inspection or repairs so arrangements can be made to efficiently effect all necessary repairs.

3. Visually inspect the gas risers and flares. Note any damage, malfunction, and/or clogging. Check liquid level in each riser and make arrangements for condensate removal.

4. Visually inspect each leachate collection riser and note any damage. Check and record the liquid level in each withdrawal riser for the co-disposal hill and each drum trench. If the liquid level is found to be above the maximum acceptable level identified in the approved permit application, make arrangements for leachate removal.

5. Inspect each groundwater well cover for damage. Check the well cap and well cover lock to ensure they are functioning and have not been tampered with. Note area around wells for erosion, settling or negative stress. The monitoring wells are also utilized as permanent benchmarks. Visually inspect each benchmark, report any missing benchmarks, and note any damage to the benchmarks.

6. Visually inspect any applicable safety and emergency equipment. Report missing and/or damaged equipment.

7. Visually inspect the groundwater remediation system each time water level measurements are obtained.

8. Inspect the components of the groundwater treatment process each day that the system is in operation or liquid is present in the tank.

9. Inspect the leachate collection tanks and associated secondary containment. Check for any accumulation of standing water (from precipitation) and arrange for removal. Check for evidence of leakage. Investigate all breaches within 24 hours of occurrence and correct the problem as soon as practicable. Inspections of the portable tanks are required on a weekly basis when there is material in the containers.

Arrangements shall be made to repair or replace any items in order to maintain the site at a condition equal to that in the application.

I. POST-CLOSURE MAINTENANCE

Maintenance activities will respond to the needs determined from the inspections. The following items will be repaired to original conditions described in the original Post-Closure Permit Application: slopes damaged by erosion; areas of settlement, subsidence, and displacement; run-on and run-off control structures; and the leachate collection and removal system. Wells will be repaired or replaced. The vegetative cover on the final cover will be: (1) mowed annually and (2) fertilized on an as-needed basis.

Section II: GROUNDWATER CORRECTIVE ACTION PROGRAM FOR HWMUs

A. SUMMARY

Hazardous constituents released from Area 1 and Area 2 have been detected in groundwater within the upper Silurian Dolomite. The contamination is located in the vicinity of the closed RCRA co-disposal landfill designated as "Area 1" and extends beyond the Point of Compliance. As a result, the Corrective Action Program detailed in this section must be implemented to remove the groundwater contamination and ensure compliance with the Groundwater Protection Standards. The Corrective Action Program is designed to meet the requirements of 35 IAC 724.200 and includes conditions pursuant to Section 39(d) of the Act to achieve compliance with additional State administrative rules.

The Corrective Action Program is comprised of a groundwater recovery and monitoring system for the areas which are currently contaminated (hereafter referred to as an "Observation Zone"), and a groundwater monitoring system for the areas which are not currently contaminated (hereafter referred to as "GMZ Boundary Wells"). The Program includes:

1. Establishment of a 35 IAC 620.250 Groundwater Management Zone (GMZ).

2. Extraction of contaminants dissolved in the groundwater through the pumping of well(s) located within the GMZ. This extraction is also designed to maintain hydraulic control of the flow of groundwater within the GMZ. The hydraulic control must prevent further off-site migration of contaminants from the boundaries of the facility and draw groundwater containing dissolved organic and inorganic contaminants, which had previously migrated off-site, back to the facility boundary.

3. Monitoring to ensure the effectiveness of the groundwater recovery system within the GMZ. This monitoring will involve: (a) evaluating the zone of influence of the groundwater recovery system and (b) groundwater sampling and analysis to monitor the reduction of contaminant concentrations.

4. Monitoring in a series of wells designated as GMZ Boundary Wells. This monitoring will determine if groundwater located outside the area of contamination is in compliance with the Groundwater Protection Standard and will identify additional hazardous constituents which may be present in the uppermost aquifer.

B. DEFINITIONS

As used herein, the words or phrases set forth shall have the following definitions:

1. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically connected with this aquifer in the vicinity of the facility. The uppermost aquifer in the vicinity of the facility has been identified as a composite zone consisting of outwash sand and gravel deposits, where present and the underlying weathered, fractured, and/or jointed Silurian Dolomite.

2. "GMZ" refers to the three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site that is subject to corrective action or for which the owner/operator undertakes an adequate corrective action in a timely and appropriate manner and provides written confirmation to the Illinois EPA.

3. "Point of Compliance" refers to the vertical surface located at the hydraulically downgradient limits of the waste management area extending down into the uppermost aquifer underlying the regulated unit.

4. "Ft-bgs" refers to the number of feet below the ground surface.

5. "Ft-MSL" refers to the number of feet referenced to mean sea level (MSL).

6. "Detected" shall mean a concentration equal to or above the practical quantitation limit (PQL) listed in USEPA's SW-846 (Third Edition) for the application analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition II.H of the Permit.

7. "Stick-up" refers to the height of the reference survey datum. This point is determined within $\pm$ 0.01 foot in relation to MSL, which in turn is established by reference to an established National Geodetic Vertical Datum.

C. IMPLEMENTATION

1. The Permittee shall implement the corrective action program established in this Permit upon the effective date of this Permit. On that date, the corrective action and groundwater monitoring requirements set forth in this Permit shall supersede those established in the previous Post-Closure Part B Permit for WMI's Laraway Recycling and Disposal Facility.

2. The compliance period when the groundwater protection standard applies is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting and the closure period). The compliance period for Area 1 and Area 2 has been defined as a minimum of 30 years following the issuance of the November 3, 1989, Post-Closure Permit.

3. The corrective action program shall continue during the compliance period until the Permittee demonstrates the groundwater protection standard has not been exceeded for three consecutive years. However, if the owner or operator is engaged in a corrective action at the end of the defined compliance period, the compliance period is extended until the owner/operator can demonstrate that the groundwater protection standard has not been exceeded for three consecutive years.

4. The Permittee shall carry out the corrective action program specified in this Permit on the groundwater beneath the Laraway Recycling and Disposal Facility. The uppermost aquifer in the vicinity of the Laraway Recycling and Disposal Facility has been defined as a composite zone consisting of outwash sand and gravel deposits, where present and the underlying weathered, fractured, and/or jointed Silurian Dolomite.

5. The Point of Compliance shall be postponed for the regulated unit until such time that the GMZ monitoring wells have attained the applicable concentration limits that comprise the groundwater protection standard found in Condition II.E and the GMZ expires. At that time, the facility must submit a proposal for establishment of a Point of Compliance which satisfies the regulatory requirements found in 35 IAC Part 724 Subpart F and reflects the current conditions of the facility.

D. WELL LOCATIONS AND CONSTRUCTION

1. The wells/piezometers, as identified in the tables below shall be maintained as part of the Corrective Action Program.

TABLE 1. Observation Zone -- GMZ wells located within the area of groundwater contamination. The geographic location of each well is shown in Figure E-1 of the approved permit application.

Illinois EPA Well No.	Well Depth (Ft-bgs)	Boring Depth (Ft-bgs)	Ground Surface Elevation (Ft-MSL)	Top of Casing Elevation (Ft-MSL)	Well Screen Interval (Ft-MSL)
A128	51.0	57.0	622.35	625.60	581.35--571.35
R29S	45.5	46.0	623.24	625.44	582.74--577.74
R29D	55.5	58.0	622.91	624.61	572.41--567.41
G127	54.2	56.0	620.01	623.26	585.01--565.81
G130	61.0	61.0	624.52	627.37	583.83--564.62
G131	63.6	65.0	624.41	627.01	579.87--560.81
G167	39.0	39.5	605.30	607.80	576.30--566.72
G168	46.0	47.0	611.74	614.28	575.74--566.17
R4D2	59.0	59.0	620.16	620.56	567.16--561.66
R40S	38.5	39.5	619.01	621.76	585.71--580.51
EW-1$^{r(1)}$	N/A	N/A	N/A	N/A	N/A
EW-2$^{r(2)}$	54.5	54.5	620.06	620.56	586.66--567.77
EW-3$^{r(2)}$	65.5	65.5	623.18	623.68	579.18--559.18
EW-4^{r}	66.5	66.5	624.36	624.86	579.36--559.36
EW-5$^{r(2)}$	57.5	57.5	620.87	621.37	584.87--564.87
EW-6^{r}	63.5	63.5	623.96	624.46	581.96--561.96
EW-7$^{r(2)}$	58.5	58.5	621.77	622.21	584.71--564.71
EW-8$^{r(2)}$	57.5	57.5	622.14	622.64	586.14--566.14

r -- Denotes recovery well. Not required to be sampled.

(1) EW-1 is installed but is not being used at present time. If field conditions dictate, EW-1 may be redeveloped to correct silting problems or it may be replaced. Conversely, EW-1 may not be needed at all.

(2) Recovery well to be utilized as identified in the semi-annual reports to ensure control. The well must be maintained in accordance with the requirements of Condition II.D.9 in the event that additional hydraulic control becomes necessary.

TABLE 2. GMZ Boundary Wells -- GMZ wells outside the area of contamination. The geographic location of each well is shown in Figure E-1 of the approved permit application.

Illinois EPA Well No.	Well Depth (Ft-bgs)	Boring Depth (Ft-bgs)	Ground Surface Elevation (Ft-MSL)	Top of Casing Elevation (Ft-MSL)	Well Screen Interval (Ft-MSL)
G101	20.2	20.6	591.15	593.26	576.15--571.15
G105	50.2	50.5	622.84	625.65	577.84--572.84
G109	48.0	48.0	617.57	619.99	574.79--569.79
R112*	49.0	50.0	613.03	615.97	574.07--564.07
R114**	43.5	43.5	624.65	627.25	591.65--581.85
R122	44.0	45.0	620.52	625.72	586.52--576.52
G123	51.4	53.0	619.73	622.68	587.53--568.33
G124	45.6	47.0	618.36	620.86	587.16--572.76
G125	50.5	52.0	618.94	623.24	587.24--568.44
G126	50.6	52.0	619.12	621.07	587.62--568.52
G132	60.7	62.0	620.76	623.26	579.26--560.06
G133	60.0	61.5	622.11	625.01	581.81--562.11
R134	50.0	50.5	623.30	625.05	583.30--573.30
G135	60.8	61.5	622.11	625.16	580.41--561.31
G136	61.0	62.0	621.96	624.93	584.96--560.96
G137	58.1	61.0	621.23	623.88	587.13--563.13
G138	59.0	62.0	621.63	624.63	587.43--562.63
R139	36.6	38.0	620.83	622.68	589.05--584.05
G142	49.8	50.0	618.57	621.77	588.07--568.77
R143	41.0	40.0	N/A	N/A	592.57--577.57
R144	40.0	40.5	618.07	621.67	588.07--578.07
G145	61.0	63.0	618.50	621.32	587.17--557.57
G146	53.5	57.0	618.04	620.79	583.74--564.54
G147u**	54.1	57.0	617.38	620.38	584.37--565.27
G148u	50.4	51.0	618.08	620.77	581.89--567.59
R149u**	51.0	52.90	633.85	636.64	587.75--582.95
G169	55.5	56.0	618.61	621.39	573.11--563.53
G53S	39.0	39.0	624.79	627.84	591.29--585.79
G53D	59.5	64.0	624.73	627.88	570.73--565.23
G1A5	42.18	44.0	616.40	619.41	584.53--574.53

* -- Denotes background monitoring well
** -- Denotes monitoring well used only for groundwater elevation measurements
U -- Denotes upgradient monitoring well
-- Denotes monitoring point to be added to the program. Information necessary to meet the requirements of Condition II.D.7 and appropriate revisions to the approved permit application must be submitted as a Class 1* permit application pursuant to 35 IAC 703.280.

2. Written approval from the Illinois EPA must be obtained prior to changes being made to the facility's Groundwater Recovery System. The Permittee shall submit a proposal for the installation and addition, or replacement, or for the removal, of any Groundwater Recovery System well, located within the GMZ as it is currently defined in Condition II.D.1 (Table 1) above. This proposal shall be in the form of a Class 1* permit application.

3. This Permit may be modified by the Permittee or the Illinois EPA in accordance with 35 IAC 705.128 if information becomes available that the current well spacing is not adequate to detect contamination from the hazardous waste management areas to the uppermost aquifer.

4. Construction of each new or replacement monitoring well/piezometer shall be in accordance with the "Cross-Section of Typical Monitoring Well" diagram contained in Attachment A to this Permit, unless otherwise approved in writing by the Illinois EPA. Any new monitoring well/piezometer to be installed shall be continuously sampled and logged on an Illinois EPA approved boring logs as provided in Attachment A to this Permit.

5. The Permittee shall notify the Illinois EPA within 30 days in writing if any of the wells identified in Condition II.D.1 are damaged, the structural integrity has been compromised, or if as a result of poor construction and/or development, have become consistently dry or unserviceable. A proposal for the replacement of the subject well shall accompany this notification. The well shall not be plugged until the new well is on-line and monitoring data has been obtained and verified, unless the well is extremely damaged and would create a potential route for groundwater contamination. Prior to replacing the subject well, the Permittee shall obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.

6. Should any well become consistently dry or unserviceable, a replacement well shall be provided within 10-feet of the existing well. This well shall monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the wells are replaced. A well which is more than 10-feet from the existing well and which does not monitor the same geologic zone shall be approved by the Illinois EPA and designated as a new well. If the facility determines that a replacement well will be a dry well, then it must submit for Illinois EPA approval either a proposal to install a new monitoring well or a proposal not to replace the well with appropriate rationale.

7. The Permittee shall submit boring logs, construction diagrams, and data sheets from the installation and development of each new or replacement well to the Illinois EPA at the address below within 30 days of the date that installation of the well is completed. In addition, the Permittee shall submit certification that plugging and abandonment of a well was carried out in accordance with 77 IAC Part 920 and the approved Illinois EPA procedures to the Illinois EPA at the address below within thirty 30 days of the date that the well is plugged and abandoned. All information shall be submitted to the appropriate Agencies.

   Illinois Environmental Protection Agency
   Bureau of Land -- #33
   Permit Section
   1021 North Grand Avenue East
   P.O. Box 19276
   Springfield, Illinois 62794-9276

8. All wells/piezometers shall be clearly identified on the protective casing and shall be equipped with protective caps and locks. Monitoring wells/piezometers located in high traffic areas must be protected with bumper guards.

9. All wells/piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 IAC Part 920 regulations.

E. GROUNDWATER PROTECTION STANDARD, WASTE CONSTITUENTS and FIELD PARAMETERS

1. The Permittee shall determine groundwater quality at groundwater monitoring wells identified in Condition II.D.I semi-annually. The concentration limits listed for the following hazardous and non-hazardous constituents comprise the Groundwater Protection Standard, hereafter referred to as List E1.

LIST E1 (Groundwater)

Constituent	STORET	Concentration Limit (ug/L, except as noted)
ORGANICS (Total Concentration)		
Chloroethane	34311	ND
Chloromethane	34418	ND
Dichlorodifluoromethane	34668	1,400
1,1-Dichloroethane	34496	700
1,2-Dichloroethane	34531	5 (1)
1,1-Dichloroethylene	34501	7 (2)
cis-1,2-Dichloroethylene	77093	70 (2)
trans-1,2-Dichloroethylene	34546	100 (2)
1,2-dichloropropane	34541	5
p-Dioxane	81582	7.7
Tetrachloroethylene	34475	5 (1)
Trichloroethylene	39180	5 (1)
1,1,1-Trichloroethane	34506	200 (2)
1,1,2-Trichloroethane	34511	5 (2)
Trichlorofluoromethane	34488	2,100
Vinyl Chloride	39175	2 (1)
Chloride	00940	200 mg/L
Inorganics (Unfiltered)		
Arsenic	01002	10
Barium	01007	1,000
Chromium	01034	70
Lead	01051	7.5

LIST E1 (Groundwater) (Continued)

Constituent	STORET	Concentration Limit (ug/L, except as noted)
Inorganics (Filtered)		
Arsenic	01000	PQL
Barium	01005	117.2
Chromium	01030	10.33
Lead	01049	PQL

NOTES: (1) In addition to meeting the individual concentration limit in the tables above, the following equation must be satisfied in order to protect against liver tumors.

$$\frac{[\text{1,2-dichloroethane}]}{0.005\ \text{mg/L}} + \frac{[\text{tetrachloroethylene}]}{0.005\ \text{mg/L}} +$$

$$\frac{[\text{trichloroethylene}]}{0.005\ \text{mg/L}} + \frac{[\text{vinyl chloride}]}{0.002\ \text{mg/L}} \leq 1.0$$

(2) In addition to meeting the individual Class in groundwater recommendations indicated in the tables above, the following equation must be satisfied in order to protect against liver toxicity.

$$\frac{[\text{cis-1,2-dichloroethylene}]}{0.07\ \text{mg/L}} + \frac{[\text{trans-1,2-dichloroethylene}]}{0.1\ \text{mg/L}} +$$

$$\frac{[\text{1,1-dichloroethylene}]}{0.007\ \text{mg/L}} + \frac{[\text{1,1,1-trichlorothane}]}{0.2\ \text{mg/L}} +$$

$$\frac{[\text{1,1,2-trichloroethane}]}{0.005\ \text{mg/L}} \leq 1.0$$

ND: Not Determined.

Insufficient data were available upon which to base a concentration limit. If the chemical(s) is/are still detected after all other concentration limits have been achieved, then the Illinois EPA will establish appropriate concentration limits at that time.

BG: Background

2. The following hazardous constituents comprise the routine monitoring list for the Observation Zone wells identified below in Subsection II.F.1, hereafter this list is referred to as List E2:

LIST E2 (Groundwater)

Hazardous Constituent	STORET	Concentration Limit (ug/L)
ORGANICS		
Chloroethane	34311	ND
Chloromethane	34418	ND
1,2-dichloropropane	34541	5
trans 1,2-Dichloroethylene	34546	100
Dichlorodifluoromethane	34668	1,400
p-Dioxane	81582	7.7
Trichlorofluoromethane	34488	2,100
INORGANICS (UNFILTERED)		
Arsenic	01002	10
Barium	01007	1,000
Chromium	01034	70
Lead	01051	7.5
INORGANICS (FILTERED)		
Arsenic	01000	PQL
Barium	01005	117.2
Chromium	01030	10.33
Lead	01049	PQL

3. The following parameters comprise the annual waste constituent list, hereafter referred to as List E3.

LIST E3 (Groundwater)

Hazardous Constituent	STORET	PQL (ug/L)
Toluene	34010	5
Benzene	34030	2
Chlorobenzene	34301	2
Methylene Chloride	34423	5
Methyl ethyl ketone	81595	10
Ethyl benzene	78113	2
Xylene	81551	5
Acetone	81552	100
Isobutanol	77033	50
ortho-Dichlorobenzene	34536	10
Carbon disulfide	77041	5
Pyridine	77045	5
Hexachloropropene	70304	10
Hexachlorophene	73575	50
Kepone	81281	20
Cadmium	01027	5
Mercury	71900	2
Iron*	01045	1,000

*Statistical evaluation of this parameter is not equivalent this time.

4. The following parameters comprise the field parameter list, hereafter referred to as List E4:

LIST E4 (Groundwater)

Field Parameter	STORET	Units
Specific Conductance at 25°C	00094	umhos/cm
pH	00400	(S.U.)
Temperature of Water Sample	00011	°F
Depth to Water (below land surface)	72019	Feet
Depth to Water (below measuring point)	72109	Feet
Elevation of Casing Measuring Point (MSL)	72110	Feet
Elevation of Groundwater Surface (MSL)	71993	Feet
Elevation of Well Bottom (MSL)	72020	Feet
Turbidity	00076	NTU
Oxidation Reduction Potential	00090	Millivolts

5. Pursuant to 35 IAC 724.194(a), the appropriate concentration limits that comprise the Groundwater Protection Standard are either: (1) background concentration; (2) 35 IAC 724.194 Table 1; or (3) an alternate concentration limit such as an appropriate 35 IAC Part 620 Groundwater Quality Standard or submit the information required by 35 IAC 724.194 (b). Total (unfiltered) values shall be used for comparison to the 35 IAC Part 620 Groundwater Quality Standards. The following procedures may be used to change the established concentration limits (see List E1 above) or to propose a concentration limit when a constituent that is not currently part of the Groundwater Protection Standard (see List E1 above) is detected:

   a. To establish background of a constituent for the purpose of establishing the concentration limit, the following procedures shall be followed:

      Background shall be established on data obtained from the quarterly sampling of each background well for one-year. Background shall be proposed to the Illinois EPA for approval within 45 days of receipt of the fourth quarter analytical results. For those monitoring parameters or constituents not detected above the PQL during background gathering, the background values shall be established as the appropriate 35 IAC Part 620 Groundwater Quality Standard or the laboratory PQL, whichever is lower.

   b. Alternate concentration limits may be established where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment in accordance with 35 IAC 724.194 (b).

(1) If the hazardous constituent has a standard listed in 35 IAC Part 620, the facility may also need to apply for an adjusted standard as outlined in Section 28.1 of the Act as part of the alternate concentration limit demonstration.

(2) If the hazardous constituent does not have a 35 IAC Part 620 standard, the alternate quality standard proposed by the Permittee must be approved by the Illinois EPA.

F. CORRECTIVE ACTION PROGRAM

1. Observation Zone (GMZ Wells Within the Area of Contamination)

a. The wells identified in Condition II.D.1, Table 1, are the wells that make up the Observation Zone. The Permittee shall implement, at these wells, the corrective measures detailed in Appendix 9 of the approved permit application, with the following conditions:

(1) Groundwater extraction from the pumping wells shall be maintained to ensure that groundwater flow is adequately controlled in the aquifer(s).

(2) Changes in the pumping rate must be explained in the annual report. Extended periods of "downtime" greater than monthly shall be reported to the Illinois EPA.

(3) Hydraulic head measurements shall be made semi-annually during the compliance period. This data shall be used to evaluate the long-term seasonal trends of water-table surfaces when subjected to the pumping stress of the gradient and source control systems, and to determine the size of the resulting capture zone.

(4) Flow rate data shall be recorded on a weekly basis. The flow rate shall be calculated from the cumulative discharge data of each well as measured by its cumulative flowmeter. The semi-annual report shall present the weekly flowmeter data for the semi-annual period, and the flow rate calculated from this data. Flow rate data shall be calculated as the average volume pumped in gallons per minute for each well during each weekly measurement period, as well as the average flow rate for the semi-annual reporting period.

b. Upon initiation of the groundwater recovery system (detailed in Condition II.F.1.a above) and when hydraulic control of the contaminated groundwater areas is achieved, a three-dimensional region containing groundwater within the uppermost aquifer is established as a GMZ pursuant to 35 IAC 620.250. The geographic location of the GMZ is defined by the wells listed in Condition II.D.1. Tables 1 and 2.

The GMZ shall apply to the constituents comprising the Groundwater Protection Standard listed in Condition II.E above. The GMZ shall remain in place as long as corrective actions are being conducted in a timely and appropriate manner. The GMZ shall expire upon the groundwater meeting the Groundwater Protection Standard. The Illinois EPA shall review the on-going adequacy of controls and continued management at the facility if constituents, as specified in 35 IAC 620.450(a)(4)(B), remain in groundwater following completion of the corrective action.

c. The Permittee shall demonstrate the effectiveness of the groundwater recovery system by monitoring groundwater from wells identified in Condition II.D.1, Table 1. The effectiveness shall be evaluated semi-annually in accordance with the procedures outlined in Sections E-8 and E-9 of the approved permit application and the following conditions:

(1) Monitoring wells listed in Condition II.D.1, Table 1, shall be sampled according to the schedule as noted on the table.

(2) Samples collected during the fourth quarter of each year shall be analyzed for List E2 and List E4 identified in Condition II.E above.

(3) Samples collected during the second quarter of each year shall be analyzed for Lists E1, E3, and E4. The detection limits utilized in this analysis shall at a minimum meet the concentration limit specified in List E1; and analysis for the List E3 waste constituents shall, at a minimum, meet the Groundwater Quality Standard listed in 35 IAC Part 620, or the PQLs identified in List E3, whichever is lowest.

(4) The hydraulic effects of the extraction system must be determined semi-annually at each well listed in Condition II.D.1, Table 1. To evaluate the hydraulic effects, scaled potentiometric maps with the zone of influence and capture created by the extraction system shall be developed. The pumping rate shall also be identified on the potentiometric maps.

(5) Sampling and analytical procedures utilized in the Groundwater Recovery System shall be in accordance with Condition II.H, below.

2. GMZ Boundary Wells

a. The Permittee shall determine whether the Groundwater Protection Standard has been exceeded and whether groundwater has been degraded below established background values within the GMZ boundary (non-contaminated) wells. The wells identified in Condition II.D.1, Table 2, shall be used for this evaluation. These wells shall be evaluated semi-annually during the compliance period.

b. Samples collected during the fourth quarter of each year shall be analyzed for List E1 and List E4 identified in Condition II.E.

c. Samples collected during the second quarter of each year shall be analyzed for Lists E1, E3, and E4. The detection limits utilized in this analysis shall at a minimum shall meet the concentration limit specified in List E1; and analysis for the List E3 waste constituents shall, at a minimum, meet the Groundwater Quality Standard listed in 35 IAC Part 620, or the PQLs identified in List E3, whichever is lowest.

d. Sampling and analytical procedures shall be in accordance with Condition II.H below.

3. The Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually from the wells listed in Condition II.D, Tables 1 and 2, excluding the groundwater extraction wells. The groundwater flow rate must be reported as a minimum and maximum range.

G. GROUNDWATER ELEVATIONS

1. The Permittee shall determine the groundwater surface elevation referenced to MSL at each well each time groundwater is sampled in accordance with Condition II.J.3. Groundwater elevation measurements are not required from recovery wells.

2. The Permittee shall determine the surveyed elevation of stick-up, referenced to MSL, when a well is installed (with as-built diagrams) and every two years (during the first semi-annual sampling event), or whenever the elevation changes, beginning with the first groundwater sampling event required by this Permit.

3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be determined at least annually at wells not equipped with dedicated pump systems. The mandatory measurement shall be taken during the first semi-annual sampling event in Conditions II.J.2 described below. For wells containing dedicated pump systems, the mandatory measurement shall be taken in accordance with Condition II.J.5 below.

H. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the groundwater monitoring wells described in Condition II.D.1 above:

1. Samples shall be collected by the techniques described in Section E.8.d(3) of the approved permit application.

2. Samples shall be preserved, shipped, and handled in accordance with the procedures specified in Section E.8.d(3) of the approved permit application.

3. Samples shall be analyzed according to the procedures specified in Section E.8.d(3) of the approved permit application.

4. Samples shall be tracked and controlled using the chain-of-custody procedures specified in Section E.8.d(3) of the approved permit application.

I. STATISTICAL PROCEDURES

1. The Permittee shall evaluate the quality of groundwater samples acquired during the semi-annual sampling events identified above in Condition II.F.

   a. Observation Zone wells (see Subsection II.F.1.c.(1)) shall be evaluated according to the following procedures:

      During each fourth quarter sampling event, the Permittee shall conduct the p-dioxane evaluation discussed in Section E.8.d.5 of the approved permit application.

   b. GMZ Boundary Wells (see Subsection II.F.2.a) shall be evaluated according to the following procedures:

(1) The concentration of each hazardous constituent which comprise the Groundwater Protection Standard (List E1) shall be compared to their respective Concentration Limit. If a parameter exceeds its Concentration Limit specified in Condition II.E above, the Permittee shall follow the procedures specified in Conditions II.J.11 and/or II.J.13.

(2) Constituents detected below the PQL shall be determined to be showing no change and no action is necessary.

2. The Permittee shall evaluate the results of the annual analyses required by Condition II.F.1.c.(3) and II.F.2.c. by:

a. Comparing the list of substances found in samples to the list of hazardous constituents contained in List E3. If a given constituent is found above the PQL in the sample, collected from a well, the Permittee may resample within 30 days. This sample shall be analyzed for the constituent(s) detected above the PQL in the initial sample.

(1) If the constituent(s) of concern is (are) again detected above the PQL or the Permittee does not resample, the Permittee shall conclude that the constituent(s) of concern is (are) in the groundwater and follow the procedures in condition II.J.11 and/or II.J.13 below.

(2) If the constituents of concern is (are) not detected in the resample, the Permittee will not be required at that time to continue sampling for the particular constituent(s).

b. Comparing the concentration of the samples from the GMZ Boundary wells to the Concentration Limits of the Groundwater Protection Standard identified in Condition II.E, List E3. If this comparison indicates a constituent exceeds its Concentration Limit, the Permittee shall follow the procedures specified in Condition II.J.11 and/or II.J.13 below.

c. Determining the concentration trend at each well to identify areas that may have increasing contamination and to evaluate the effectiveness of the extraction system for reducing the concentration of contaminants within the Observation Zone.

(1) GMZ Boundary Wells shall be evaluated as follows:

i. Constituents detected below the PQL shall be determined to be showing no change and no action is necessary.

ii. Constituents detected above the PQL shall be plotted on graphs which show historical concentration versus time. Plots indicating a trend that has a positive or greater than 1.0 slope shall be reported, as part of Condition II.J.10 below, as a potential area of increasing contamination. In addition, the report shall contain an evaluation on whether the corrective actions are operating effectively and whether adjustments or additional remedial actions are necessary based on the concentration trend.

(2) Observation Zone Wells shall be evaluated as follows:

Constituents detected above the PQL shall be compared to the historical data for each well and submitted as part of Condition II.J.10 below. The comparison shall include graphs which show the concentration versus time. The information shall be used to evaluate whether all constituents comprising the groundwater protection standard are being adequately remediated. This evaluation shall include an assessment of the current corrective actions and whether adjustments or additional remedial actions are necessary.

3. The Permittee shall evaluate the effectiveness of the groundwater extraction system to hydraulically capture and withdraw the off-site plume of groundwater contamination. The information required by Condition II.F.1.a, II.F.1.c and II.F.2 shall be used for this evaluation. This evaluation shall be conducted semi-annually. If the evaluation indicates the off-site plume of contamination is not completely captured by the current extraction system design and present pumping rate status conditions, the Permittee shall submit within 30 days of the semi-annual evaluation proper notification or modification (see Conditions II.F.1.a.(2) and II.F.1.a.(3)) to achieve capture of the groundwater contamination.

J. REPORTING AND RECORDKEEPING

1. The Permittee shall enter all monitoring, testing and analytical data obtained in accordance with Conditions II.E, II.F, II.G, II.H, and II.I into the operating record.

2. Samples collected to meet the requirements of the groundwater monitoring program described in Conditions II.E, II.F, II.G, II.H, and II.I shall be collected during the second and fourth quarters of each calendar year, as identified in the Table below. The results of the groundwater quality analyses conducted on the samples shall be submitted in accordance with this schedule.

Sampling event of calendar year:	Samples to be collected in the months of:	Results submitted to Illinois EPA by the following:
Second Quarter	April-May	July 15
Fourth Quarter	October-November	January 15

3. Groundwater surface elevation data measured pursuant to Condition II.G.1 shall be collected semi-annually and submitted to the Illinois EPA as identified in Condition II.J.2 above.

4. The Permittee shall report the surveyed elevation as required by Condition II.G.2 of the top of well casing "stick-up", referenced to MSL in accordance with the following schedule:

   a. For wells identified in Condition II.D.1 above, every two years (during the second quarter sampling event), or at the request of the Illinois EPA, or whenever elevation changes.

   b. For any new well, at the time of installation and reported in the as-built diagrams, subsequent measurements shall be made every two years (during the second quarter sampling event), or at the request of the Illinois EPA, or whenever the elevation changes.

5. Elevation of the bottom of each monitoring well identified in Condition II.D.1 as referenced to MSL, is to be reported when maintenance activities are conducted in accordance with Condition II.J.6 below. The measurement will be taken during the first semi-annual sampling event and reported by July 15 of that year. Total well depths will continue to be measured annually for wells that are not equipped with dedicated pump systems.

6. The Permittee shall maintain all equipment associated with groundwater monitoring wells. Dedicated pumps found in monitoring wells identified in Condition II.D.1 must be removed, inspected, and repaired if necessary every five years. Information regarding the inspection and maintenance of pumps must be reported by July 15 of that year.

7. Information required by Conditions II.F.1.c.(2), II.F.1.c.(3), II.F.2.b, II.F.2.c, II.G.2, and II.G.3 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment A, in accordance with the schedule found in Condition II.J.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA's webpage titled, Electronic Reporting of Groundwater Data.

8. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by the facility's Permit for identification purposes. Only one copy of the LPC-592 must accompany the submittal. However, the Permittee must submit one original and a minimum of two copies of each notice or report submitted to the Illinois EPA. The form is not to be used for permit applications.

9. The Permittee shall report all information to the Illinois EPA in a form which can be easily reviewed. The report must present data in tabular form and must include drawings and text (as necessary) which accurately describe and support all conclusions. In addition, the forms included as Attachment G shall be completed and accompany each submittal.

10. The Permittee shall submit a written report to the Illinois EPA annually which discusses the effectiveness of the Corrective Action Program and place it in the operating record for the facility. At a minimum, the report must:

    a. Address the information requirements in Conditions II.E, II.F, II.G, II.H, and II.I and contain the information specified in Section E.9 of the approved permit application.

    b. Evaluate the effectiveness of the hydraulic control and contaminant removal from the GMZ, including the information required by Condition II.F.

11. If the Permittee determines pursuant to Condition II.I.1.b above that any Concentration Limits specified in the Groundwater Protection Standard are being exceeded at any monitoring well within the GMZ Boundary wells, the Permittee shall:

    a. Notify the Illinois EPA of this finding in writing within seven days. The notification must indicate what Concentrations Limits have been exceeded.

    b. Within 90 days of the date that the increase is discovered, submit to the Illinois EPA a permit application for the Corrective Action Program meeting the requirements of 35 IAC 724.200. The permit application must at a minimum include the following information:

        1. A detailed description of corrective actions that will achieve compliance with the Groundwater Protection Standard.

        2. A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program.

12. If the Permittee determines that groundwater flow is not being adequately controlled, the Permittee shall:

    a. Notify the Illinois EPA in writing within seven days of the date that the determination is made:

    b. Take actions necessary to regain the control of groundwater flow as required by Condition II.I.3.

    c. Submit a written report to the Illinois EPA within 30 days describing the actions taken to regain control of groundwater flow. In addition, the report must contain information which demonstrates that groundwater flow is being adequately controlled.

    d. Submit a permit application to the Illinois EPA within 60 days describing any changes which must be made to the Corrective Action Program to ensure that the groundwater flow is adequately controlled.

13. If the Permittee determines, pursuant to Condition II.I.1.b or II.I.2.b that the groundwater Concentration Limits in Condition II.E are being exceeded at any of the GMZ Boundary Wells, the Permittee may demonstrate 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 or statistical evaluation, or natural variation in groundwater. In making a demonstration under this condition, the Permittee shall:

    a. Notify the Illinois EPA in writing within seven days that it intends to make a demonstration under this condition;

    b. Within 90 days, submit a report to the Illinois EPA which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

    c. Within 90 days, submit to the Illinois EPA a permit application to make any appropriate changes to the corrective action monitoring system at the facility, and;

    d. Continue to monitor in accordance with Condition II.F.

14. If the Permittee determines that additional constituents not currently part of the Groundwater Protection Standard are present in the groundwater pursuant to Condition II.I.2.a.(1) above, the Permittee shall:

    a. Report the concentration of these additional constituents detected in the groundwater to the Illinois EPA within seven days after completion of the analyses, and;

    b. Add the additional constituents to the monitoring list of the Groundwater Protection Standard, Lists E1 and E2, and establish the concentration limit for each additional constituent following procedures in Condition II.E.5 above.

15. The Permittee shall submit to the Illinois EPA documentation associated with the groundwater extraction system maintenance procedures. The documentation must be submitted in semi-annual groundwater reports in accordance with the schedule found in Condition II.J.2. The documentation must include, at a minimum, the following:

    a. A brief description of the qualifications of personnel performing the maintenance procedures;

    b. Dates of inspection and/or service, identification of wells or specific well system components inspected and/or serviced, average times servicing the system (including re-circulation times and down-times), and future maintenance frequency and schedule;

    c. Problems observed, such as excessive biofouling and/or scaling, structural damage to wells or well system components, malfunctions in equipment (valves, container housing, lines, etc.). This should include a brief discussion of any field observation made during the maintenance event and proposed procedures to address any problems, if necessary;

    d. Values for the field parameters: conductivity, temperature, redox potential (Eh), and pH for comparison of water quality before and after cleaning events;

    e. Supporting data confirming that groundwater quality returns to a natural level subsequent to the completion of the maintenance procedures (water must be pumped from the well until the water quality is essentially the same as prior to the treatment;

f. Identification of all cleaning compounds used for well maintenance, including, but not limited to, a discussion and supporting documentation regarding: (1) mixture concentrations, amounts, and injection rates; (2) general procedures used in the application of chemical compounds that are utilized to maintain the system; and (3) a performance evaluation. If the cleaning technique involves the application of acidic compounds, a total concentration of 15% (2-3 times zone volume) should not be exceeded.

16. In accordance with 35 IAC 620.250(c), a review of the GMZ must take place no less often then every five years and the results shall be presented to the Illinois EPA in a written report.

K. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee determines that the corrective action program no longer satisfies the requirements of 35 IAC Part 724 Subpart F the Permittee must, within 90 days, submit a permit application to the Illinois EPA Bureau of Land to make any appropriate changes to the program which will satisfy the regulations.

2. Conditions in this section of the Permit may be modified in accordance with 35 IAC 705.128 if there is cause for such modification, as defined in 35 IAC 702.184. Causes for modification identified in this section include, but are not limited to, alteration to the permitted facility; additional information which would have justified the application of different permit conditions at the time of issuance; and new regulations.

Section III: NON-HAZARDOUS WASTE LANDFILLS

A. SUMMARY OF PROCEDURAL ISSUES

As requested by the Permittee and in accordance with 35 IAC 705.127, this Permit consolidates design, construction, operation, maintenance, monitoring, and closure requirements for the solid waste landfills at the referenced facility. Since this consolidated Permit constitutes issuance of a State of Illinois permit within a RCRA hazardous waste Permit, this section clarifies how permit modifications related to the solid waste units will be conducted.

Modifications to Sections III and IV of this Permit will be submitted by the Permittee and acted upon by Illinois EPA in accordance with the modification procedures of 35 IAC 703.280. A completed form LPC-PA23 must accompany all permit applications. Design and implementation of these modifications will otherwise be in accordance with 35 IAC Parts 811 and 812, pursuant to 35 IAC 813.104.

B. UNIT IDENTIFICATION

The units covered by this section include the Solid Waste Unit (existing, approximately 32 acres), Phases 1 through 15 (to be completed, approximately 163 acres total), and the expansion areas (approximately 93 acres total) as identified in the Facility Plan included as Attachment I of this Permit. Invert elevations shall be as shown on Drawing GT-1 of the approved permit application. Final grades shall be as shown on Drawing GT-2 of the approved permit application.

Construction and operation of the 32-acre Solid Waste Unit was previously permitted by Illinois EPA under Permit No. 1995-313-LFM (dated May 22, 1996) and all associated modifications (the last modification, Modification 14, was approved by Illinois EPA on December 4, 2009). Operational activities at the Solid Waste Unit continued under Modification 14 until June 21, 2010, the date that this RCRA Permit for the Laraway facility became effective. Since that date, operation of the Solid Waste Management Unit has been carried out in accordance with this RCRA Permit.

As noted above, there are 15 additional solid waste landfill phases to be constructed and operated at this facility. Construction and operation of these additional phases (which cover approximately 163 acres) and expansion areas (which cover approximately 93 acres) are to be carried out in accordance with the terms and conditions of this RCRA Permit. To date, Illinois EPA has approved the construction efforts for the following portions of the facility and allowed the Permittee to place waste in them:

Name of Constructed Area	Size (Acres)	Approval Date
First Interim Horizontal Overlay	2.69	November 10, 2010
Phase 1A West	4.00	March 4, 2011
Phase 1B	4.62	August 19, 2011
Phase 1C	1.96	November 10, 2011
Phase 2	8.14	November 10, 2011
Phase 3 West	9.90	December 5, 2012
Second Interim Horizontal Overlay	0.59	December 5, 2012
Phase 3 East	6.63	September 18, 2013
Phase 4 West	9.40	February 7, 2014
Phase 4 East	6.08	September 26, 2014
Phase 5 North	4.53	September 26, 2014
Phase 5 South and Phase 6	9.66	October 13, 2015
Phase 7	7.10	February 27, 2017
Phase 8A	11.20	December 11, 2017
Phase 9A	10.59	April 4, 2019
Phase 8B/9B/10A	14.09	February 3, 2020
Phase 11A	6.72	August 12, 2020
Phases 12A, 13A, and 14A	21.84	June 4, 2021
11B and 12B	10.06	April 15, 2022
Phase 9C / 10B	9.13	July 2024

The horizontal overlays mentioned above lie within the footprint of the Solid Waste Unit. These overlays allowed the final contours of the Solid Waste Unit to tie into the additional 15 solid waste landfill phases. In addition, it must be noted that a 3.98-acre solid waste landfill known as Trench 11 is also present at this facility. This unit accepted solid waste incinerator ash for disposal and was certified closed by Illinois EPA on November 29, 1990.

C. CONSTRUCTION QUALITY ASSURANCE

1. All necessary surface drainage control facilities shall be constructed prior to other disturbance in any area.

2. No part of any unit shall be placed into service or accept waste until a construction acceptance report for all the activities listed below has been submitted to and approved by the Illinois EPA. A completed construction or certification form identical to that found in Attachment E must accompany this report.

a. Preparation of the subgrade and foundation to design parameters;

b. Installation of the compacted earth liner;

c. Installation of the geosynthetic liner;

d. Installation of the leachate drainage, collection, and management systems; and,

e. Construction of ponds, ditches, lagoons, and berms.

3. The Permittee shall designate an independent third-party contractor as the Construction Quality Assurance (CQA) Officer(s). The CQA Officer(s) shall be a qualified Illinois licensed Professional Engineer who is independent from and not under the control or influence of the operator, any employee of the operator, or any other corporation, company or legal entity that is a subsidiary, affiliate, parent corporation, or holding corporation associated with the operator.

4. The CQA Officer(s) designated pursuant to Condition III.C.3 shall personally be present during all construction and testing that is subject to CQA certification pursuant to 35 IAC 811.503(a). If the CQA Officer(s) is unable to be present as required, then the CQA officer(s) shall comply with the requirements of 35 IAC 811.503(b).

5. If the clay portion of the liner is exposed to freezing conditions, it must be recertified. If necessary, damaged portions of the liner shall be reconstructed, retested, and recertified. The designated CQA Officer(s) shall then certify that the clay portion of the liner and all necessary repairs to the leachate drainage layer meet the required design standards. This certification must be provided to the Illinois EPA prior to disposal of waste on the subject portion of the liner. If operating authorization has not yet been issued for that area, the recertification shall be included in the construction acceptance report.

6. Pursuant to 35 IAC 811.505(d), upon completion of construction of each major phase, the CQA Officer(s) shall submit a construction acceptance report to the Illinois EPA. The acceptance report shall be submitted before the structure is placed into service and shall contain the following:

a. A certification by the CQA Officer(s) that the construction has been prepared and constructed in accordance with the engineering design;

b. As-built drawings; and

c. All daily summary reports.

7. Applications for operating authorization shall not be made for areas of less than 1.5-acre increments of constructed liner.

8. All stakes and monuments marking property boundaries and the permitted area shall be maintained, inspected annually, and surveyed no less frequently than once in five years by a professional land surveyor. Any missing or damaged stakes or monuments discovered shall be replaced and resurveyed.

9. All standards for testing the characteristics and performance of materials, products, systems, and services shall be those established by the American Society for Testing and Materials (ASTM) unless otherwise stated in the permit application.

D. OPERATING CONDITIONS

1. Pursuant to 35 IAC 811.107(a) and 811.107(b), throughout the operating life of this landfill, waste shall not be placed in a manner or at a rate which results in unstable internal or external slopes, or interference with construction, operation, or monitoring activities.

2. The operator of this solid waste facility shall not conduct the operation in a manner which results in any of the following:

a. Refuse in standing or flowing waters;

b. Leachate flows entering Waters of the State;

c. Leachate flows exiting the landfill confines (i.e., the facility boundaries established for the landfill in a permit or permits issued by the Illinois EPA);

d. Open burning of refuse in violation of Section 9 of the Act;

e. Uncovered refuse remaining from any previous operating day or at the conclusion of any operating day, unless authorized by permit;

f. Failure to provide final cover within time limits established by Board regulations;

g. Acceptance of wastes without necessary permits;

h. Scavenging as defined by Board regulations;

i. Deposition of refuse in any unpermitted (i.e., without an Illinois EPA approved significant modification authorizing operation) portion of the landfill;

j. Acceptance of a special waste without a required manifest and identification record;

k. Failure to submit reports required by permits or Board regulations;

l. Failure to collect and contain litter from the site by the end of each operating day; or

m. Failure to submit any cost estimate or any financial assurance mechanism by the site as required by the Act or Board regulations.

3. Moveable, temporary fencing shall be used to prevent blowing litter when the refuse is above the natural ground line.

4. At the end of each day of operation all exposed waste shall be covered with:

a. Clean soil, at least six inches thick (i.e., conventional daily cover); or

b. An alternate daily cover (ADC) as described below.

5. Hydro-fix, Soil Seal, plastic panels, plastic tarps, air-dried sludge generated at the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), clean construction or demolition debris (CCDD), contaminated soil, processed street sweepings, and processed scrap shredder waste are approved as ADC pursuant to 35 IAC 811.106(b) and 812.111(b). Use of these materials as ADC shall be subject to the specific performance-based criteria and the following conditions:

a. If any materials other than those approved by this Permit are to be used, their use must be approved by this Illinois EPA through the permitting process.

b. All ADC must meet the requirements of 35 IAC 811.106(b)(1) through (4) at all times.

c. Conventional daily cover in accordance with 35 IAC 811.106(a) shall be used if weather or other conditions adversely affect the ability of the ADC to prevent problems with blowing dust, litter, fire, odors, or vectors.

d. Plastic panels and plastic tarps shall be anchored adequately to prevent wind damage. If the ADC is torn during or after placement, it must be repaired immediately, or the damaged area must be covered with six inches of daily cover soil. If tires are used as weights for the ADC, they shall be converted tires, in accordance with 35 IAC Part 848: Management of Used and Waste Tires.

e. The condition of the ADC shall be inspected at the beginning of each shift to determine if its integrity or continuity has been damaged by sun exposure, wind, or physical contact. If the inspection reveals that the structural integrity or continuity has been damaged or if uncovered refuse is observed in the covered areas, the damaged or uncovered areas shall be repaired immediately to restore a continuous uniform cover over the waste. If any problems develop from covering the waste with a particular ADC, the use of the offending cover shall immediately cease until the cause of the problem is determined and necessary corrective action taken. A record of the inspection and subsequent corrective action taken shall be made available to the Illinois EPA or its delegate upon request.

f. When an ADC is applied, the operator shall keep a record including a description of the weather conditions, the type of ADC used, and its performance. A summary of this information shall be provided with this facility's annual reports.

g. Plastic panels and plastic tarps which have been used as ADC may not be reused for any purpose (including road underlayment and erosion control) outside of permitted disposal boundaries.

h. When an ADC reaches the end of its useful life and can no longer meet the requirements of 35 IAC 811.106(b)(1) through (4), it shall be removed and/or replaced with six inches of cover soil or an approved ADC.

i. When using scrap shredder waste as ADC:

(1) The landfill operator is responsible for:

(a) Ensuring that scrap shredder waste, which is used as ADC, remains in the landfill and is not released or dispersed by wind or other action; and

(b) Complying with all applicable Federal, State, and local laws and regulations.

(2) The landfill operator must ensure that all scrap shredder waste used as ADC: i) is generated at shredding facilities that have operating plans in place to remove components that may contain PCBs (polychlorinated biphenyls) and other contaminants, and ii) is produced in adherence with the operating plans. Such operating plans must include the following concerning recyclable metals processing and components which may contaminate waste from shredding recyclable metals (such as lead acid batteries, fuel tanks, or components that contain or may contain PCBs in a closed system such as a capacitor or ballast):

(a) Procedures for inspecting recyclable metals when received to assure that such components are identified;

(b) A list of equipment and removal procedures to be used to assure proper removal of such components;

(c) Procedures for safe storage of such components after removal and any waste materials;

(d) Procedures to assure that such components and waste materials will only be stored for a period long enough to accumulate the proper quantities for off-site transportation;

(e) Identification of how such components and waste materials will be managed after removal from the site to assure proper handling and disposal;

(f) Procedures for sampling and analyzing waste intended for disposal or off-site handling as a waste; and

(g) A demonstration, including analytical reports, that any waste generated is not a hazardous waste and will not pose a present or potential threat to human health or the environment.

(3) The following conditions apply to the use of scrap shredder waste as ADC:

(a) When scrap shredder waste is used as ADC, it must be applied in a continuous layer at least six inches thick;

(b) Scrap shredder waste from the Pielet Brothers site in Summit, Illinois cannot be used as ADC;

(c) Only scrap shredder waste that was generated after the effective date of, and in compliance with, the PCB Mega Rule (63 FR 35383), promulgated on June 29, 1998, can be used as ADC;

(d) Only scrap shredder waste that may be accepted for disposal at a RCRA Subtitle D landfill and used in compliance with 40 CFR Part 761 can be used as ADC;

(e) Once applied as ADC, scrap shredder waste shall not be removed;

(f) Areas where scrap shredder waste is used as ADC must be covered with either conventional soil daily cover or additional waste within a 24-hour period of initial placement;

(g) Scrap shredder waste may be stockpiled in roll-off boxes or tarped piles in an area of the landfill where a bottom liner, leachate drainage layer, and leachate collection system that complies with the applicable standards in 35 IAC Part 811 is present;

(h) Scrap shredder waste may not be stockpiled in areas of the landfill that have received final cover. In addition, the elevation of the top of the stockpiled scrap shredder waste cannot exceed the permitted final waste elevations at that location;

(i) No more than 10,000 cubic yards of scrap shredder waste may be stockpiled at any one time. In addition, scrap shredder waste cannot be stockpiled for more than 30 days;

(j) A record regarding the stockpiling of scrap shredder waste must be maintained which includes the following information for each stockpile: the generator's name and waste profile number; the stockpile location; the quantity of scrap shredder waste received; the dates of receipt; the quantity of scrap shredder waste removed from the stockpile each day; and the date(s) that scrap shredder waste was removed from the stockpile;

(k) If scrap shredder waste becomes displaced by winds or other weather conditions, it will be repaired, and any displaced material collected and disposed; and

(l) A log must be maintained which includes, but is not limited to, the date and amount of scrap shedder waste used (in cubic yards) as ADC. These logs must be maintained in the operating record for the facility and be available for the Illinois EPA's inspection report upon request.

6. The following conditions shall apply when air-dried sludge generated at MWRDGC is used as ADC:

a. MWRDGC sludge to be used as ADC will be non-hazardous and a minimum thickness of six inches of material will be applied as ADC on the same day that it is received. Air-dried sludge will not be stockpiled for use as ADC. Any excess material beyond that needed at the end of the day of operation to cover waste receipts will be disposed as a waste.

b. Air-dried sludge with obnoxious odors or with debris will not be used as ADC.

c. Each load of air-dried sludge used as ADC will be inspected to ensure that its use as ADC will not generate odors and will prevent the threat of fires. A log of these inspections including the date, generator name, locations, and sludge quantity (in cubic yards or tons) will be maintained in site records.

d. Air-dried sludge used as ADC will be handled and used in a manner that does not cause violations of the Act or Regulations. This includes management of any runoff from areas covered with sludge as leachate to prevent a threat of pollution to Waters of the State.

e. If the air-dried sludge becomes eroded after placement, it will be repaired immediately, or the damaged area will be covered with six inches of daily cover soil or an approved ADC.

f. Air-dried sludge will not be removed after use as an ADC.

7. No later than 60 days after placement of the final lift of waste in any area, the area shall receive a final cover system meeting the design specifications contained in the approved permit application.

8. Asbestos debris from construction-demolition shall be managed in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations.

9. Management of Unauthorized Waste

a. Landscape waste found to be mixed with municipal solid waste (MSW) will be removed the same day and transported to a facility that has an operating permit to compost and/or transfer landscape waste in accordance with the Act, Title V, Section 21.

b. Lead-acid batteries will be removed the same day and transported either to a facility which recycles such waste or a facility permitted to store or treat lead acid batteries.

c. Potentially infectious medical waste (PIMW) found to be mixed with municipal waste shall be managed in accordance with 35 IAC Subtitle M.

d. Tires found to be mixed with MSW shall be removed and managed in accordance with 35 IAC Part 848.

e. White good components mixed with MSW shall be removed and managed in accordance with Section 22.28 of the Act.

f. This facility is prohibited from disposing any waste containing PCBs in a concentration greater than allowed by the Toxic Substance Control Act (TSCA).

g. No liquid waste (special or non-special) as determined by the Paint Filter Test shall be disposed unless the waste is from a household or is in a small container similar in size to that normally found in household waste and the container was designed for use other than storage. The prohibition applies to on-site generated wastes except for leachate or gas condensate that is specifically approved for recirculation into the landfill by permit. However, minor amounts of liquid resulting from precipitation (rain, sleet, hail, or snow) during transport and disposal operations shall not be construed as a violation of this condition.

h. After the unauthorized waste has been removed, a thorough cleanup of the affected area will be made according to the type of unauthorized waste managed. Records shall be kept for three years and will be made available to the Illinois EPA.

i. In accordance with Subsection (b) of Section 1-83 of the Consumer Electronics Recycling Act (415 ILCS 151), beginning January 1, 2019, *no person may knowingly cause or allow the disposal of a CED (covered electronic device), or any other computer, computer monitor, printer, television, electronic keyboard, facsimile machine, videocassette recorder, portable digital music player, digital video disc player, video game console, electronic mouse, scanner, digital converter box, cable receiver, satellite receiver, digital video disc recorder, or small-scale server in a sanitary landfill.*

10. If it is required for the facility to be open beyond normal operating hours to respond to emergency situations, a written record of the date(s), times, and reason the facility was open shall be made part of the operating record for the facility. The Illinois EPA-Field Operation Section Regional Office, and when applicable, the county authority responsible for inspections of this facility per a delegation agreement with the Illinois EPA shall be notified no later than 5:00 p.m. the next business day following the acceptance of waste outside the specified operating hours.

11. Road building materials for roads at the facility may be stockpiled on-site in the amount estimated to be needed within the next construction season provided they are managed in accordance with 35 IAC 811.108(c)(1).

12. Non-hazardous refractory brick from Suncoke Energy in Indiana was approved for storage and use as internal access road material in Permit Modification B-141R-M-135. The refractory brick may only be used within the permitted waste footprint where runoff would be collected in the leachate collection system and only on internal areas and not outer final slopes. This material shall not be stockpiled outside the permitted waste footprint or any area where runoff is not collected in the leachate collection system. This material shall not be stockpiled and/or stored beyond permitted waste elevations.

13. Equipment shall be maintained and available for use at the facility during all hours of operation to allow proper operation of the landfill. If breakdowns occur that would prevent proper facility operation, back-up equipment shall be brought to the site.

14. All utilities, including but not limited to heat, lights, power, communications equipment, and sanitary facilities necessary for safe, efficient, and proper operation of the landfill shall be available at the facility at all times.

15. Waste shall be deposited at the fill face and compacted upward into the fill face unless precluded by extreme weather conditions or for reasons of safety. Waste may be pushed down operational slopes if there is at least five-feet of compacted waste or material over the liner.

16. The operator shall implement methods for controlling dust so as to prevent wind dispersal of particulate matter off-site.

17. The facility shall be constructed and operated to minimize the level of equipment noise audible outside the facility. The facility shall not cause or contribute to a violation of 35 IAC Parts 900 through 905.

18. The operator shall implement measures to control the population of disease and nuisance vectors.

19. The operator shall institute fire protection measures in accordance with the proposed fire safety plan.

20. The operator shall implement methods to prevent tracking of mud by hauling vehicles onto public roadways.

21. Access to the active area and all other areas within the boundaries of the solid waste unit and solid waste unit expansion shall be controlled by use of fences, gates, and natural barriers to prevent unauthorized entry at all times.

22. A permanent sign shall be maintained at the facility entrance containing the information required under 35 IAC 811.109(b)(1) through (5).

23. Washing of landfill operating equipment with a low volume, high pressure, washer is hereby approved, subject to the following conditions:

    a. The spent spray from washing landfill operating equipment is leachate, as defined in 35 IAC 810.103, and shall be managed as such; and

    b. This activity shall be limited to the active disposal areas of the landfill.

24. Operating hours are those hours during which waste may be accepted. For this facility, the operating hours shall be limited to 6:00 a.m. to 4:30 p.m., Monday through Saturday. Adequate lighting shall be provided for outdoor activities at the landfill occurring before sunrise or after sunset.

    At certain times, it will be necessary or appropriate to begin waste acceptance at 4:00 a.m. and continue on a 24-hour basis. These extended hours will be implemented as circumstances warrant. Will County's Solid Waste Director or designee will be notified in writing (or by Facsimile) in advance of the extended hours a minimum of 24 hours for in county needs, and 72 hours for out of county needs. Further, during each 24-hour period of extended operation, the Permittee must cease waste disposal activities for a period sufficient to meet the daily cover requirements of Condition III.D.4

25. The operator shall implement a load checking program that meets the requirements of 35 IAC 811.323. If regulated hazardous waste or other unauthorized wastes are discovered; Illinois EPA shall be notified no later than 5:00 p.m. on the business day after it is detected. The load checker shall prepare a report describing the results of each inspection. A summary of these reports shall be submitted to Illinois EPA as part of the facility's annual report.

26. The Permittee may use air-dried sludge as ADC, intermediate cover, and in the final protective layer of the final cover system. For this purpose, the Permittee may use only air-dried sludge generated and managed by MWRDGC. Prior to use as a soil alternative, the Permittee shall ensure the sludge meets the criteria of Board Adjusted Standard AS95-4. Stockpiling of the sludge at the facility for future use is prohibited within 24 hours of receipt of the facility, the Permittee shall ensure that the sludge is either used as a soil alternative or managed properly as waste.

E. SPECIAL WASTE

1. Disposal of Special Waste

a. The Permittee is authorized to accept non-hazardous special waste that meets the definition of industrial process waste or pollution control waste as found in Section 3.235 and 3.335, respectively, of the Act, in accordance with the following requirements:

i. The waste is analyzed in accordance with the requirements described below and complies with the acceptance criteria in the approved waste analysis plan;

ii. The waste is delivered by an Illinois licensed special waste hauler or an exempt hauler as defined in 35 IAC 809.211; and

iii. The waste is accompanied by a manifest, if required.

b. The Permittee shall obtain a completed Special Waste Preacceptance Form, and a preacceptance analysis from each generator for each waste to be accepted. In addition, the Annual Generator Special Waste and Recertification for Disposal of Special Waste form, which certifies the waste has not changed since the last analysis, must be completed and included in the operating record. These forms may be found on the Illinois EPA's website. A complete laboratory analysis must be provided with the exceptions listed below.

Analysis shall be conducted using SW-846 or other USEPA approved test methods. The waste shall be reanalyzed at least every five years and must identify the actual concentration of each chemical constituent and state of each physical parameter. In all cases a copy of the lab analysis (on lab letterhead and signed by a responsible party such as the person conducting the analysis or his/her supervisor) must be included in the operating record with the Special Waste Preacceptance Form (Profile Identification Sheet). The analysis may not be greater than one-year old at the time the initial load of waste is accepted at the facility. A new analysis is required if the composition of the waste changes (normal variations in waste composition are expected and are not included in this requirement). All waste must be analyzed as follows:

i. The Permittee shall obtain the following lab analyses to determine the concentrations of the following parameters.

1. Paint Filter Test
2. Flash point
3. Sulfide (reactive)
4. Cyanide (reactive)
5. Phenol (total)
6. pH
7. Toxicity Characteristic Constituents

ii. The Permittee shall obtain analysis for reactive sulfides and cyanides. For waste containing 250 ppm or greater reactive cyanide or 500 ppm or greater reactive sulfide it is presumed hazardous pursuant to 35 IAC 721.123(a)(5) unless specific information shows it does not present danger to human health or the environment is provided. Analysis for total sulfide and/or cyanide may be substituted for reactive concentrations if they are equal to or less than 10 ppm. For wastes containing greater than 10 ppm reactive cyanide or reactive sulfide, the Permittee shall not accept the waste unless the generator provides a signed and dated statement indicating that none of the following have occurred:

1) The waste has never caused injury to a worker because of H_2S and/or HCN generation;

2) That the OSHA workplace air concentration limits for H_2S and/or HCN have not been exceeded in areas where the waste is generated, stored, or otherwise handled; or

3) That air concentrations of H_2S and/or HCN, above 10 ppm, have not been encountered in areas where the waste is generated, stored, or otherwise handled.

iii. The Permittee shall obtain analysis for phenols. If the total phenol concentration is greater than 1,000 ppm, the waste will be required to be drummed and labeled, unless justification that this precaution is not necessary is provided. The justification must demonstrate skin contact is unlikely during transport or disposal.

iv. The Permittee shall obtain metals and organics analysis. Either procedure may be utilized (i.e., total or TCLP), but any constituent whose total concentration exceeds the TCLP limit specified in 35 IAC721.124 must be analyzed using the TCLP test and the results reported, unless an alternative test has been approved by the Illinois EPA. TCLP test methods must be in accordance with SW-846-1311.

v. EXCEPTIONS:

1) The generator may certify that the eight pesticides (D012, D013, D014, D015, D016, D017, D020, and D031) would not reasonably be expected to be present in their waste based on the nature of the generator's business.

2) Petroleum contaminated media and debris from LUST sites subject to corrective action regulation under 35 IAC Parts 731 or 732 are temporarily exempt from complete TCLP analysis and the generator may limit analyses to flashpoint, paint filter test, and total and/or TCLP lead.

3) For off-specification, unused, or discarded, commercial or chemical products, a safety data sheet (SDS) to determine the hazardous constituents present may be provided in lieu of analytical results. The SDS must have been updated since the adoption of the Toxicity Characteristic Leaching Procedures and TCLP organic parameters by USEPA effective on September 25, 1990.

vi. Pursuant to 35 IAC 722.111 the generator of a solid waste is required to determine if the waste is hazardous and comply with all applicable hazardous waste regulations. For any waste that has been determined to be hazardous, the results of quality assurance testing for the treatment program, taken at an appropriate frequency to demonstrate the waste is no longer hazardous, must be obtained. Verification that the waste meets the land disposal restrictions must also be documented. These requirements are in addition to the other standard special waste test requirements.

vii. Notwithstanding the exception for manufactured gas plant waste contained in 35 IAC 721.124(a), no manufactured gas plant waste shall be disposed in a non-hazardous waste landfill, unless: i) the waste has been tested in accordance with subsection (d) of this condition, and ii) the analysis has demonstrated that the waste does not exceed the regulatory levels for any contaminant given in the table contained in 35 IAC 721.124(b).

c. An individual waste stream permit is no longer required by this Illinois EPA for this facility. Therefore, a waste stream permit number will no longer be required on the manifest when shipping waste to this facility as authorized by this Permit.

d. Special waste generated due to an emergency situation may be disposed without complete TCLP analysis if:

i. The Permittee ensures that the generator has received an incident number from the Illinois Emergency Management Agency at 1/800/782-7860 within Illinois or 1/217/782-7860 outside of Illinois; and

ii. The Permittee receives authorization from the Emergency Response Unit at 1/217/782-3637; and

iii. The waste is analyzed for the chemical constituents required by the Emergency Response Unit.

e. The Permittee shall conduct the following analysis for waste received in labeled containers in lab packs including commingled wastes are subject to the following requirements:

i. Compatibility review in accordance with the procedures identified in USEPA document EPA-600/2-80-076.

ii. SDS review to determine the hazardous constituents present and appropriate USEPA hazardous waste class.

f. RCRA empty containers received as a special waste are subject to conditions which state:

i. Containers have a rated capacity of less than 110 gallons only.

ii. Containers which formerly held 'P' listed hazardous waste or TSCA regulated quantities of PCBs or empty compressed gas cylinders are not allowed under this Permit.

iii. All containers must meet the definition of empty as described in 35 IAC 721.107(b).

iv. Additionally, where possible, a copy of the SDS for products last contained will be obtained and kept on file.

v. For drums, at least one end must be removed and the drums must be crushed flat.

g. The Special Waste Preacceptance Form, which can be found at the Illinois EPA's website, shall be utilized for the special waste profile identification requirements of 35 IAC 811.404(a).

h. The Annual Generator Special Waste Recertification for Disposal Special Waste form, which can be found on the Illinois EPA's website, shall be utilized for the special waste recertification requirements of 35 IAC 811.404(b).

i. The operator shall retain all special waste records until the end of the post-closure period in accordance with 35 IAC 811.405.

2. Solidification of Special Waste

a. Waste solidification shall take place in a mixing chamber equipped with secondary containment systems equivalent to the protection provided by a five-foot thick clay liner having a permeability no greater than 1.00×10^{-7} cm/sec or; a leakproof, inspectable containers, placed over the area of the landfill, that has both a certified liner and an operating leachate collection system.

b. All special waste generators which send liquid waste to this facility for treatment and disposal must have an Illinois EPA generator number.

c. Only non-hazardous wastes as defined in 35 IAC 722.111 may be received for treatment at this facility.

d. This Permit approves the use of coal combustion fly ash as a reagent in the solidification process. Any reagent or absorbent used must not be a hazardous waste. Use of other materials and/or waste other than coal combustion fly ash shall be subject to Illinois EPA approval.

e. The following conditions are applicable to any waste stream containing a liquid phase(s) (fails paint filter):

i. Each phase must be analyzed for total organic halogen (TOX) using the test method specified in 35 IAC Part 729. Any waste containing 10,000 ppm or greater of TOX must be analyzed to determine the specific constituents and their concentrations, that make up TOX. These constituents and their concentration should be reported on the lab analysis report. Any liquid containing multiple phases must include individual analyses for each phase.

ii. The pre-acceptance bench-scale documentation must include a description of the solidification method used successfully, including test results demonstrating that the solidified waste passes the paint filter test.

iii. If a waste is used to solidify the liquid (i.e., two or more wastes are mixed) all required testing must be performed on the solidified waste product. Otherwise, all testing (except paint filter) may be performed on the waste before solidification and a statement from the generator may be accepted certifying that the additives used have been evaluated and there is no reason to believe they would cause the waste to become hazardous.

f. The Permittee shall not perform solidification if the waste analysis plan determines incompatibility of the waste and reagent.

g. The following information shall be documented in the facility's operating record for each load of liquid waste received for solidification:

i. Date the load was received;

ii. Manifest number associated with the waste load;

iii. Waste name;

iv. Volume of waste received;

v. Generator name, location, and Illinois EPA generator number or hauler number, if not a special waste;

vi. Results of all analysis conducted on the load of waste;

vii. Type of reagent used to solidify the waste;

viii. Documentation that the (solidified) waste does not exhibit hazardous characteristics as defined in 35 IAC Part 721 Subpart C, e.g., result of the compatibility test done in accordance with the facility's waste analysis plan.

h. Each load of the solidified waste shall be sampled and tested by the paint filter test described in 35 IAC 729.320 prior to disposal. No waste that yields fluid may be disposed.

i. When necessary, the operator shall perform a complete TCLP analysis on solidified waste to demonstrate that no hazardous waste has been produced during the solidification process.

j. Storage of liquid waste received for solidification shall be limited to the containment area and to the time periods described in Log No. 2003-343. Such storage shall not result in the amount of stored liquid waste exceeding the capacity of the containment area.

k. This Permit allows the storage of coal combustion fly ash to be used in the solidification process for a maximum period of seven days. However, storage shall not contribute to a violation of Section 21(a), Section 12, or Section 9 of the Act.

l. Coal combustion fly ash shall be stored, covered, and protected from precipitation events.

m. All wash water generated from the solidification unit shall be managed in the same manner as leachate.

n. The solidification unit may be operated from 6:00 a.m. to 6:00 p.m. Monday through Saturday.

o. In the event of a spill, such materials and equipment necessary must be available on-site in order to prevent leachate migration from the contaminated area.

p. Waste solidification activities shall cease upon closure and shall not occur during the post-closure care period of the landfill.

q. All waste that has been solidified at the landfill shall be disposed of within the landfill and shall not be taken for disposal at other sites.

F. RECORDKEEPING

1. Information developed by the operator but not yet forwarded to the Illinois EPA in a quarterly or annual report shall be kept at or near the facility for inspection by the Illinois EPA upon request during normal working hours.

2. Information and observations derived from load checking inspections shall be recorded in writing and retained at the facility for at least three years.

3. Every person who delivers special waste to a special waste hauler, every person who accepts special waste from a special waste hauler, and every special waste hauler shall retain a copy of the special waste transportation record as a record of each special waste transaction. These copies shall be retained for three years and shall be made available at reasonable times for inspection and photocopying by the Illinois EPA pursuant to Section 4(d) of the Act.

4. The operator shall retain copies of any special waste profile identification sheets, special waste recertifications, certifications of representative samples, special waste laboratory analyses, special waste analysis plans, and any waivers of requirements, at the facility. During the post-closure care period, these records are to be maintained at the office of the site operator.

5. Inspections of the closed landfill shall be conducted in accordance with the approved post-closure care plan. Records of field investigations, inspections, sampling, and corrective action taken are to be maintained at the site and made available to Illinois EPA personnel. During the post-closure care period, those records are to be maintained at the office of the site operator.

6. The owner or operator shall record and retain near the facility in an operating record or in some alternative location specified by the Illinois EPA, the information submitted to the Illinois EPA pursuant to 35 IAC Parts 812 and 813, as it becomes available. At a minimum, the operating record shall contain the following information, even if such information is not required by 35 IAC Parts 812 or 813:

   a. Any location restriction demonstration required by 35 IAC 811.302, 812.109, and 812.303;

   b. Inspection records, training procedures, and notification procedures required by 35 IAC 811.323;

   c. Any municipal solid waste landfill (MSWLF) unit design documentation for placement of leachate or gas condensate in a MSWLF unit required by 35 IAC 811.107(m) and 811.309(f);

   d. Any demonstration, certification, monitoring results, testing, or analytical data relating to the groundwater monitoring program required by 35 IAC 811.319, 811.320, 811.324, 811.325, 811.326, 812.317, 813.501, and 813.502;

   e. Closure and post-closure care plans and any monitoring, testing, or analytical data required by 35 IAC 811.110, 811.111, 812.114(h), 812.115, and 812.313;

   f. Any cost estimates and financial assurance documentation required by 35 IAC Part 811 Subpart G; and

   g. Gas monitoring results and any remediation plans required by 35 IAC 811.310 and 811.311.

G. GENERAL CONDITIONS

1. This Permit is issued with the expressed understanding that no process discharge to Waters of the State or to a sanitary sewer will occur from these facilities except as authorized by a permit issued by the Bureau of Water.

2. If changes occur which modify any of the information the Permittee has used in obtaining a permit for this facility, the Permittee shall notify the Illinois EPA. Such changes would include but not be limited to any changes in the names or addresses of both beneficial and legal titleholders to the herein-permitted site. The notification shall be submitted to the Illinois EPA within 15 days of the change and shall include the name or names of any parties in interest and the address of their place of abode; or, if a corporation, the name and address of its registered agent.

3. Current, valid Prior Conduct Certification pursuant to 35 IAC Part 745 is required for all landfill operators of landfills that require a permit.

4. Landfill Operator Certification pursuant to 68 IAC Part 870 is required for operation of a landfill.

5. The Permittee shall submit current 39(i) certifications and supporting documentation with all applications for a permit.

H. SURFACE WATER CONTROL

1. Runoff from disturbed areas to Waters of the State shall be permitted by the Illinois EPA in accordance with 35 IAC Part 309 and meet the requirements of 35 IAC Part 304 unless permitted otherwise.

2. All surface water control structures other than temporary diversions for intermediate phases shall be operated until the final cover is placed and erosional stability is provided by the final protective layer of the final cover system.

3. Runoff from undisturbed areas resulting from precipitation events less than or equal to the 25-year, 24-hour precipitation event shall be diverted around disturbed areas where possible and not commingled with runoff from disturbed areas.

I. LEACHATE MANAGEMENT/MONITORING

1. Pursuant to 35 IAC 811.309(h)(3), leachate from this MSWLF shall be collected and disposed beginning as soon as it is first produced and continuing for at least 30 years after closure except as otherwise provided by 35 IAC 811.309(h)(4) and (h)(5). Collection and disposal of leachate may cease only when the conditions described in 35 IAC 811.309(h)(2) have been achieved. Leachate removed from this landfill shall be treated at an Illinois EPA permitted facility in accordance with the leachate management plan.

Attachment 2 of the October 15, 2014, submittal (Log No. B-141R-M-94) shows the location of the solid waste leachate collection tanks. The subject tanks must be double walled unless they are located in within a compacted low permeability soil containment area as described Section 5.3.6. of the approved permit application.

2. Pursuant to 35 IAC 811.307(a) and (b), 811.308(a) and (h), and 811.309(a), leachate shall be pumped from the side slope riser sump(s) before the level of leachate rises above the invert of the collection pipe(s) at its lowest point(s). Leachate removal as such shall be performed throughout the period that the leachate collection/management system must be operated in accordance with Section 5 of the approved permit application.

   During a monitoring event, if the facility recognizes that the leachate level at an extraction point is above the invert of the collection pipe(s) at its lowest point(s), leachate must be pumped below the required maintenance level as soon as possible.

3. The Leachate Monitoring Program for this facility shall use the leachate collection risers identified as L301 through L320 on Drawing Number 17 for the Solid Waste Expansion contained in the approved permit application.

4. Pursuant to 35 IAC 811.309(g), 722.111, and Part 721 Subpart C, leachate monitoring (i.e., sampling, measurements, and analysis) must be conducted in accordance with the Permit for this facility. The concentrations or values for the parameters contained in List L1 (below) must be determined on a semi-annual basis and the results must be submitted with the groundwater reports.

   Each year, the Permittee shall collect a representative leachate sample (LREP – composite of all active leachate) and have it tested for the parameters contained in List L2.

   Condition III.I.5. presents the sampling, testing, and reporting schedules in tabular form. Leachate monitoring at each monitoring point shall continue as long as groundwater monitoring at this landfill is necessary pursuant to 35 IAC 811.319(a)(1)(C).

LIST L1

Leachate Monitoring Parameters	STORET
pH (S.U.)	00400
Elevation Leachate Surface (ft. MSL)	71993
Bottom of Well Elevation (ft. MSL)	72020
Leachate Level from Measuring Point (ft.)	72109
Arsenic (total)	01002
Barium (total)	01007
Cadmium (total)	01027
Iron (total)	01045
Ammonia Nitrogen – N (mg/L)	00610
Biochemical Oxygen Demand (BOD_5) (mg/L)	00310
1,1,1,2-Tetrachloroethane	77562
1,1,1-Trichloroethane	34506
1,1,2,2-Tetrachloroethane	34516
1,1,2-Trichloroethane	34511
1,1-Dichloroethane	34496
1,1-Dichloroethylene	34501
1,1-Dichloropropene	77168
1,2,3-Trichlorobenzene	77613
1,2,3-Trichloropropane	77443
1,2,4-Trichlorobenzene	34551
1,2,4-Trimethylbenzene	77222
1,2-Dibromo-3-Chloropropane	38760
1,2-Dichloroethane	34531
1,2-Dichloropropane	34541
1,3,5-Trimethylbenzene	77226
1,3-Dichloropropane	77173
1,3-Dichloropropene	34561
Trans-1,4-Dichloro-2-Butene	73547
1-Propanol	77018
2,2-Dichloropropane	77170
2,4,5-TP (Silvex)	39760
2,4-Dichlorophenol	34601
2,4-Dichlorophenoxyacetic Acid (2,4-D)	39730
2,4-Dimethylphenol	34606
2,4-Dinitrotoluene	34611
2,4-Dinitrophenol	34616
2,6-Dinitrotoluene	34626
2-Chloronaphthalene	34581

LIST L1 (Continued)

Leachate Monitoring Parameters	STORET
2-Chlorophenol	34586
2-Hexanone	77103
2-Propanol (Isopropyl Alcohol)	81310
3,3-Dichlorobenzidine	34631
4,4-DDD	39310
4,4-DDE	39320
4,6-Dinitro-O-Cresol	34657
4-Bromophenyl Phenyl Ether	34636
4-Chlorophenyl Phenyl Ether	34641
4-Methyl-2-Pentanone	78133
4-Nitrophenol	34646
Acenaphthene	34205
Acetone	81552
Alachlor	77825
Aldicarb	39053
Aldrin	39330
Aluminum	01105
Anthracene	34220
Antimony	01097
Atrazine	39033
Benzene	34030
Benzo (a) Anthracene	34526
Benzo (a) Pyrene	34247
Benzo (b) Fluoranthene	34230
Benzo (ghi) Perylene	34521
Benzo (k) Fluoranthene	34242
Beryllium (total)	01012
Beta – BHC	39338
Bicarbonate (mg/L as $CaCO_3$)	00425
Bis (2-Chloro-1-Methylethyl) Ether	73522
Bis (2-Chloroethoxy) Methane	34278
Bis (2-Chloroethyl) Ether	34273
Bis (2-Ethylhexyl) Phthalate	39100
Bis(Chloromethyl) Ether	34268
Boron	01022
Bromobenzene	81555
Bromochloromethane	77297
Bromodichloromethane	32101

LIST L1 (Continued)

Leachate Monitoring Parameters	STORET
Bromoform	32104
Bromomethane	34413
Butanol	77034
Calcium (mg/L)	00916
Carbofuran	81405
Carbon Disulfide	77041
Carbon Tetrachloride	32102
Chemical Oxygen Demand (COD) (mg/L)	00335
Chlordane	39350
Chloride (mg/L)	00940
Chlorobenzene	34301
Chloroethane	34311
Chloroform	32106
Chloromethane	34418
Chromium (total)	01034
Chrysene	34320
Cis-1,2-Dichloroethylene	77093
Cobalt (total)	01037
Copper (total)	01042
Cyanide (mg/L)	00720
DDT	39300
Delta – BHC	46323
Di-N-Butyl Phthalate	39110
Di-N-Octyl Phthalate	34596
Dibenzo (a,h) Anthracene	34556
Dibromochloromethane	32105
Dibromomethane	77596
Dichlorodifluoromethane	34668
Dichloromethane	34423
Dieldrin	39380
Diethyl Phthalate	34336
Dimethyl Phthalate	34341
Endosulfan I	34361
Endosulfan II	34356
Endosulfan Sulfate	34351
Endrin	39390
Endrin Aldehyde	34366
Ethylbenzene	78113

LIST L1 (Continued)

Leachate Monitoring Parameters	STORET
Ethylene Dibromide (EDB)	77651
Fluoranthene	34376
Flourene	34381
Fluoride (mg/L)	00951
Heptachlor Epoxide	39420
Heptachlor	39410
Hexachlorobenzene	39700
Hexachlorobutadiene	39702
Hexachlorocyclopentadiene	34386
Hexachloroethane	34396
Indeno (1,2,3-cd) Pyrene	34403
Iodomethane	77424
Isopropylbenzene	77223
Lead (total)	01051
Lindane	39782
Magnesium (total) (mg/L)	00927
Manganese (total)	01055
Mercury (total)	71900
Methoxychlor	39480
Methyl Ethyl Ketone	81595
Naphthalene	34696
Nickel (total)	01067
Nitrate-Nitrogen (mg/L)	00620
Nitrobenzene	34447
Oil. Hexane Soluble (or Equivalent) (mg/L)	00550
or	00552
Parathion	39540
Pentachlorophenol	39032
Phenanthrene	34461
Phenols	32730
Polychlorinated Biphenyls	39516
Potassium (mg/L)	00937
Pyrene	34469
Selenium	01147
Silver (total)	01077
Specific Conductance (umhos/cm)	00094
Sodium (mg/L)	00929
Styrene	77128

LIST L1 (Continued)

Leachate Monitoring Parameters	STORET
Sulfate (mg/L)	00945
Temperature of Leachate Sample (°F)	00011
Tert-Butylbenzene	77353
Tetrachloroethylene	34475
Tetrahydrofuran	81607
Thallium	01059
Toluene	34010
Total Organic Carbon (TOC) (mg/L)	00680
Total Dissolved Solids (TDS) (mg/L)	70300
Total Suspended Solids (TSS) (mg/L)	00530
Toxaphene	39400
Trans-1,2-Dichloroethylene	34546
Trans-1,3-Dichlorpropene	34699
Trichloroethylene	39180
Trichlorofluoromethane	34488
Vinyl Acetate	77057
Vinyl Chloride	39175
Xylene	81551
Zinc (total)	01092
m-Dichlorobenzene	34566
m+p-Xylene	61283
n-Butylbenzene	77342
n-Nitrosodimethylamine	34438
n-Nitrosodiphenylamine	34433
n-Nitrosodipropylamine	34428
n-Propylbenzene	77224
o-Chlorotoluene	38680
o-Dichlorobenzene	34536
o-Nitrophenol	34591
o-Xylene	77135
p-Chlorotoluene	77277
p-Cresol	77146
p-Dichlorobenzene	34571
p-Isopropyltoluene	77356
sec-Butylbenzene	77350

LIST L2

RCRA Parameters for Leachate and Condensate

RCRA PARAMETERS		STORET
Ignitability		
Flashpoint, Pensky-Martens Closed Cup (°F)		00497
Corrosivity		
pH (S.U.)		00400
Reactivity		
Reactive Cyanide		99040
Reactive Sulfide		99042
Toxicity	Total Concentration (ug/L)	TCLP Concentration (mg/L)
Arsenic	01002	99012
Barium	01007	99014
Cadmium	01027	99016
Chromium	01034	99018
Lead	01051	99020
Mercury	71900	99022
Selenium	01147	99024
Silver	01077	99026
Endrin	39390	99028
Lindane	39782	99030
Methoxychlor	39480	99032
Toxaphene	39400	99034
2,4-D	39730	99036
2,4,5-TP Silvex	39760	99038
Benzene	34030	99128
Carbon tetrachloride	32102	99050
Chlordane	39350	99148
Chlorobenzene	34301	99096
Chloroform	32106	99149
o-Cresol	77152	99150
m-Cresol	77151	99151
p-Cresol	77146	99152
Cresol	79778	99153
1,4-Dichlorobenzene	34571	99154
1,2-Dichloroethane	34531	99155

LIST L2 (Continued)

RCRA Parameters for Leachate and Condensate

Toxicity	Total Concentration (ug/L)	TCLP Concentration (mg/L)
1,1-Dichloroethylene	34501	99156
2,4-Dinitrotoluene	34611	99157
Heptachlor (and its epoxide)	39410 and 39420	99158
Hexachlorobenzene	39700	99159
Hexachloro-1,3-Butadiene	39702	99160
Hexachloroethane	34396	99161
Methyl Ethyl Ketone	81595	99060
Nitrobenzene	34447	99062
Pentachlorophenol	39032	99064
Pyridine	77045	99066
Tetrachloroethylene	34475	99068
Trichloroethylene	39180	99076
2,4,5-Trichlorophenol	77687	99078
2,4,6-Trichlorophenol	34621	99080
Vinyl Chloride	39175	99162

Notes for all leachate monitoring parameters:

a. Flashpoint shall be reported in degrees Fahrenheit. The parameters for reactivity shall be reported in parts per million.

b. The Permittee shall obtain metals and organics analysis. Either procedure may be utilized (i.e., total or TCLP), but any constituent whose total concentration exceeds the TCLP limit specified in 35 IAC 721.124 must be analyzed using the TCLP test and the results reported, unless an alternative test has been approved by the Illinois EPA. TCLP test methods must be in accordance with SW-846-1311.

c. The test methods for leachate monitoring shall be those approved in the USEPA's Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Third Edition or the equivalent thereof.

d. All parameters shall be determined from unfiltered samples.

e. The monitoring results should be reported in ug/L units unless otherwise indicated.

5. The schedule for leachate sample collection and submission of monitoring data is illustrated below:

Sampling Period	Sampling Points / Lists	Report Due Date
Oct-Nov 2022	L303, L304, L305, L315, L316/L1, LREP/L2	January 15, 2023
April-May 2023	L306, L307, L308, L309, L317/L1	July 15, 2023
Oct-Nov 2023	L310, L311, L312, L318 L319/L1, LREP/L2	January 15, 2024
April-May 2024	L313, L314, L301, L302/L1	July 15, 2024
Oct-Nov 2024	L303, L304, L305, L315 L316/L1, LREP/L2	January 15, 2025
April-May 2025	L306, L307, L308, L309 L317/L1	July 15, 2025

L1 - Leachate Monitoring Parameters
L2 - Annual RCRA Leachate Parameters
LREP – Reporting Label for Representative Leachate Sample (collected annually)

As new leachate monitoring points are placed into service, the Permittee shall propose revisions, to this schedule in the form of a permit application in accordance with Condition III.A.

6. The leachate monitoring data must be submitted in an electronic format. The information is to be submitted as fixed-width text files. Additional guidance for submittal of groundwater data in electronic format can be found on the Illinois EPA's webpage titled, Electronic Reporting of Groundwater Data.

7. Pursuant to 35 IAC 722.111 it is the responsibility of the operator to determine if leachate generated by the development and operation of this facility is a hazardous waste.

J. LANDFILL GAS MANAGEMENT/MONITORING

1. The landfill gas monitoring and management plan described in the approved permit application is approved. The gas probe installation schedule should be done in accordance with Table 10-13 that was revised on September 2014 (Log No. B-141R-M-94). In addition, the gas probes should be constructed in accordance with Drawing No. 24 of the February 2008 drawing application set.

2. The gas monitoring probes both inside and outside the waste boundary shall be monitored for the following parameters:

   a. Methane;

   b. Pressure;

   c. Nitrogen*;

   d. Oxygen; and

   e. Carbon Dioxide

   *NOTE: For routine monitoring, Nitrogen may be reported as the net remaining volume fraction after the other measured constituents have been accounted for.

3. The ambient air monitoring devices shall be used to test the air downwind of the landfill for methane.

4. All buildings within the facility boundaries shall be monitored continuously for methane.

5. Gas monitoring (ambient air monitoring, perimeter gas monitoring, and continuous air monitoring) shall begin 60 days after the acceptance of MSW or putrescible non-hazardous special waste, shall continue for at least 30 years after closure and may be discontinued only after the conditions described in 35 IAC 811.310(c)(4) have been achieved.

6. Sampling and testing of the gas monitoring probes and ambient air monitoring shall be performed at least monthly throughout the remaining operating life and during the first five years after its closure of the unit. Then during the remainder of the post-closure care period, this monitoring frequency may be reduced to quarterly.

7. In the event of any of the occurrences listed below, the operator shall, within two business days notify the Illinois EPA in writing of an observed exceedance, implement the requirements of 35 IAC 811.311 to ensure the protection of human health, and within 180 days of the occurrence, submit to the Illinois EPA a permit application in accordance with Condition III.A. either proposing a gas collection/management system or demonstrating that the facility is not the cause of the occurrence.

    a. A methane concentration greater than 50% of the lower explosive limit in air is detected in any of the below ground monitoring devices outside the waste boundary;

    b. A methane concentration greater than 50% of the lower explosive limit in air is detected during ambient air monitoring;

    c. A methane concentration greater than 25% of the lower explosive limit in air is detected in any building on or near the facility; or

    d. Malodors attributed to the unit are detected beyond the property boundary.

8. The gas probes shall be inspected at least monthly for structural integrity and proper operation.

9. The results from gas monitoring for each calendar year shall be submitted to the Illinois EPA in the annual report required by 35 IAC 813.504.

10. At the end of the post-closure care period, the gas monitoring probes shall be decommissioned. The probes outside the waste boundary shall be decommissioned using the method described in the Illinois EPA monitoring well plugging procedure guidance. In decommissioning the probes within the waste boundaries, the pipes shall be cut off at least two-feet below the low permeability layer and plugged. Then the low permeability layer, the protective layer, and the vegetation shall be restored in the excavated areas.

11. This Permit does not relieve the Permittee of the responsibility of complying with the provisions of the State of Illinois Rules and Regulations, 35 IAC Subtitle B, Air Pollution Control, Chapter 1. The Illinois EPA Bureau of Air Permit Section has indicated that the facility requires an Air Pollution Control Construction Permit, pursuant to 35 IAC 201.142. If you have any questions regarding these requirements, contact the Illinois EPA Bureau of Air Permit Section.

12. The proposal to conduct controlled burning of the landfill final cover system vegetation requires an open burn permit from the Illinois EPA Bureau of Air Permit Section.

K. CLOSURE/POST CLOSURE CARE AND FINANCIAL ASSURANCE

1. The facility shall be closed in accordance with the approved permit application. Upon completion of closure activities, the operator shall notify the Illinois EPA that the site has been closed in accordance with the approved closure plan.

2. Inspections of the closed landfill shall be conducted in accordance with the approved post-closure care plan. Records of field investigations, inspections, sampling, and corrective action taken are to be maintained at the site and made available to Illinois EPA personnel. During the post-closure care period, these records are to be maintained at the office of the site operator.

3. If necessary, the soil over the entire planting area shall be amended with lime, fertilizer, and/or organic matter. On side slopes, mulch or some other form of stabilizing material is to be provided to hold seed in place and conserve moisture.

4. The minimum post-closure care period for this MSW and non-hazardous and non-putrescible special waste landfill is 30 years. No later than 60 days after the post-closure care period has been completed, the operator shall notify the Illinois EPA, by registered mail, a certification that the post-closure care was performed in accordance with the specifications in the approved permit application. The certification must be signed by the Owner or Operator and a qualified Illinois licensed Professional Engineer. Documentation supporting the qualified Illinois licensed Professional Engineer's certification must be furnished to Illinois EPA Bureau of Land Permit Section upon request until Illinois EPA releases the Permittee from financial assurance requirements for post-closure care.

5. The operator shall provide financial assurance for closure and post-closure care pursuant to 35 IAC 811.700(b). However, financial assurance shall be required only for those areas for which authorization to operate has been obtained or is being requested.

6. The total cost estimate for closure and post-closure care for this facility is as indicated in Attachment D, Section II of this Permit. The owner or operator shall maintain financial assurance equal to or greater than the current cost estimate at all times in accordance with 35 IAC 811.701(a).

7. The operator shall increase the total amount of financial assurance so as to equal the current cost estimate within 90 days of an increase in the current cost estimate in accordance with 35 IAC 811.701(b).

8. The owner or operator shall adjust the cost estimates for closure, post-closure, and corrective action for inflation on an annual basis during the following time periods:

   a. The active life of the unit for the closure cost;

   b. The active life and post-closure care period for the post-closure cost; and

   c. Until any corrective action program is completed in accordance with 35 IAC 811.326, for the cost of corrective action. Each year, no later than June 1 of that year, the owner and operator shall submit a permit application in accordance with Condition III.A. This request shall provide an update to the cost estimate or a certification that there are no changes to the current cost estimates.

9. This Permit conceptually approves the use of controlled burning as an activity during the post-closure period to manage final cover system vegetation. Prior to the use of controlled burning management activities, the owner/operator shall submit a permit application in accordance with Condition III.A to the Illinois EPA. The request shall contain specific protocol to be followed for the preparation, operation, and completion of the controlled burning of the final cover system vegetation. The controlled burning of final cover system vegetation shall not be undertaken until approved by the Illinois EPA.

L. REPORTING REQUIREMENTS

1. The annual certification shall be submitted to the Illinois EPA during operation and for the entire post-closure monitoring period. The certification shall be signed by the operator or duly authorized agent, shall be filed each year by May 1 of the following year and shall state:

   a. All records required to be submitted to the Illinois EPA pursuant to 35 IAC 858.207 and 858.308, as applicable, have been timely and accurately submitted; and

   b. All applicable fees required by the Act have been paid in full.

2. The annual report for each calendar year shall be submitted to the Illinois EPA by May 1 of the following year pursuant to 35 IAC 813.504. The annual report shall include:

   a. Information relating to monitoring data from the leachate collection system, groundwater monitoring network, gas monitoring system, and any other monitoring data specified in this Permit, including:

      i. Summary of monitoring data for the calendar year;

      ii. Dates of submittal of comprehensive monitoring data to the Illinois EPA during the calendar year;

      iii. Statistical summaries and analysis of trends;

      iv. Changes to the monitoring program; and

      v. Discussion of error analysis, detection limits and observed trend.

   b. Proposed activities:

      i. Amount of waste expected in the next year;

      ii. Structures to be built within the next year; and

      iii. New monitoring stations to be installed within the next year.

   c. Any permit modifications affecting operation of the facility.

d. The signature of the operator or duly authorized agent as specified in 35 IAC 815.102.

3. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate, Facility and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by Sections III and IV of this Permit for identification purposes. One copy of the LPC-592 form must accompany each report; however, except for electronically formatted data, the Permittee must submit one original and a minimum of two copies of each report you submit to the Illinois EPA. For permit applications, Form LPC-PA23 should be used instead of LPC-592.

4. All certifications, logs, reports, plan sheets, and groundwater and leachate monitoring data, required to be submitted to the Illinois EPA by the Permittee shall be mailed to the following address:

Illinois Environmental Protection Agency
Permit Section
Bureau of Land #33
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

Except for electronic groundwater and leachate monitoring data, the operator shall provide the Illinois EPA with the original and two (2) copies of all certifications, logs, reports, and plan sheets required by this Permit.

M. STANDARD CONDITIONS

1. The construction or development of facilities covered by this Permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.

2. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Illinois EPA and a permit modification issued.

3. The Permittee shall allow any agent duly authorized by the Illinois EPA upon the presentation of credentials:

a. to enter at reasonable times the Permittee's premises where actual or potential effluent, emissions, or noise sources are located or where any activity is to be conducted pursuant to this Permit.

b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this Permit.

c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated, and maintained under this Permit.

d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants.

e. to enter reasonable times and utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this Permit.

4. The issuance of this Permit:

a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;

b. does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;

c. does not release the Permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances, and regulations;

d. does not take into consideration or attest to the structural stability of any units or parts of the project;

e. in no manner implies or suggests that the Illinois EPA (or its officers, agents, or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

5. These standard conditions shall prevail unless modified by special conditions.

6. The Illinois EPA may file a complaint with the Board for modification, suspension, or revocation of a permit:

   a. upon discovery that the permit application contained misrepresentations, misinformation, or false statements or that all relevant facts were not disclosed; or

   b. upon finding that any standard or special conditions have been violated; or

   c. upon any violation of the Act or any Rule or Regulation effective thereunder as a result of the construction or development authorized by this Permit.

Section IV: GROUNDWATER MONITORING FOR NON-HAZARDOUS WASTE LANDFILLS

1. The groundwater monitoring program must be capable of determining background groundwater quality hydraulically upgradient of and unaffected by the units and to detect, from all potential sources of discharge, any releases to groundwater within the facility. This Illinois EPA reserves the right to require installation of additional monitoring wells as may be necessary to satisfy the requirements of this Permit.

2. The groundwater monitoring wells shall be constructed and maintained in accordance with the requirements of 35 IAC 811.318(d) and designs approved by the Illinois EPA.

3. Groundwater monitoring wells shall be maintained in the locations shown in Attachment 2 of Log No. B-141R-M-155 and as modified by the final Expansion detection monitoring network in Figure 6-1 and Table 6-1 of the May 26, 2022, Addendum to Log No. B-141R-M-125. The anticipated installation and abandonment of wells associated with the planned phasing depicted in Figure 1-4 of Log No. B-141R-M-125 will occur as shown in Table 6-2 of the May 26, 2022, Addendum to Log No. B-141R-M-125.

4. Within 60 days of installation of any groundwater monitoring well, boring logs compiled by a qualified geologist, well development data, and as-built diagrams shall be submitted to the Illinois EPA utilizing the "Well Completion Report" form found in Attachment A to the Permit. For each well installed pursuant to this Permit, one form must be completed.

5. Groundwater monitoring wells shall be easily visible, labeled with their Illinois EPA monitoring point designations, and fitted with padlocked protective covers.

6. In the event that any well becomes consistently dry or unserviceable and therefore requires replacement, a replacement well shall be installed within 10-foot of the existing well. The Illinois EPA shall be notified in writing at least 15 days prior to the installation of all replacement wells. A well that is more than 10-foot from the existing well or which does not monitor the same geologic zone is considered to be a new well and must be approved via a permit application.

7. All borings, wells, and piezometers not used as monitoring points shall be abandoned in accordance with the standards in 35 IAC 811.316 and the decommissioning and reporting procedures contained in 77 IAC Part 920. In the event specific guidance is not provided by 77 IAC Part 920, the enclosed Illinois EPA monitoring well plugging procedures shall be followed.

8. Groundwater sampling and analysis shall be performed in accordance with the requirements of 35 IAC 811.318(e) and the specific procedures and methods approved by the Illinois EPA.

9. The following monitoring points are to be used in the groundwater detection monitoring program for this facility:

Upgradient Wells

Applicant Designation	Illinois EPA Designation
R122	+R1221
G52S	+G52S
G53S	+G53S1
R113	++R113
R111	++P111
R112	++P1121
R114	++P114
R149	+R149
G265	++G1B1
G266	++G1B2
G1B4	++G1B4

Upgradient Wells to be Installed in Accordance with the Monitoring Well Installation Schedule

Applicant Designation	Illinois EPA Designation
G280	G280

Zone of Attenuation Wells

Applicant Designation	Illinois EPA Designation
G117	P117
R173	R173
G228	G174
G229	G175
G230	G176
G240	G186
G241	G187
G242	G188
G243	G189
G244	G190
G245	G191
G247	G193
G248	G194
G249	G195
G250	G196
G251	G197
G252	G198
G253	G199
G254	G1A0
G255	G1A1
G256	G1A2
G257	G1A3
G1A4	G1A4
G259	G1A51
G1A6	G1A6
G1A7	G1A7
G1A8	G1A8
G1A9	G1A9
G1B0	G1B0

Zone of Attenuation Wells to be Installed in Accordance with the Monitoring Well Installation Schedule

Applicant Designation	Illinois EPA Designation
G256	G256
G257	G257
G258	G258
G259	G2811
G260	G260
G261	G261
G262	G262
G263	G263
G1A10	G282
G1A11	G283
G264	G264
G267	G267
G268	G268
G269	G269
G270	G270
G271	G271
G272	G272
G274	G274
G275	G275
G276	G276
G277	G277
G278	G278
G279	G279

Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G246	G192

Compliance Boundary Well to be Installed in Accordance with the Monitoring Well Installation Schedule

Applicant Designation	Illinois EPA Designation
G273	G273

Notes:

+ – Represents a monitoring point upgradient of the original solid waste unit only.

++ – Represents a monitoring point upgradient of the entire solid waste unit

S – Wells ending in "S" represent monitoring points screened within the glacial till.

– Represents a monitoring point being DELETED from the monitoring program.

(1) – Represents a monitoring point to be sampled in the HWMU GMZ Boundary and Solid Waste Unit Detection Monitoring programs.

R – Wells beginning with "R" represent a replacement well

P – Wells beginning with "P" represent a piezometer used for monitoring water level elevations only.

% – Represents NEW monitoring point added to the program

Monitoring Well Installation and Abandonment Schedule

Landfill Phase[1]	Estimated Installation[2]	Wells to be Installed[2,3]	Wells to be Abandoned[3]	Installation / Abandonment Approval Log No.
11	2022	G256	----------	----------
12	2023	G257	----------	----------
13	2024	G258	----------	----------
14	2025	G281(G259), G260, G264,	G1A5(G259)	----------
15	2026	G261, G262, G263, G282(G1A10), G283(G1A11)	----------	----------
16	2027	----------	G186(G240), G289(G241)	----------
17	2028	G280, G277, G278, G279	----------	----------
18	2029	G267 G268	P117(G117), R173, G174(G228), G175(G229), G189(G243)	----------
19	2030	---	G176(G230), G188(G242)	----------
20	2031	----------	----------	----------
21	2032	G269, G270, G271, G272, G273, G274, G275, G276	----------	----------

Notes:

1 – Landfill phasing sequence shown on Figure 1-4: Expanded Solid Waste Unit Phasing of Log No. B-141R-M-125.

2 – In the event of any conflict between estimated landfill phase development and actual landfill phase development, wells will be installed a minimum of one-year prior to placement of waste in the phase.

3 – Well identifiers based on Illinois EPA IDs, facility IDs noted when ID differs.

10. The monitoring program, approved by Permit No. 1995-313-LFM, shall continue for a minimum period of 30 years after closure and shall not cease until the conditions described in 35 IAC 811.319(a)(1)(C) have been achieved. The operator shall collect samples from all of the monitoring points listed in Condition IV.9, test the samples for the parameters listed in Condition IV.12 (Lists G1 and G2), and report the results to the Illinois EPA, all in accordance with the schedule in Condition IV.17.

11. The applicable groundwater quality standards (AGQSs) and the maximum allowable predicted concentrations (MAPCs), as listed in Condition IV.12 below, are subject to the following conditions:

a. Temperature and the field parameters involving depth or elevation are not considered groundwater constituents and do not need AGQSs.

b. For constituents which have not been detected in the groundwater, the PQL shall be used as the AGQS.

c. MAPCs are only applicable to those wells within the zone of attenuation.

d. AGQSs are only applicable to upgradient/background and compliance boundary wells.

12. The AGQS values are calculated using four consecutive quarters of groundwater monitoring data and employing the statistical method described in Section 5.6 of Volume 1 to the application, Log No. 1995-313. The well specific AGQS/MAPC values documented in Tables 5-8(a), (b), and (c) of the additional information to Log No. 1996-254 and in Log Nos. B-141R-M-93, B-141R-M-118, B-141R-M-120, B-141R-M-138, B-141R-M-143, B-141R-M-148, B-141R-M-149, B-141R-M-151, B-141R-M-155, and the additional information to B-141R-M-155 are hereby incorporated into this Permit and included as Attachments 1 and 4 to Section IV.

LIST G (Groundwater)

GROUNDWATER MONITORING PARAMETER	STORET
Elevation of Bottom of Well (ft. MSL)	72020

(Annually without dedicated pumps; every five years with dedicated pumps or whenever the pump is pulled)

LIST G1 (Groundwater)

FIELD PARAMETERS	STORET
pH (S.U.)	00400
Specific Conductance (umhos/cm)	00094
Temperature of Water Sample (°F)	00011
Depth to Water (ft. below land surface)	72019
Depth to Water (ft. below measuring point)	72109
Elevation of Measuring Point (Top of Casing Ft-MSL)	72110
Elevation of Groundwater Surface (Ft-MSL)	71993
Turbidity (NTU)	00076
Oxidation Reduction Potential (millivolts)	00090

LIST G1 (Groundwater) (Continued)

INDICATOR PARAMETERS	STORET
Ammonia (as Nitrogen; Dissolved) mg/L	00608
Arsenic (Dissolved) ug/L	01000
Boron (Dissolved) ug/L	01020
Cadmium (Dissolved) ug/L	01025
Chloride (Dissolved) mg/L	00941
Chromium (Dissolved) ug/L	01030
Cyanide (Total) mg/L	00720
Lead (Dissolved) ug/L	01049
Magnesium (Dissolved) mg/L	00925
Mercury (Dissolved) ug/L	71890
Nitrate (as Nitrogen, Dissolved) mg/L	00618
Sulfate (Dissolved) mg/L	00946
Total Dissolved Solids (TDS, 180°C; Dissolved) mg/L	70300
Zinc (Dissolved) ug/L	01090

NOTE:

i. All parameters with the "(Dissolved)" label to the right shall be determined using groundwater samples which have been filtered through a 0.45-micron filter. All other parameters shall be determined from unfiltered samples.

ii. MAPCs and AGQSs are given in ug/L except as otherwise noted. Also, the monitoring results should be reported in ug/L units unless otherwise indicated.

iii. List G1 interwell AGQS background values and MAPC values are included in Attachments 1 and 2 of Section IV. Applicable intrawell background values are provided in Attachment 4 of Section IV.

LIST G2 (Groundwater)

PARAMETERS	STORET
Acetone	81552
Acrylonitrile	34215
Benzene	34030
Bromobenzene	81555
Bromochloromethane (chlorobromomethane)	77297
Bromodichloromethane	32101
Bromoform (Tribromomethane)	32104
n Butylbenzene	77342
sec Butylbenzene	77350
tert Butylbenzene	77353
Carbon Disulfide	77041
Carbon Tetrachloride	32102
Chlorobenzene	34301
Chloroethane (Ethyl Chloride)	34311
Chloroform (Trichloromethane)	32106
o Chlorotoluene	38680
p Chlorotoluene	77277
Dibromochloromethane	32105
1,2 Dibromo 3 Chloropropane	38760
1,2 Dibromoethane (Ethylene Dibromide)	77651
1,2-Dichlorobenzene (o-Dichlorobenzene)	34536
1,3-Dichlorobenzene (m-Dichlorobenzene)	34566
1,4-Dichlorobenzene (p-Dichlorobenzene)	34571
trans 1,4 Dichloro 2 Butene	73547
Dichlorodifluoromethane	34668
1,1 Dichloroethane	34496
1,2 Dichloroethane	34531
1,1 Dichloroethylene	34501
cis 1,2 Dichloroethylene	77093
trans 1,2 Dichloroethylene	34546
1,2 Dichloropropane	34541
1,3 Dichloropropane	77173
2,2 Dichloropropane	77170
1,1 Dichloropropene	77168
1,3 Dichloropropene	34561
cis 1,3 Dichloropropene	34704
trans 1,3 Dichloropropene	34699
Ethylbenzene	78113

LIST G2 (Groundwater) (Continued)

PARAMETERS	STORET
Hexachlorobutadiene	39702
2 Hexanone (Methyl Butyl Ketone)	77103
Isopropylbenzene	77223
p Isopropyltoluene	77356
Methyl Bromide (Bromomethane)	34413
Methyl Chloride (Chloromethane)	34418
Methylene Bromide (Dibromomethane)	77596
Dichloromethane	34423
Methyl Ethyl Ketone	81595
Methyl Iodide (Iodomethane)	77424
4 Methyl 2 Pentanone	78133
Naphthalene	34696
Oil (Hexane Soluble) (mg/L)	00552
n Propylbenzene	77224
Styrene	77128
1,1,1,2 Tetrachloroethane	77562
1,1,2,2 Tetrachloroethane	34516
Tetrachloroethylene	34475
Tetrahydrofuran	81607
Toluene	34010
Total Phenolics	32730
1,2,3 Trichlorobenzene	77613
1,2,4 Trichlorobenzene	34551
1,1,1-Trichloroethane	34506
1,1,2-Trichloroethane	34511
Trichloroethylene	39180
Trichlorofluoromethane	34488
1,2,3 Trichloropropane	77443
1,2,4 Trimethylbenzene	77222
1,3,5 Trimethylbenzene	77226
Vinyl Acetate	77057
Vinyl Chloride	39175
Xylenes	81551

NOTE:

i. All parameters with the "(Dissolved)" label to the right shall be determined using groundwater samples which have been filtered through a 0.45-micron filter. All other parameters shall be determined from unfiltered samples.

ii. MAPCs and AGQSs are given in ug/L except as otherwise noted. Also, the monitoring results should be reported in ug/L units unless otherwise indicated.

iii. List G2 interwell AGQS background values and MAPC values are included in Attachments 1 and 2 of Section IV.

13. Pursuant to 35 IAC, 811.319(a)(4)(A), any of the following events shall constitute an observed increase only if the concentrations of the constituents monitored can be measured at or above the PQL:

a. The concentration of any constituent in List G1 of Condition IV.12 shows a progressive increase over eight consecutive quarters.

b. The concentration of any constituent monitored in accordance with List G1 or List G2 of Condition IV.12 exceeds the MAPC at an established monitoring point within the zone of attenuation. MAPC values in Attachment 1 of Section IV are not applicable to parameters within the zone of attenuation wells having an established intrawell value.

c. The concentration of any organic constituent in List G2, monitored in accordance with Condition IV.12 exceeds the preceding measured concentration at any established monitoring point.

d. The concentration of any constituent monitored at or beyond the edge of the zone of attenuation (compliance boundary) exceeds its AGQS, or pursuant to 35 IAC 811.320(d) any constituent monitored at an upgradient well, exceeds its AGQS.

e. The concentration of any constituent monitored in accordance with List G1 or List G2 of Condition IV.12 exceeds the intrawell value at an established monitoring point. Intrawell values replace MAPC values.

The comparison of groundwater concentrations to values b, d, and e above to determine an observed increase will be based on exceedances of both interwell and intrawell AGQS values, if there is an intrawell value established for the parameter as listed in Attachment 4 of Section IV.

14. For each round of sampling described in Condition IV.10, the operator must determine if an observed increase has occurred within 90 days of the initial sampling date. If an observed increase is identified, the operator must also notify the Illinois EPA in writing and follow the confirmation procedures of 35 IAC 811.319(a)(4)(B). Furthermore, the operator must complete the confirmation procedures within 180 days of the initial sampling event.

15. Upon confirmation of a monitored increase and within 180 days of the initial sampling date, the operator shall submit a permit application to meet the requirements of 35 IAC 703.280 to demonstrate an alternate source per 35 IAC 811.319(a)(4)(B)(ii) or begin an assessment monitoring program in order to determine whether the solid waste disposal facility is the source of the contamination and to provide information needed to carry out a groundwater impact assessment in accordance with 35 IAC 811.319(b).

16. In the event that an alternative source demonstration is denied, pursuant to 35 IAC 813.105, the operator must commence sampling for the constituents listed in 35 IAC 811.319(b)(5), and submit an assessment monitoring plan as a permit application to meet the requirements of 35 IAC 703.280, both within 30 days after the dated notification of Illinois EPA denial. The operator must sample the well or wells that exhibited the confirmed increase.

17. The schedule for sample collection and submission of all groundwater monitoring results at wells P111, P112, P114, P117, R122, R113, R149, G52S, G53S, R173, G174, G175, G176, G186, G187, G188, G189, G190, G191, G192, G193, G194, G195, G196, G197, G198, and G1B4 in detection monitoring is as follows:

Sampling Quarter	Sampling Due	Report Due Date
April-May (Second)	Lists G, G1, and G2	July 15
Oct-Nov (Fourth)	Lists G1 and G2	January 15

Groundwater elevations are to be measured on a quarterly basis.

G - Well Depth
G1 - Routine Groundwater Parameters
G2 - Semi-annual Groundwater Parameters

All remaining wells must be sampled in accordance with the following schedule:

Sampling Quarter	Sampling Due	Report Due Date
Jan-Feb (First)	List G1	April 15
April-May (Second)	List G, G1, & G2	July 15
July-Aug (Third)	List G1	October 15
Oct-Nov (Fourth)	List G1 & G2	January 15

In the event a confirmed significant change in groundwater quality due to the facility has occurred at a well approved for semi-annual monitoring, groundwater monitoring at the affected monitoring well(s) will immediately return to the quarterly monitoring schedule for sampling collection and submission of all groundwater monitoring results as provided in the Condition IV.17 quarterly monitoring schedule, for all monitored constituents, until the Illinois EPA approves the return to semi-annual monitoring.

18. Elevation of stick-up is to be surveyed and reported to the Illinois EPA:

    a. When the well is installed (with the as-built diagrams),

    b. Every two years thereafter, or

    c. Whenever there is reason to believe that the elevation has changed.

19. Annually, the operator shall prepare an evaluation of the groundwater flow direction and the hydraulic gradients at the facility using the groundwater surface elevations (STORET 71993) determined for each monitoring event. This assessment shall be submitted with the monitoring results due on July 15.

20. All monitoring points shall be maintained in accordance with the approved permit application such that the required samples and measurements may be obtained.

21. Background concentrations which exhibit a statistically significant change shall be adjusted and updated in accordance with 35 IAC 811.320(d)(1) and submitted to the Illinois EPA as a modification request appropriate to meet the requirements of 35 IAC 703.280.

22. Issuance of this Permit does not constitute agreement or approval of all the input parameters and assumptions utilized in the contaminant transport model.

23. Information required by Conditions IV.10 and IV.17 must be submitted in an electronic format. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA's webpage titled, Electronic Reporting of Groundwater Data.

ATTACHMENT 1

Laraway RDF
Illinois EPA Permit No. 1995-313-LFM
Revised: Log No. B-141R-M-155

Site No. 1970450002
Approved: Log No. 1996-254

Table 5-8a
MAPCs

Illinois EPA Well No.			**R173**	**G174**	**G175**	**G176**
Facility Well No.			**R173**	**G228**	**G229**	**G230**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	-------	72	77	71	68
Ammonia (Dissolved)	mg/L	00608	0.3	0.3	0.2	0.2
Arsenic (Dissolved)	ug/L	01000	27.5	28.0	27.4	20.0
Boron (Dissolved)	ug/L	01020	567.8	578.6	565.7	559.2
Cadmium (Dissolved)	ug/L	01025	55.0	56.0	54.8	54.2
Chloride (Dissolved)	mg/L	00941	769.7	769.8	769.7	769.7
Chromium (Dissolved)	ug/L	01030	46.4	46.4	46.3	46.3
Cyanide (Total)	mg/L	00720	0.0550	0.0560	0.0548	0.0542
Iron (Dissolved)	ug/L	01046	7,277	7,415	7,249	7,166
Lead (Dissolved)	ug/L	01049	6.9	7.0	6.8	6.8
Magnesium (Dissolved)	mg/L	00925	255.6	263.5	254	249.3
Manganese (Dissolved)	ug/L	01056	217,350	221,466	216,527	214,057
Mercury (Dissolved)	ug/L	71890	2.7	2.8	2.7	2.7
Nitrate as N (Dissolved)	m/L	00618	7.4	7.8	7.4	7.1
Phenols	ug/L	32730	13.7	14.0	13.7	13.5
Sulfate (Dissolved)	mg/L	00946	1,475	1,513	1467	1,444
Total Dissolved Solids	mg/L	70300	4,011	4,113	3,990	3,928
Total Organic Carbon	mg/L	00680	16.8	17.1	16.7	16.5
Zinc (Dissolved)	ug/L	01090	68.7	70.0	68.5	67.7

Table 5-8b
Interim MAPCs

Illinois EPA Well No.			**R173**	**G174**	**G175**	**G176**
Facility Well No.			**R173**	**G228**	**G229**	**G230**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	-------	72	77	71	68
Benzo (a) Pyrene	ug/L	34247	0.3	0.3	0.3	0.3
Dalapon	ug/L	38432	1.4	1.4	1.4	1.4
Dinoseb	ug/L	81287	1.4	1.4	1.4	1.4
Endothall	ug/L	38926	132.5	140.1	137.0	135.4
Hexachlorocyclopentadiene	ug/L	34386	68.7	70.0	68.5	67.7
Picloram	ug/L	39720	1.4	1.4	1.4	1.4
Simazine	ug/L	39055	5.5	5.6	5.5	5.4

MAPC = Slope * Derived Source Concentration * Distance From ZOA + AGQS

Table 5-8c
MAPCs

Illinois EPA Well No.			**G186**	**G187**	**G188**	**G189**
Facility Well No.			**G244**	**G241**	**G242**	**G243**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	--------	20	35	80	35
Ammonia (as N; Dissolved)	mg/L	00608	2.04	2.07	2.16	2.07
Arsenic (Dissolved)	ug/L	01000	24	27	36	27
Boron (Dissolved)	ug/L	01020	496	558	744	558
Cadmium (Dissolved)	ug/L	01025	41	42	44	42
Chloride (Dissolved)	mg/L	00941	768.8	769.0	769.9	769.0
Chromium (Dissolved)	ug/L	01030	46.3	46.3	46.4	46.3
Cyanide (Total)	mg/L	00720	0.048	0.054	0.072	0.054
Lead (Dissolved)	ug/L	01049	6	7	9	7
Magnesium (Dissolved)	mg/L	00925	173.4	197.1	268.2	197.1
Mercury (Dissolved)	ug/L	71890	2	3	4	3
Nitrate as N (Dissolved)	mg/L	00618	3.7	4.7	8.0	4.7
Sulfate (Dissolved)	mg/L	00946	1,073	1,189	1,537	1,189
Total Dissolved Solids (TDS; 180°C; Dissolved)	mg/L	70300	2,943	3,251	4,175	3,251
Zinc (Dissolved)	ug/L	01090	60	68	90	68

Illinois EPA Well No.			**G190**	**G191**	**G193**	**G194**
Facility Well No.			**G244**	**G245**	**G247**	**G248**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	--------	62	58	52	58
Ammonia(as N; Dissolved)	mg/L	00608	2.13	2.12	2.11	2.12
Arsenic (Dissolved)	ug/L	01000	32	32	30	32
Boron (Dissolved)	ug/L	01020	670	653	628	653
Cadmium (Dissolved)	ug/L	01025	43	43	43	43
Chloride (Dissolved)	mg/L	00941	769.5	769.5	769.4	769.5
Chromium (Dissolved)	ug/L	01030	46.3	46.3	46.3	46.3
Cyanide (Total)	mg/L	00720	0.065	0.063	0.061	0.063
Lead (Dissolved)	ug/L	01049	8	8	8	8
Magnesium (Dissolved)	mg/L	00925	239.8	233.5	224.0	233.5
Mercury (Dissolved)	ug/L	71890	3	3	3	3
Nitrate as N (Dissolved)	mg/L	00618	6.7	6.4	6.0	6.4
Sulfate (Dissolved)	mg/L	00946	1,398	1,367	1,320	1,367
Total Dissolved Solids (TDS; 180°C; Dissolved)	mg/L	70300	3,805	3,723	3,600	3,723
Zinc (Dissolved)	ug/L	01090	81	79	76	79

MAPC = Slope * Derived Source Concentration * Distance From ZOA + AGQS

Table 5-8c (Continued)

			MAPCs			
Illinois EPA Well No.			**G195**	**G196**	**G197**	**G198**
Facility Well No.			**G249**	**G250**	**G251**	**G252**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	--------	50	60	41	5
Ammonia (as N; Dissolved)	mg/L	00608	2.100	2.120	2.083	2.010
Arsenic (Dissolved)	ug/L	01000	30	32	28	21
Boron (Dissolved)	ug/L	01020	620	661	583	434
Cadmium (Dissolved)	ug/L	01025	43	43	42	40
Chloride (Dissolved)	mg/L	00941	769.3	769.5	769.2	768.5
Chromium (Dissolved)	ug/L	01030	46.3	46.3	46.3	46.3
Cyanide (Total)	mg/L	00720	0.060	0.064	0.056	0.042
Lead (Dissolved)	ug/L	01049	8	8	7	5
Magnesium (Dissolved)	mg/L	00925	220.8	236.6	206.6	149.7
Mercury (Dissolved)	ug/L	71890	3	3	3	2
Nitrate as N (Dissolved)	mg/L	00618	5.8	6.6	5.2	2.6
Sulfate (Dissolved)	mg/L	00946	1,305	1,382	1,236	958
Total Dissolved Solids (TDS; 180°C; Dissolved)	mg/L	70300	3,559	3,764	3,374	2,636
Zinc (Dissolved)	ug/L	01090	75	80	71	53

Illinois EPA Well No.			**G199**	**G1A0**	**G1A1**	**G1A2**
Facility Well No.			**G253**	**G254**	**G255**	**G256**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	--------	55	63	39	5
Ammonia (as N; Dissolved)	mg/L	00608	2.1	2.1	2.1	2.0
Arsenic (Dissolved)	ug/L	01000	31	33	28	21
Boron (Dissolved)	ug/L	01020	641	674	574	434
Cadmium (Dissolved)	ug/L	01025	43	43	42	40
Chloride (Dissolved)	mg/L	00941	769.4	769.6	769.1	768.5
Chromium (Dissolved)	ug/L	01030	46.3	90.4	46.3	46.3
Cyanide (Total)	mg/L	00720	0.06	0.07	0.06	0.04
Lead (Dissolved)	ug/L	01049	8	8	7	5
Magnesium (Dissolved)	mg/L	00925	228.7	241.4	203.4	149.7
Mercury (Dissolved)	ug/L	71890	3	3	3	2
Nitrate as N (Dissolved)	mg/L	00618	6.2	6.8	5.0	2.6
Sulfate (Dissolved)	mg/L	00946	1,344	1,405	1,220	958
Total Dissolved Solids (TDS; 180°C; Dissolved)	mg/L	70300	3,662	3,826	3,333	2,636
Zinc (Dissolved)	ug/L	01090	78	82	70	53

MAPC = Slope * Derived Source Concentration * Distance From ZOA + AGQS

Table 5-8c (Continued)

			MAPCs			
Illinois EPA Well No.			**G1A3**	**G1A4**	**G1A5**	**G1A6**
Facility Well No.			**G257**	**G1A4**	**G259**	**G1A6**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	-------	22	16.11	30.36	51.15
Ammonia (as N; Dissolved)	mg/L	00608	2.0	2.0	2.1	2.1
Arsenic (Dissolved)	ug/L	01000	24	23	26	30
Boron (Dissolved)	ug/L	01020	504	480	539	625
Cadmium (Dissolved)	ug/L	01025	41	41	42	43
Chloride (Dissolved)	mg/L	00941	768.8	768.7	769.0	769.3
Chromium (Dissolved)	ug/L	01030	46.3	58	68	82
Cyanide (Total)	mg/L	00720	0.05	0.05	0.05	0.06
Lead (Dissolved)	ug/L	01049	6	6	7	8
Magnesium (Dissolved)	mg/L	00925	176.6	167.3	189.8	222.6
Mercury (Dissolved)	ug/L	71890	2	2	3	3
Nitrate as N (Dissolved)	mg/L	00618	3.8	3.4	4.4	5.9
Sulfate (Dissolved)	mg/L	00946	1,089	1,043	1,153	1,314
Total Dissolved Solids (TDS; 180°C; Dissolved)	mg/L	70300	2,984	2,864	3,156	3,583
Zinc (Dissolved)	ug/L	01090	61	58	65	76

Illinois EPA Well No.			**G1A7**	**G1A8**	**G1A9**	**G1B0**
Facility Well No.			**G1A7**	**G1A8**	**G1A9**	**G1B0**
Constituent	Units	**STORET**				
Distance from ZOA	Feet	--------	63.09	49.23	49.98	54.61
Ammonia (as N; Dissolved)	mg/L	00608	2.1	2.1	2.1	2.1
Arsenic (Dissolved)	ug/L	01000	33	30	30	31
Boron (Dissolved)	ug/L	01020	674	617	620	639
Cadmium (Dissolved)	ug/L	01025	43	42	43	43
Chloride (Dissolved)	mg/L	00941	769.6	769.3	769.3	769.4
Chromium (Dissolved)	ug/L	01030	90	81	81	84
Cyanide (Total)	mg/L	00720	0.07	0.06	0.06	0.06
Lead (Dissolved)	ug/L	01049	8	7	8	8
Magnesium (Dissolved)	mg/L	00925	241.5	219.6	220.8	228.1
Mercury (Dissolved)	ug/L	71890	3	3	3	3
Nitrate as N (Dissolved)	mg/L	00618	6.8	5.8	5.8	6.2
Sulfate (Dissolved)	mg/L	00946	1,406	1,299	1,305	1,341
Total Dissolved Solids (TDS; 180°C; Dissolved)	mg/L	70300	3,828	3,543	3,559	3,654
Zinc (Dissolved)	ug/L	01090	82	75	75	77

MAPC = Slope * Derived Source Concentration * Distance From ZOA + AGQS

ATTACHMENT 2
Background Values

Laraway RDF
Illinois EPA Permit No. 1995-313-LFM

Site No. 1970450002
Approved: Log No. 2007-506

FIELD PARAMETERS	Units	STORET	MAPC	AGQS
pH	(S.U.)	00400	5 – 8	5 – 8
Specific Conductance	(µmhos/cm)	00094		
INDICATOR PARAMETERS		**STORETS**	**MAPC**	**AGQS**
Ammonia (as Nitrogen; Dissolved)	mg/L	00608		2.0
Arsenic (Dissolved)	ug/L	01000		20
Boron (Dissolved)	ug/L	01020		413
Cadmium (Dissolved)	ug/L	01025		40
Chloride (Dissolved)	mg/L	00941		768.4
Chromium (Dissolved)	ug/L	01030		46.3
Cyanide (Total)	mg/L	00720		0.04
Iron (Dissolved)	ug/L	01046		5,290
Lead (Dissolved)	ug/L	01049		5
Magnesium (Dissolved)	mg/L	00925		141.8
Manganese (Dissolved)	ug/L	01056		158,080
Mercury (Dissolved)	ug/L	71890		2
Nitrate as N (Dissolved)	mg/L	00618		2.2
Phenols (Total Recoverable)	ug/L	32730		10
Sulfate (Dissolved)	mg/L	00946		919
Total Dissolved Solids (TDS, 180°C; Dissolved)	mg/L	70300		2,533
Total Organic Carbon (TOC; Total)	mg/L	00680		12.21
Zinc (Dissolved)	ug/L	01090		50

UNFILTERED PARAMETERS (totals)	Units	STORET	MAPC	AGQS
Acetone	ug/L	81552	100	100
Acrylonitrile	ug/L	34215	5	5
Alachlor	ug/L	77825	1	1
Aldicarb	ug/L	39053	1.5	1.5
Aldrin	ug/L	39330	0.1	0.1
Aluminum	ug/L	01105	200	200
Ammonia (as N)	mg/L	00610	2	2
Antimony	ug/L	01097	6	6
Arsenic	ug/L	01002	20	20
Atrazine	ug/L	39033	1.5	1.5
Barium	ug/L	01007	110	110
Benzene	ug/L	34030	5	5
Benzo(a)Pyrene	ug/L	34247		0.20
Beryllium	ug/L	01012	4	4
Bis(2-Ethylhexyl)Phthalate	ug/L	39100	50	50
BOD	mg/L	00310	8	8
Boron	ug/L	01022	410	410
Bromobenzene	ug/L	81555	10	10
Bromochloromethane (chlorobromomethane)	ug/L	77297	10	10
Bromodichloromethane	ug/L	32101	5	5
Bromoform (Tribromomethane)	ug/L	32104	5	5
Bromomethane (Methyl Bromide)	ug/L	34413	10	10
n-Butylbenzene	ug/L	77342	10	10
sec-Butylbenzene	ug/L	77350	10	10
tert-Butylbenzene	ug/L	77353	10	10
Cadmium	ug/L	01027	5	5
Calcium	mg/L	00916	288.37	288.37
Carbofuran	ug/L	81405	20	20
Carbon Disulfide	ug/L	77041	5	5
Carbon Tetrachloride	ug/L	32102	5	5
Chemical Oxygen Demand (COD)	mg/L	00335	90.18	90.18
Chlordane	ug/L	39350	1	1
Chloride	mg/L	00940	184.18	184.18
Chlorobenzene	ug/L	34301	5	5

(Continued)

UNFILTERED PARAMETERS (totals)	Units	STORET	MAPC	AGQS
Chloroethane (Ethyl Chloride)	ug/L	34311	10	10
Chloroform (Trichloromethane)	ug/L	32106	5	5
Chloromethane (Methyl Chloride)	ug/L	34418	10	10
o-Chlorotoluene	ug/L	38680	10	10
p-Chlorotoluene	ug/L	77277	10	10
Chromium	ug/L	01034	70	70
Chlorodibromomethane (Dibromochloromethane)	ug/L	32105	5	5
Cobalt	ug/L	01037	70	70
Copper	ug/L	01042	20	20
p-Cresol	ug/L	77146	10	10
Cyanide	mg/L	00720	0.04	0.04
Dalapon	ug/L	38432		1
DDT	ug/L	39300	0.1	0.1
Dibromomethane (Methylene Bromide)	ug/L	77596	10	10
m-Dichlorobenzene (1,3 Dichlorobenzene)	ug/L	34566	10	10
o-Dichlorobenzene (1,2 Dichlorobenzene)	ug/L	34536	10	10
p-Dichlorobenzene (1,4 Dichlorobenzene)	ug/L	34571	10	10
Dichlorodifluoromethane	ug/L	34668	10	10
Dichloromethane (Methylene Chloride)	ug/L	34423	5	5
Dieldrin	ug/L	39380	10	10
Dinoseb (DNBP)	ug/L	81287		1
Endothall	ug/L	38926		100
Endrin	ug/L	39390	1	1
Ethylbenzene	ug/L	78113	5	5
Ethylene Dibromide (EDB) (1,2-Dibromo ethane)	ug/L	77651	10	10
Fluoride	mg/L	00951	0.45	0.45
Heptachlor	ug/L	39410	0.2	0.2

(Continued)

UNFILTERED PARAMETERS (totals)	Units	STORET	MAPC	AGQS
Heptachlor Epoxide	ug/L	39420	0.1	0.1
Hexachlorobutadiene	ug/L	39702	10	10
Hexachlorcyclopentadiene	ug/L	34386		50
Iron	ug/L	01045	5,290	5,290
Iodomethane (Methyl Iodide)	ug/L	77424	1	1
Isopropylbenzene	ug/L	77223	10	10
p-Isopropyltoluene	ug/L	77356	10	10
Lead	ug/L	01051	5	5
Lindane	ug/L	39782	0.1	0.1
Magnesium	mg/L	00927	158.08	158.08
Manganese	ug/L	01055	120	120
Mercury	ug/L	71900	2	2
Methoxyclor	ug/L	39480	10	10
Naphthalene	ug/L	34696	200	200
Nickel	ug/L	01067	40	40
Nitrate-Nitrogen	mg/L	00620	7.27	7.27
Oil Hexane Soluble or Equivalent	mg/L	00552	6,000	6,000
Parathion	ug/L	39540	10	10
Pentachlorophenol	ug/L	39032	50	50
Phenols	ug/L	32730	10	10
Picloram	ug/L	39720		1
Polychlorinated Biphenyls	ug/L	39516	1	1
Potassium	mg/L	00937	5	5
n-Propylbenzene	ug/L	77224	10	10
Selenium	ug/L	01147	20	20
Silver	ug/L	01077	25	25
Simazine	ug/L	39055		4
Sodium	mg/L	00929	343.59	343.59
Styrene	ug/L	77128	5	5
Sulfate	mg/L	00945	771.01	771.01
TOC	mg/L	00680	12.21	12.21
Tetrachloroethylene (Perchloroethylene)	ug/L	34475	2.5	2.5
Tetrahydrofuran	ug/L	81607	40	40
Thallium	ug/L	01059	2	2
Toluene	ug/L	34010	5	5

(Continued)

UNFILTERED PARAMETERS (totals)	Units	STORET	MAPC	AGQS
Toxaphene	ug/L	39400	2	2
Trichloroethylene (Trichloroethene)	ug/L	39180	2.5	2.5
Trichlorofluoromethane	ug/L	34488	10	10
Vanadium	ug/L	01087	80	80
Vinyl Acetate	ug/L	77057	5	5
Vinyl Chloride	ug/L	39175	2	2
Xylenes	ug/L	81551	10	10
m-p Xylene	ug/L	61283	10	10
o-Xylene	ug/L	77135	10	10
Zinc	ug/L	01092	50	50
1,1,1,2-Tetrachloroethane	ug/L	77562	5	5
1,1,1-Trichloroethane (Methylchloroform)	ug/L	34506	5	5
1,1,2,2-Tetrachloroethane	ug/L	34516	5	5
1,1,2-Trichloroethane	ug/L	34511	5	5
1,1-Dichloroethane	ug/L	34496	5	5
1,1-Dichloroethylene	ug/L	34501	5	5
1,1-Dichloropropene	ug/L	77168	10	10
1,2,3-Trichlorobenzene	ug/L	77613	10	10
1,2,3-Trichloropropane	ug/L	77443	10	10
1,2,4-Trichlorobenzene	ug/L	34551	10	10
1,2,4-Trimethylbenzene	ug/L	77222	10	10
1,2-Dibromo-3-Chloropropane (DBCP)	ug/L	38760	10	10
Trans-1,4-Dichloro-2-Butene	ug/L	73547	5	5
cis-1,2-Dichloroethylene	ug/L	77093	10	10
trans-1,2-Dichloroethylene	ug/L	34546	10	10
1,2-Dichloroethane	ug/L	34531	5	5
1,2-Dichloropropane (Propylene Dichloride)	ug/L	34541	5	5
1,3,5-Trimethylbenzene	ug/L	77226	10	10
1,3-Dichloropropane	ug/L	77173	10	10
1,3-Dichloropropene	ug/L	34561	5	5
cis-1,3-Dichloropropene	ug/L	34704	1	1
trans-1,3-Dichloropropene	ug/L	34699	1	1
2,2-Dichloropropane	ug/L	77170	10	10

(Continued)

UNFILTERED PARAMETERS (totals)	Units	STORET	MAPC	AGQS
2,4,5-TP (Silvex)	ug/L	39760	2	2
2,4-Dichlorophenoxyacetic Acid (2,4-D)	ug/L	39730	10	10
2-Butanone (Methyl Ethyl Ketone)	ug/L	81595	100	100
2-Hexanone (Methyl Butyl Ketone)	ug/L	77103	50	50
2-Propanol	ug/L	81310	1,000	1,000
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ug/L	78133	50	50
1-Propanol	ug/L	77018	1,000	1,000

ATTACHMENT 3

40 CFR 258 Appendix II and 35 IAC 620.410 reduced list for Assessment Monitoring.

Laraway RDF
IEPA Permit No. 1995-313-LFM

Site No. 1970450002
Approved: Log No. 2007-410, B-141R, and B-141R-M-121

1,1-Dichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
1,2-Dichloroethene
1,2-Dichloropropane
2,4,5-TP(Silvex)
2,4-D
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
2-Chlorophenol
2-Hexanone
2-Methylphenol
3,3'-Dichlorobenzidine
3-Methylphenol(m-cresol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
4,6-Dinitro-2-Methylphenol
4-Bromophenyl phenyl ether
4-Chlorophenyl phenyl ether
4-Methylphenol(p-cresol)
4-Nitrophenol
Acenaphthene
Acetone
Aldrin
Anthracene
Atrazine
Benzene
Benzo[a]anthracene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
o-Xylene
Beryllium
Bea-BHC
bis(2-Chloroethoxy)methane
BIS(2-CHLOROISOPROPYL)ETHER
Bis(2-ethylhexyl)phthalate
Bromomethane
Carbon Disulfide
Chlorobenzene
Chloroethane
Chloromethane
Chrysene
cresols (mixed isomers)
Delta-BHC
Dibenz(a,h)anthracene
Cis-1,2-Dichloroethene
Dibutylphthalate
Dieldrin
Diethyl phthalate
Dimethylphthalate
Di-n-octyl phthalate
Endosulfan I
Endrin
Ethyl Benzene
Fluoranthene
Fluorene
gamma-BHC (Lindane)
Heptachlor
Heptachlor Epoxide
Hexachlorobenzene
Indeno(1,2,3-cd)pyrene
Iodomethane
Lasso
m,p-Xylenes
Methyl Ethyl Ketone
Methylene Chloride
Methyl Tertiary-Butyl Ether (MTBE)
Naphthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
Pentachlorophenol
Phenanthrene
Pyrene
Toluene
Trichloroethylene
Vinyl Chloride
Xylenes(Total)
Antimony
Arsenic
Barium
Boron
Cadmium
Chloride
Chromium
Cobalt
Copper
Cyanide
Fluoride
Iron
Lead
Manganese
Mercury
Nitrate as N
Nickel
pH
Phenols
Selenium
Silver
Sulfate
Thallium
Total Dissolved Solids
Tritium
Vanadium
Zinc

ATTACHMENT 4: Intrawell Background Values

Laraway RDF
Illinois EPA Permit No. 1995-313-LFM

Site No. 1970450002

Constituent	Units	STORET	R173 (R173)	G174 (G228)	G175 (G229)	G176 (G230)
Total Calcium	mg/L	00916	--	382.43	--	1,121.23
Dissolved Magnesium	mg/L	00925	159.84	1,176	743	715.24
Total Magnesium	mg/L	00927	--	431.03	317.92	--
Dissolved Sulfate	mg/L	00946	--	4,745	3,772	4,603.76
Total Sulfate	mg/L	00945	--	1,881.67	2,876.2	4,843.42
Total Dissolved Solids	mg/L	70300	--	8,777	5,200	8,130.70

Constituent	Units	STORET	G177 (G231)	G186 (G240)	G187 (G241)	G188 (G242)
Total Calcium	mg/L	00916	--	--	--	--
Dissolved Magnesium	mg/L	00925	--	300	213	311
Total Magnesium	mg/L	00927	173.45	--	--	--
Dissolved Sulfate	mg/L	00946	--	2,254	1,290	1,764
Total Sulfate	mg/L	00945	--	--	--	--
Total Dissolved Solids	mg/L	70300	--	3,621	2,570	4,983.6

Constituent	Units	STORET	G189 (G243)	G190 (G244)	G191 (G245)	G192 (G246)
Total Calcium	mg/L	00916	--	--	--	--
Dissolved Magnesium	mg/L	00925	199	274.68	547.11	722.73
Total Magnesium	mg/L	00927	--	--	--	--
Dissolved Sulfate	mg/L	00946	--	1,141.15	2,764.71	3,969.51
Total Sulfate	mg/L	00945	--	--	--	--
Total Dissolved Solids	mg/L	70300	--	2,115.63	4,123.66	4,863.52

Constituent	Units	STORET	G193 (G247)	G194 (G248)	G195 (G249)	G196 (G250)
Total Calcium	mg/L	00916	--	--	--	--
Dissolved Magnesium	mg/L	00925	211.77	161.16	108.20	123.40
Total Magnesium	mg/L	00927	--	--	--	--
Dissolved Sulfate	mg/L	00946	912.55	836.72 7	05.45	647.99
Total Sulfate	mg/L	00945	--	--	--	--
Total Dissolved Solids	mg/L	70300	1,972.65	1,261.11	1,060.61	976.40

Section V: CORRECTIVE ACTION FOR SWMUs

A. INTRODUCTION

1. In accordance with Section 3004(u) of RCRA and 35 IAC 724.201, the Permittee shall institute such corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous constituents, listed in 35 IAC Part 721 Appendix H, from any SWMU at its facility near Joliet, Illinois.

2. This facility was initially issued a RCRA Permit by USEPA and Illinois EPA which became effective November 3, 1989. The USEPA portion of the Permit (also known as "HSWA Permit"), contained, among other things, corrective action requirements for two SWMUs (Ponds 1 through 4 and the Land Treatment Unit).

3. An RFI has been completed for the two SWMUs identified in the original Permit, with a third SWMU, known as the "Inactive Landfill Area". USEPA determined that, based on the results of the RFI, no corrective action was necessary at these three SWMUs. This determination was documented in a March 4, 1993, permit modification.

4. The Permittee has conducted investigative efforts at two other areas within the facility in response to contamination encountered during post-closure activities near the former hazardous waste landfill. These areas are: (1) SWMU 1 (or South SWMU); and (2) SWMU 2 (or North SWMU). Further investigation/remediation of these units is to be carried out in accordance with the provisions of this section of this Permit.

   a. The South SWMU is located near Wells R-144 and G-160. It is an area suspected to be contaminated by spills associated with drum handling activities in the 1970s.

   b. The North SWMU is suspected to be the former location of an underground oil storage tank.

5. Illinois EPA now has authority for imposing corrective action requirements at RCRA permitted facilities and thus will now be responsible for overseeing future corrective action activities at this facility as part of the requirements in this modified RCRA Permit.

6. The Laraway facility includes two piles (or stacks) of phosphogypsum material (referred to the North Stack and South Stack) and related surface water management system. This phosphogypsum material is a by-product of the production of phosphoric acid carried out at the former Olin facility located northeast of these piles. This section of the Permit set forth requirements which the Permittee must carry out to complete corrective action of the North Stack and South Stack and their associated surface water management systems.

7. The Olin ponds were purchased by Waste Management on August 8, 2020, per the quit claim deed, which resulted in an additional three SWMUs which requires the RCRA corrective action at the facility. The facility intends to develop this area as part of the proposed MSWLF as described in Section III of the Permit. The facility must conduct and complete corrective action prior to development of this area.

8. Unless there is a desire to modify specific requirements set forth in this Section, information submitted to Illinois EPA regarding the corrective action requirements set forth in this Section is not a request to modify this Permit nor subject to the requirements of 35 IAC 703, Subpart G.

    a. A completed Illinois EPA RCRA Corrective Action Certification form (available on Illinois EPA's website) must accompany all corrective action-related information submitted to Illinois EPA.

    b. To allow for proper review of all corrective action-related information submitted to Illinois EPA, one original and two copies of the information must be submitted.

9. The Permittee must provide corrective action, as appropriate, for any future releases from SWMUs present at the facility.

10. The requirements of 35 IAC Part 742 must be met in determining remediation objectives for all corrective action activities.

B. OVERVIEW OF SWMUs ADDRESSED UNDER THE ORIGINAL RCRA PERMIT

A total of five SWMUs have been addressed during the RCRA corrective action activities under the original RCRA Permit issued for the Laraway facility: A brief description of each of these SWMUs follows:

1. Land Treatment Unit The land treatment unit (also known as the land farming area) was located on approximately 25-acres in the eastern portion of the site. The land farming operation consisted of applying sludgy, oily waste materials to the land surface followed by shallow disking of the waste-treated soil. The nature of land farming confines the operation to the top several inches of soil. No special construction or engineering was performed to create the landform, however, a permit application indicated that short berms were constructed around the application area to prevent runoff during application. Land farming was limited to the warmer summer months and occurred from 1974 through May 1979. This unit was investigated under the oversight of USEPA in accordance with the corrective action requirements of the facility's original RCRA Permit. Based on the results of this investigation, USEPA determined no further corrective action was necessary at this unit in a March 4, 1993, permit modification.

2. Ponds 1 Through 4 Ponds 1 through 4, built between 1973 and 1978, were constructed using clay from the site. The center portion of each pond was excavated. The excavated soils were placed around the periphery of each pond and compacted. It was in this manner that the walls of the ponds were formed. The ponds were approximately 10 feet to 12 feet deep. The approximate measurements of the ponds are as follows:

Pond -- 270 feet x 70 feet	Pond -- 260 feet x 80 feet
Pond -- 260 feet x 80 feet	Pond -- 280 feet x 80 feet

Use of the ponds generally coincided with land farming activities. When weather conditions for land farming were unsuitable, the ponds were used to store waste. Waste materials were accepted into the ponds year-round.

These ponds were investigated under the oversight of USEPA in accordance with the corrective action requirements of the facility's original RCRA Permit. Based on the results of this investigation, USEPA determined no further corrective action was necessary at these ponds in a March 4, 1993, permit modification.

3. Inactive Landfill Approximately 27,000 cubic yards of refuse were removed from the trench from February 12 to March 3, 1991. The material which was classified as non-hazardous was placed in Area 1 of the landfill unit on site. Potentially hazardous material such as drums, were removed, placed in overpacks, staged, and sampled.

   Following excavation of the refuse trench, a grid was established over the footprint of the refuse trench. The excavation was divided into four quadrants. Soil samples were acquired from the center of each quadrant as well as the center of the excavation. These five samples were identified as RFTR-1 through RFTR-5. Three groundwater monitoring wells (G-224, G225, and G226) were also installed as part of the RFI activities in July of 1990. This unit was investigated under the oversight of USEPA in accordance with the corrective action requirements of the facility's original RCRA Permit. Based on the results of this investigation, USEPA determined no further corrective action was necessary at this unit in a March 4, 1993, permit modification.

4. SWMU No. 1 - (also known as South SWM) - The contaminated soil present at this unit is suspected to have resulted from spills associated with the handling of drums handling procedures during the operation of Trenches 7, 8, and 9 within Area 1 of the RCRA landfill unit. This contamination is near well R-144 and was discovered during the installation of Well G-160. The facility has completed the investigation of the South SWMU and determined the vertical and horizontal extent of the contaminated soil area. The extent of the contaminated area has been determined to be generally under the existing haul road adjacent to the south side of Area 1.

5. SWMU No. 2 - (also known as North SWM) - An underground oil storage tank removed in the mid-1980s was once present at this location and is suspected to be the source of contaminated soil found here. The facility has completed the investigation of the North SWMU and has determined that the vertical and horizontal extent of the contaminated soil area of the North SWMU is contained within the upper clay above the aquifer.

C. CHRONOLOGY OF CORRECTIVE ACTION EFFORTS UNDER ORIGINAL PERMIT

The following is a brief chronological history of pertinent corrective action activities carried out under the provisions of the original RCRA Permit issued to the Laraway facility:

1. A joint RCRA Permit for the Laraway facility was issued by USEPA and Illinois EPA on September 29, 1989, and was effective on November 3, 1989. This Permit required the facility to, among other things: (1) provide post-closure care for a closed landfill (with oversight from Illinois EPA); and (2) conduct corrective action on the SWMUs of concern at the facility (with oversight from USEPA). The Permittee was required to submit to the USEPA within 120 days after the effective date of the RCRA Permit a written RCRA Facility Investigation (RFI) Phase I Workplan to document the absence or presence of hazardous waste or hazardous constituents in the groundwater, surface water, sediments, soils, and air from the following SWMUs:

    a) Ponds 1 through 4;

    b) The old land farming area.

2. An RFI Workplan for this facility was submitted to the USEPA on March 8, 1990. This workplan focused on the 2 SWMUs identified in the Permit and an additional SWMU known as the inactive landfill.

3. The USEPA approved the RFI Workplan on October 18, 1990, for Ponds 1 through 4, the old land farming area and the inactive landfill.

4. The USEPA received the Final RFI Report on July 23, 1992. The final RFI report details the investigations results with respect to the three afore-mentioned SWMUs. A series of subsurface soil samples were taken and analyzed for all three SWMUs. Three wells were also installed downgradient of the surface impoundments to determine if any hazardous constituents from the impoundments were being released into the groundwater. Based on these investigations, the report concludes that there are no continuing releases of hazardous constituents and no further corrective action activity is necessary.

5. The USEPA reviewed the Final RFI report for Ponds 1 through 4, the old land farming area, the inactive landfill and agreed with the conclusions made it. They issued a public notice to end corrective action as a permit modification on December 4, 1992, and then issued a final permit modification to end corrective action at this facility on March 4, 1993.

6. Illinois EPA's letter of April 18, 1994, approved an investigation workplan for a unit known as "SWMU No. 1", which was contaminated soil in the vicinity of wells R-144 and G-169. This contamination was discovered during the installation of G-160. The Illinois EPA reissued the letter of April 18, 1994, on August 10, 1994, to include the use of a backhoe to collect soil samples. The purpose of this investigation was to determine the vertical and horizontal extent of contamination discovered in the vicinity of groundwater monitoring wells R-144 and G-160.

7. Laraway proposed to replace groundwater monitoring well R144 (on September 30, 1999) as part of its application to renew the RCRA Permit.

8. Laraway proposed to install a final cover over SWMU 1 in a July 20, 2000, submittal by Francis R. Lewis.

9. A July 20, 2000, submittal from Mr. Lewis also identified a new SWMU as being present at the facility. This SWMU is referred to as "SWMU 2" and is the location of a former underground storage tank. WMI proposed to extend the final cover system of the closed landfill over this area.

D. ADDITIONAL CORRECTIVE ACTION NEEDED FOR THE NORTH SWMU AND SOUTH SWMU

1. The Permittee must conduct additional investigation efforts as part of a Supplemental RCRA Facility Investigation (RFI) at the North SWMU to determine the nature and extent of releases of hazardous wastes and hazardous constituents detected during the initial investigation efforts conducted at this unit. A plan to conduct this investigation was approved by Illinois EPA on July 5, 2011.

2. Procedures for developing these remediation objectives must meet the requirements of 35 IAC Part 742.

3. For certain SWMUs, it may not be appropriate to establish final target soil levels. This will be the case for those SWMUs where the selected corrective action is capping of the area followed by long-term monitoring.

4. If it is determined that corrective measures must be taken in response to releases from the North SWMU, then the Permittee shall implement a Corrective Measures Program for the SWMU 2. The proposed corrective measures must meet the requirements of 35 IAC 724.201 to be sufficient to protect human health and the environment from the observed release.

5. The Permittee must conduct corrective measures at the SWMU 1. While the Permittee has already proposed a conceptual corrective measure program for this SWMU, detailed plans and specifications for the program has not been submitted to Illinois EPA. The first step in the Corrective Measures Program for the South SWMU is the development of a Corrective Measures Workplan which Illinois EPA approved on July 5, 2011; Corrective Measures for SWMU 1 must be carried out in accordance with this letter.

E. GENERAL REQUIREMENTS FOR THE CORRECTIVE ACTION EFFORTS AT THE NORTH STACK AND THE SOUTH STACK

1. The Permittee shall designate an independent third-party contractor as the Project Officer who shall personally direct and be present for the execution of all tasks associated with the corrective action efforts described in this Section. The Project Officer shall be a qualified Illinois licensed Professional Engineer who is independent from and not under the control of influence of the operator, any employee of the Permittee, or any other corporation, company or legal entity that is a subsidiary, affiliate, parent corporation or holding corporation associated with the Permittee.

2. The Project Officer shall be responsible for ensuring implementation of an achievement of the plans and specifications in the approved corrective action efforts. The Project Officer may utilize one or more project managers who are under his/her direct oversight in carrying out these responsibilities. The Project Officer shall develop reports each day summarizing the work completed that day. These reports must, for that day, include:

   a. The date the work occurred.

   b. A summary of weather conditions.

c. Identification of each area within the facility where work occurred, including diagrams and references to the interior horizontal and vertical control system identified in Condition V.E.9 below.

d. A description of the work carried out in each area.

e. Identification of the equipment and personnel working in each area identified above.

f. Photographs, as appropriate, to document the progress and acceptability of the work.

g. Results of all construction monitoring and quality control/quality control inspections efforts carried out to ensure the work meets the requirements of this Permit (including location where these inspections occurred; the type of inspection; the inspection procedure used; and the name of the person(s) conducting the inspections).

h. A description of any problems, incidents, etc. which occurred.

i. Notes from the various project managers documenting the above information regarding the tasks they are overseeing.

A copy of this report must be placed in the operating record for this project.

3. Issuance of this Permit does not relieve the Permittee of the responsibility of complying the provisions of 35 IAC Subtitle B (Air Pollution Control) or Subtitle C (Water Pollution Control).

4. All discharges of runoff from disturbed areas to Waters of the State must meet the requirements of 35 IAC Parts 304 and 309.

5. All surface water control structures shall be operated, as necessary, until the final cover is in place over the entire South Stack and the proper erosional stability has been established through a vegetative cover.

6. All discharge and diversion structures shall be designed to have flow velocities that will not cause erosion or scouring of the natural or constructed lining of the structures themselves or the receiving stream channel.

7. All surface water management structures must be inspected on a quarterly basis. Repairs must be made, as necessary in response to erosion problems.

8. Proper steps must be taken to minimize the generation of fugitive dust during corrective action efforts at the North and South Stacks. Appropriate corrective measures must be taken if fugitive dust becomes a problem.

9. A horizontal and vertical control system must be established by a professional land surveyor. This system must consist of stakes and monuments which:

   a. Define the boundaries of the property;

   b. Define the boundaries of the final landform for the South Stack, as established by the siting approval from the Will County Board; and

   c. Include a series of interior stakes and monuments to establish a horizontal and vertical grid system which can be used in documenting and monitoring corrective action efforts at both the North Stack and South Stack.

10. All stakes and monuments associated with the system above must be:

    a. Clearly marked for identification;

    b. Inspected annually for damage (and then repaired if needed by a professional land surveyor); and

    c. Re-evaluated and resurveyed by a professional land surveyor once every five years (stakes/monuments found to be inaccurate must be replaced).

11. The requirements of 29 CFR 1910.120 and 1926 must be met during these corrective action efforts. An appropriate program must be developed and implemented to ensure no unacceptable levels of radon, radium, uranium, gross alpha, or gross beta in the air are generated during this project.

12. Subsections IV.F and IV.G of this Permit contains the requirements related to the "physical" corrective action efforts to be carried out at the North Stack and South Stack areas.

F. CORRECTIVE ACTION REQUIREMENTS FOR THE NORTH STACK

1. The North Stack is approximately 23 acres in size. It was constructed in the mid-1950s by placing an earthen dike across a broad drainageway. Phosphogypsum was placed behind the dike from approximately 1955 to 1961. Soil was subsequently placed over the material. Additional soil was subsequently placed in scattered piles/mounds in the eastern portion of the Stack. It is estimated that approximately 350,000 cubic yards of phosphogypsum and 280,000 cubic yards of soil were present in the North Stack.

2. The procedures for carrying out corrective action at the North Stack are set forth in Section 7.0 of the approved permit application.

3. Removal of the sediments and any contaminated soil from the "moat" and the Return Water Pond must be carried out in accordance with the approved permit application and the general provisions of this subsection.

4. Soil once present on top of the North Stack may be stockpiled for future use. In removing this soil from the top of the stack, care must be taken to ensure no phosphogypsum is mixed with this soil.

5. The phosphogypsum and associated contaminated soil will be removed from this unit and placed: (1) on the South Stack; or (2) if necessary, in the Solid Waste Unit Expansion. The requirements set forth in 40 CFR 61 Subpart R and any other applicable air pollution regulations must be met in carrying out this effort.

6. Surface water management during the corrective action effort at the North Stack shall be carried out in accordance with the procedures set forth in Section 7.6.2 of the approved permit application.

    a. All surface water coming into contact with the phosphogypsum must be collected and routed to the South Stack Moat or Return Water Pond.

    b. Surface water in the area that does not come into contact with phosphogypsum material may be handled as run-off from any other construction project.

    c. During the corrective action effort, run-on to the North Stack area must be directed around the stack through the use of diversion berms and channels.

d. Permits must be obtained, as appropriate, and the applicable regulations must be complied with regarding surface water management and discharge during this project.

7. On July 12, 2011, Illinois EPA approved a report documenting the removal of the vast majority of the phosphogypsum material and associated contaminated soil at the North Stack. This letter also sets forth the procedures for completing the removal effort at this unit.

8. Currently, the approved corrective action for groundwater contamination associated with the North Stack consists of a six stage implementation of a groundwater interceptor trench downgradient of the North Stack and an engineered wetland to treat contaminated groundwater collected from the interceptor trench. Prior to detailed design and installation of the groundwater interceptor trench and engineered wetland, the Permittee shall establish groundwater area background concentrations for the Former North Stack using upgradient monitoring wells G105, G109, and G168 identified in Condition VI.2. In establishing the Former North Stack groundwater area background concentrations:

a. Wells listed in Condition VI. 2 shall be sampled on a quarterly basis for a minimum of four consecutive quarters (i.e., Fourth Quarter 2011 through Third Quarter 2012).

b. The wells shall be sampled for the parameters identified in Conditions VI.2.a and VI.2.b from the Fourth Quarter 2011 through the Third Quarter 2012.

c. Area background groundwater concentrations shall be established for constituents listed in Condition VI.2.b List 2. When establishing groundwater area background concentrations for the North Stack, the procedures of 35 IAC 742, Subpart D, shall be followed.

d. On or before August 15, 2018, the Permittee shall submit a Title 35 IAC Part 742 evaluation for groundwater that includes, but is not limited to, the following:

i. A comparison of the downgradient groundwater sampling results to the North Stack groundwater area background concentrations and the 35 IAC Part 742 (TACO), Tier 1, Class I Groundwater Remediation Objectives (GROs) where applicable;

ii. Isoconcentration maps for each contaminant exceeding applicable Tier 1 GROs;

iii. Recent potentiometric maps of groundwater in the vicinity of the North Stack;

iv. Trend analysis of contaminants that exceed applicable Tier 1 GROs;

v. Tier 2 or Tier 3 (if appropriate) evaluation for groundwater constituents that exceed applicable Tier 1 GROs;

vi. A recommendation for further activities in the event the downgradient groundwater concentrations cannot meet the applicable GROs at the nearest point of human exposure; and

vii. The report shall also include a completed Illinois EPA RCRA Corrective Action Certification Form.

e. Based upon the Illinois EPA's review of the information submitted as required by Condition V.F.8.d, the groundwater interceptor trench and engineered wetland may be deemed unnecessary. In the event the interceptor trench and engineered wetlands are deemed necessary, the following conditions apply:

i. Within 180 days of the Illinois EPAs response to the report required by Condition V.F.8.d, above the facility must submit a detailed design report for the final trench system and treatment wetland. The design report must be submitted as a request to modify the Corrective Action Portion of the Permit.

ii. All construction efforts associated with the interceptor trench and the engineered wetland must be included in the report required by Condition V.F.9 below.

iii. The facility must obtain appropriate permit(s) from the Illinois EPA Bureau of Water and provide notification of acquiring those permits to the Illinois EPA Bureau of Land Permit Section before construction of the wetland can begin.

iv. If installed, the remediation wetland must be operated in accordance with the requirements of any permit issued by the Illinois EPA Bureau of Water.

v. Groundwater at the North Stack must be monitored in accordance with the requirements of Section VI to the Permit.

9. A report must be submitted to Illinois EPA by March 1 of each year describing the corrective action efforts completed during the previous calendar year (i.e., January to December).

G. CORRECTIVE ACTION FOR THE SOUTH STACK

Currently, the South Stack is approximately 175 acres in size. The top of the stack is relatively flat, is approximately 100 acres in size, and is approximately 80 feet above the surrounding ground surface. The stack is uncovered and sits on at least 20 feet of fine-grained glacial deposits which overlie the bedrock. The side-slope of the stack consists of an upper portion and a lower portion, separated by a mid-level bench.

Run-off from the stack and any water discharging from around the perimeter of the stack flows into a ditch (referred to as the "moat") which surrounds the stack and which conveys this water to the Return Water Pond. The water accumulating in the Return Water Pond is pumped to the Olin wastewater treatment plant for treatment before being discharged via an NPDES permit.

a. In general, the approved corrective action for the South Stack provides for proper closure and post-closure of the stack and includes:

a. Improving the management of precipitation and surface water at the unit;

b. Minimizing the amount of precipitation percolating into the stack by establishing a final cover system over the stack;

c. Placing certain soils over the stack, as appropriate, to provide for acceptable contours for the final cover system to be placed over the stack. The soils which can be used include:

(1) Uncontaminated soils;

(2) Certain contaminated soils that have been bioremediated in accordance with Permit No. 2001-108-DE/OP and all associated supplemental permits (the most recent supplemental permit is Supplemental Permit No. 2011-506-SP dated January 19, 2012) and met the treatment standards set forth in these permits. The types of soils that can be bioremediated under this permit are: soil contaminated with petroleum hydrocarbons; coal-based hydrocarbon contaminated soil (i.e., from former manufactured gas plants); polynuclear aromatic hydrocarbon contaminated soils and chlorinated phenol contaminated soils;

(3) The four types of soil mentioned in Condition V.G.2.c(2) which already meet the treatment standards set forth in Permit No. 2001-108-DE/OP and associated supplemental permits;

(4) During construction of the South Stack final landform, any rock, concrete, brick, or asphalt in soils may be left in place. However, any soils that are placed within the last one-foot increment of the south stack landform grades will not contain any of these materials that are larger than 10 inches in size.

The Permittee may carry out soil biotreatment on the top of the South Stack in places where a 60-mil geomembrane is present over the stack and which is turn is covered by 18 inches of cover soils and an additional one-foot of soils. These activities must also be carried out in accordance with Permit No. 2001-108-DE/OP and all associated modifications.

d. Providing post-closure care of the final cover; and

e. Monitoring the groundwater during the time the afore-mentioned tasks are being carried out, including the post-closure care period.

b. An estimated schedule for completing the physical corrective action efforts at the South Stack is set forth in Section 8.2 of the approved permit application. It is understood the "2010" in the schedule is the first year that a full construction season is available for the project. It is estimated that it will take approximately 23 years to complete closure of the South Stack.

c. The closure efforts at the South Stack (except groundwater monitoring) are described in detail in Section 8 of the approved permit application, revised July 2008, and will consist of the following tasks (it must be noted that several of these tasks may be going on simultaneously in various portions of the stack).

a. Placement of phosphogypsum from the North Stack on top of the stack;

b. Placement of a 60-mil geomembrane and an overlying 18-inch protective bioremediated soil cover on the top portion of the stack (approximately 100-110 acres in size) to prevent further infiltration of surface water into the stack (this effort will be completed in two phases);

c. Construction/operation of an interim surface water management system;

d. Placement of a minimum three-foot thick interim bioremediated or uncontaminated soil cover on the upper slope, mid-level bench, and lower slope of the stack;

e. Placement of bioremediated or uncontaminated soil over the stack to construct the final landform (approximately 200 acres in size) which will then receive a final cover;

f. Installation of a sideslope drain around the perimeter of the stack to collect/enhance drainage of any water in the stack (this installation will occur prior to placement of the lower slope interim cover system);

g. Installation of a forcemain to convey collected seepage from the sideslope drain to the return water pond and the Olin wastewater treatment facility (at some time during the project, the return water pond will be converted to a sedimentation basin and modifications will be made to the forcemain so that the return water pond is by-passed.

h. Removal of any phosphogypsum sediments from the "moat", followed by preparation of the former moat for anticipated final use (may include bringing a portion of the moat to surrounding grade or use of a portion of the moat as part of the final surface water management system).

i. Eventual conversion of the Return Water Pond into a sedimentation basin, starting with removal of any remaining seepage water and any phosphogypsum contaminated sediment;

j. Placement of a final cover system two-feet of compacted low permeability soil and one-foot of vegetative support material over the completed landform).

k. Construction/operation of the final surface water management system.

d. Section 8.3.3 of the application describes the surface water management system which will be implemented from the time that corrective action first begins at the South Stack until such time as a final cover system is established over the entire landform. This interim surface water management system must provide for the routing of all water from uncovered areas of the stack to the Return Pond (via the "moat") and then to the Olin wastewater treatment plan. Surface water from all areas which have received a minimum of 18 inches of bioremediated or uncontaminated soil may be directed to the various sedimentation basins associated with this interim system.

Discharge of any water from these interim sedimentation basins must be carried out in accordance with an NPDES permit issued by Illinois EPA Bureau of Water.

a. Storm water from the covered portions of the top slope will be directed to the "Top Slope Interim Sedimentation Basin" which will in turn discharge to the Southwest Basin via an 18-inch above-ground pipe.

b. Storm water from the covered portions of the upper slope and mid-level bench will be directed to a sedimentation basin constructed on the mid-level bench. This basin will be lined with a geomembrane and will discharge via an 18 inch above-ground pipe to the Southwest Basin.

c. Storm water from the covered portions of the lower slope will flow to one of three interim sedimentation basins (the Northwest basin, the Southeast basin, and the South basin).

d. Portions of the "moat" may be used to convey surface water to a sedimentation basin only after all phosphogypsum has been removed from that reach of the "moat."

e. Section 8.3.8 of the original permit application describes the surface water management program for the finally covered landform. This program consists of diversion berms, downslope channels, energy dissipators, perimeter channels, culverts, and four sedimentation basins. Details of this system are contained in Drawings 24 and 28 of the original permit application and in the permit application assigned a Log No. of B-141R-M-100 by the Illinois EPA. The four sedimentation basins are referred to as the North Basin, the South Basin, the Northwest Basin (which will include a portion of the former Return Pond) and the Southwest Basin. Any discharge from these sedimentation basins must be carried out in accordance with NPDES permits issued by the Illinois EPA.

f. All interim or final sedimentation basins located around the perimeter of the stack must be constructed, operated, and maintained such that erosion of the banks of the basins is minimized.

g. Sediments removed from the Return Pond or "moat" may be placed on the South Stack provided: (1) it is placed under the interim cover and final cover system approved herein; and (2) the area is properly graded and vegetated to allow for proper surface water runoff.

h. The facility shall be operated such the level of noise audible outside the facility does not cause or contribute to a violation of 35 IAC Parts 900-905 or Section 24 of the Act.

i. The Quality Assurance/Quality Control Plan set forth in Appendix K of the application must be followed during all aspects of this project.

j. Once the final cover system has been established over the entire landform, quarterly inspections of the closed landform and associated sedimentation pond must be conducted:

    a. All rills, gullies, and crevices six inches or deeper identified in the inspection shall be filled and seeded. Areas identified by the Permittee or the Illinois EPA as particularly susceptible to erosion shall be recontoured.

    b. All eroded and scoured drainage channels shall be repaired (including replacement of lining material, as necessary).

    c. All holes and depressions created by settling shall be filled, re-vegetated, and recontoured so as to prevent standing water

d. All areas with failed or eroded vegetation in excess of 100 square feet shall be re-vegetated.

e. The drainage system around the perimeter of the landfill must be inspected to ensure it is operating properly.

f. All appurtenances associated with the sedimentation ponds must be inspected to ensure they are operating properly.

k. Post-closure use of this facility must not disturb the integrity of the final cover of the landfill or the drainage system installed around the perimeter of the landfill, unless: (1) necessary to comply with the requirement of this Permit; or (2) such disturbances are first approved by Illinois EPA.

l. A report must be submitted to Illinois EPA by March 1 of each year containing the following information:

a. Those areas of the stack which received interim cover during the previous calendar year;

b. The components of the interim or final surface water management system constructed during the previous calendar year;

c. The components of the sideslope drain and associated forcemain system installed during the previous calendar year for the management of liquid flowing from the stack and the status of the overall system used to manage this liquid;

d. Those areas which received bioremediated or uncontaminated soil during the previous calendar year beyond that needed for the interim cover and the approximate thickness of bioremediated or uncontaminated soil placed in these areas;

e. Those areas, if any, which received final cover during the previous calendar year;

f. A summary of any removal efforts carried out at the North Stack, the "moat", or the Return Water Pond during the previous calendar year;

g. A summary (including appropriate drawings) of the cumulative efforts to date regarding the overall project;

h. A discussion of the efforts to be carried out during the next calendar year; and

i. Drawings which identify those areas where petroleum contaminated soil was biotreated in accordance with Permit No. 2001-108-DE/OP and associated supplemental permits.

m. Removal of the sediments and any contaminated soil from the "moat" and the Return Water Pond must be carried out in accordance with the approved permit application and general provisions of Subsection III.F. above.

n. Groundwater at the South Stack must be monitored in accordance with the requirements of Section VII of this Permit.

H. OVERVIEW OF CORRECTIVE ACTION FOR THE OLIN PONDS

1. The facility expansion plan consists of two areas identified as the North Area and the South Area, which will consist of approximately an additional 289 acres, located on a permitted facility property of 1,011 acres. Located within the facility is a wastewater treatment plant and the three wastewater holding ponds, referred to as the three Olin Ponds. The following three Olin Ponds occupies a total of approximately 81 acres and are newly identified as three SWMUs 3a, 3b, and 3c and must be properly closed and remediated to meet the corrective action requirements of this Permit prior to the landfill expansion. This proposed expansion is to the north of the existing facility and is depicted on Figure 1 (Expanded Solid Waste Unit) dated March 2017, and was included as part of Waste Management's July 31, 2017, Class 3 permit application.

2. The Olin Ponds are currently used to manage phosphate slurry generated by the treatment plant from the treatment of stormwater runoff and seepage from the South phosphogypsum Stack. The treatment plant operates pursuant to Illinois EPA Permit No. IL0002020. The East Pond was constructed in 1970, to manage inorganic wastewater from the now razed Olin manufacturing plant that was located north of the Ponds. The West and Center Ponds were constructed in 1973.

3. The three Olin Ponds (SWMU 3) consist of three different areas separated by interior earthen berms, identified as the East Pond (North and South), the West Ponds, and the Center Pond. A description of the former Olin Ponds and the amount of standing liquid in the ponds is as follows:

a. East Pond (SWMU 3a):
This Pond is approximately 33 acres and consists of two separate areas: the North End with a capacity of 33,235,000 gallons and the South End with a capacity of 6,842,000 gallons.

b. Central Pond (SWMU 3b):
This Pond is approximately 8 acres and has a capacity of 41,706,000 gallons.

c. West Pond (SWMU 3c):
This Pond is approximately 30 acres and has a capacity of 149,555,000 gallons.

Note: The total capacity of the three ponds is 231,338,000 gallons.

4. The facility conducted the preliminary sediment and soil investigations in the Olin Pond area in 2014 to assess the conditions of the Ponds. The preliminary assessment data demonstrates a potential for a release of hazardous waste or hazardous waste constituents from the Olin Ponds (SWMUs 3a through 3c). As such, the Permittee must prepare a SWMU Assessment Plan and a proposed schedule of implementation and completion of the corrective action at the Ponds. The preliminary assessment data may be utilized to conduct further corrective action investigation and remediation activities required in subsection V.I below.

5. No further action (NFA) for the three Olin Ponds must be obtained from Illinois EPA prior to initiating the development of the proposed expansion of the MSWLF in this area as described in Section III of this Permit.

I. ADDITIONAL CORRECTIVE ACTION REQUIRED FOR THE OLIN PONDS

1. The Permittee may remove and treat all Standing Liquids from the Olin Ponds. The Permittee must comply with the provisions of 35 IAC Subtitle C (Water Pollution Control).

2. Within 30 days of the issuance of the Permit Modification under Log No. B-141R-M-125, the Permittee shall submit a workplan for the proposed activities commenced at the Olin Ponds as the preliminary site preparation for the aforementioned MSWLF expansion in Condition V.H.4 and Section III of the Permit for Illinois EPA's review and approval. Such activities proposed include, but are not limited to, the following:

a. Removal and Disposal of sediments from the Olin Ponds;

b. Excavation/remediation of Impacted Underlying Soils; and

c. Removal of Treatment Plant Piping; and

d. Sampling of Sediment

3. Within 60 days after receipt of the sediment sampling results, the Permittee shall submit a SWMU Assessment Plan for the Olin Ponds (SWMUs 3a, 3b, and 3c) for Illinois EPA's review and approval as required in Condition V.H.4. This SWMU Assessment Plan must document the activities addressed in Conditions V.I.1 and V.I.2 above and propose confirmation sampling and additional investigations as necessary to determine the release potential to specific environmental media at the three Olin Ponds. The SWMU Assessment Plan must demonstrate that the sampling and analysis program is capable of yielding representative samples from the remaining underlying soils at the Olin Ponds and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the SWMU(s) to the environment.

4. Procedures for developing the remediation objectives must meet the requirements of 35 IAC Part 742.

5. Requirements set forth in Conditions V.E.1 through V.E.4 and Condition V.H.5 of this Permit must be met for corrective action activities at the Olin Ponds.

J. INTERIM MEASURES

At any time during the course of this Permit, the Permittee may, subject to Illinois EPA review and approval, initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It shall not be necessary to conduct all phases of an investigation prior to implementing an interim measure if the Illinois EPA and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal corrective measures study (CMS).

1. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to the Illinois EPA for approval. This information shall include, at a minimum:

a. Objectives of the interim measures (how the proposed measure will mitigate the potential threat to human health and the environment and/or will be consistent with and integrated into any long-term solution at the facility);

b. Design, construction, and maintenance requirements;

c. Schedules for design and construction; and

d. Schedules for progress reports.

2. If the Illinois EPA determines that a release cannot be addressed without additional study and/or a formal CMS, then the Illinois EPA will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal shall not affect the schedule for implementation of any other portion of the Permit.

3. If the Illinois EPA determines that interim measures are necessary to protect human health or the environment, then the Permittee will be allowed to proceed under plans, procedures, and schedules approved by Illinois EPA.

K. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. The Permittee shall prepare a detailed cost estimate for the completion of any investigation or corrective measure required under this Permit, in order to provide financial assurance for completion of corrective action, as required under 35 IAC 724.201(b). Such a cost estimate will be based upon the cost of contamination investigations and assessments for the SWMU(s), and design, construction, operation, inspection, monitoring, and maintenance of the corrective measure(s) to meet the requirements of 35 IAC 724.201 and this Permit. All calculations and unit costs made in developing this estimate must be provided, as well as justification for all values used. These estimates shall be included in each workplan or report submitted to Illinois EPA for review and approval.

   The approved cost estimate for the corrective action efforts approved herein is as indicated in Attachment D, Section III.

2. The Permittee shall demonstrate continuous compliance with 35 IAC 724.201 by providing documentation of financial assurance using a mechanism specified in 35 IAC 724.243, in at least the amount of the estimate required under Condition V.K.1. The words "completion of corrective action" shall be substituted for "closure and/or post-closure", as appropriate in the financial instrument specified in 35 IAC 724.251. The documentation shall be submitted to the Illinois EPA within 60 days after the approval of the initial or revised cost estimates required under Condition V.K.1. The Illinois EPA may accept financial assurance for completion of corrective action in combination with another financial mechanism that is acceptable under 35 IAC 724.246 at its discretion.

L. NOTIFICATION REQUIREMENTS FOR AN ASSESSMENT OF IDENTIFIED SOLID WASTE MANAGEMENT UNIT(S)

1. The Permittee shall notify the Illinois EPA in writing of any newly-identified SWMU(s) discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than 60 days after discovery. Such a notification must also be submitted if the Permittee discovered that a possible release has occurred from one of the SWMUs identified in this Permit. The notification shall provide the following information, as available:

   a. A scaled map showing the location of the newly-identified SWMU within the facility;

   b. The past and present function of the unit;

   c. The general dimensions, capacities, and structural properties of the unit;

   d. The period during which the unit was operated;

   e. The specifics on all materials, including but not limited to, wastes and hazardous constituents, that have been or are being managed at the SWMU, to the extent available; and

   f. The results of any relevant available sampling and analysis which may aid in determining whether releases of hazardous wastes or hazardous constituents have occurred or are occurring from the unit.

2. If the submitted information demonstrates a potential for a release of hazardous waste or hazardous waste constituents from the newly identified SWMU, the Illinois EPA may request in writing, that the Permittee prepare a SWMU Assessment Plan and a proposed schedule of implementation and completion of the Plan for any additional SWMU(s) discovered subsequent to the issuance of this Permit.

3. Within 120 days after receipt of the Illinois EPA's request for a SWMU Assessment Plan, the Permittee shall prepare a SWMU Assessment Plan. This SWMU Assessment Plan must propose investigations, including field investigations, if necessary, to determine the release potential to specific environmental media for the newly-identified SWMU. The SWMU Assessment Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly-discovered SWMU(s) to the environment.

4. After the Permittee submits the SWMU Assessment Plan, the Illinois EPA shall either approve, approve with conditions, or disapprove the Plan in writing. If the plan is approved, the Permittee shall begin to implement the Plan within 45 days of receiving such written notification. If the Plan is disapproved, the Illinois EPA shall notify the Permittee in writing of the Plan's deficiencies and specify a due date for submittal of a revised plan.

5. The Permittee shall submit a report documenting the results of the approved SWMU Assessment Plan to the Illinois EPA in accordance with the schedule in the approved SWMU Assessment Plan. The SWMU Assessment Report shall describe all results obtained from the implementation of the approved SWMU Assessment Plan. Additional investigation and remediation must then be conducted to ensure the requirements of 35 IAC 724.200 and Part 742 are met.

Section VI: GROUNDWATER MONITORING PROGRAM FOR THE NORTH STACK

To monitor the effectiveness of corrective action activities and demonstrate compliance with the AGQS, the groundwater monitoring program must be conducted as follows:

1. Unless there is a desire to modify specific requirements set forth in this section, information submitted to Illinois EPA regarding the corrective action requirements set forth in this section is not a request to modify this Permit nor subject to the requirements of 35 IAC Part 703 Subpart G.

   a. A completed Illinois EPA RCRA Corrective Action Certification form (available on Illinois EPA's website) must accompany all corrective action related information submitted to Illinois EPA. Professional Engineer signatures are not required for routine groundwater reports required by this section.

   b. To allow for the proper review of all corrective action related information submitted to Illinois EPA, one original and two copies of the information must be submitted.

2. Groundwater monitoring wells shall be maintained in the locations shown in Attachment 2 of the Additional Information to the submittal entitled, "Class 1* Permit Modification – Well G1A3 (G257) Status Change", (Log No. B-141R-M-151). At this time, the North Stack groundwater quality monitoring network shall consist of the monitoring wells listed in Table 1 below:

Table 1 – North Stack Monitoring Well Network

Facility Well Number	Illinois EPA Well Number
WT-301-07	G1H1
WT-302-07	G1H2
WT-303-07	G1H3
WT-308-07	G1H8
*G-105-05	*G105
*G-109-05	*G109
*G168	*G168

* Upgradient monitoring well

a. The following list of parameters shall comprise the List 1 Field Parameters:

LIST 1

FIELD PARAMETERS	STORET
Bottom of Well Elevation (ft. ref MSL)*	72020
Depth to Water (Ft-bgs)	72019
Depth to Water (ft. from measuring point)	72109
Elevation of Groundwater Surface (ft. ref MSL)	71993
pH (S.U., unfiltered)	00400
Specific Conductance (umhos/cm, unfiltered)	00094
Temperature of Water Sample (°F)	00011
Elevation of Well Casing Measuring Point (Ft-MSL)	72110
Turbidity (NTU)	00076
Oxidation Reduction Potential (millivolts)	00090

* = To be reported a minimum of once every five years or whenever maintenance activities are conducted.

b. The following list of parameters shall comprise the List 2 semi-annual Inorganic Parameters

LIST 2

SEMI-ANNUAL INORGANIC PARAMETERS FILTERED	Units	STORET
Arsenic As, Dissolved	ug/L	01000
Lead Pb, Dissolved	ug/L	01049
Manganese Mn, Dissolved	ug/L	01056
Phosphorous P, Dissolved	mg/L	00666
Sulfate SO_4, Dissolved	mg/L	00946

LIST 2

SEMI-ANNUAL INORGANIC PARAMETERS UNFILTERED	Units	STORET
Arsenic As, Total	ug/L	01002
Lead Pb, Total	ug/L	01051
Manganese Mn, Total	ug/L	01055
Phosphorous P, Total	mg/L	00665
Sulfate SO4, Total	mg/L	00945
Total dissolved Solids (TDS)	mg/L	70300
Radium 226, Total	pCi/L	09501
Radium 226, Total, Counting Error	pCi/L	09502
Radium 228, Total	pCi/L	11501
Radium 228, Total, Counting Error	pCi/L	11502
Gross Alpha, Total	pCi/L	01501
Gross Alpha, Total, Counting Error	pCi/L	01502
Gross Beta, Total	pCi/L	03501
Gross Beta, Total, Counting Error	pCi/L	03502
Total Uranium	ug/L	28011

c. Groundwater quality monitoring and reporting must be conducted at the wells listed in Table 1 for the List 1 and List 2 constituents in accordance with the following schedule:

Quarter of Calendar Year:	Samples Collected During Months of:	Results Due to Illinois EPA by:
Second	April-May	July 15
Fourth	October-November	January 15

d. Groundwater quality results must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment A to this Illinois EPA response, in accordance with the schedule in Condition VI.2.c above. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA's webpage titled, Electronic Reporting of Groundwater Data.

e. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by the facility's Permit for identification purposes. Only one copy of the LPC-592 must accompany your submittal. However, the Permittee must submit one original and a minimum of two copies of each notice or report you submit to the Illinois EPA. The form is not to be used for permit applications.

f. Reports summarizing groundwater monitoring activities must be submitted in accordance with the schedule provided in Condition VI.2.c above. The reports must include, but not be limited to, the following:

   1. Brief background information and description of the purpose for the submittal;

   2. Copies of laboratory reports;

   3. A tabulated summary of groundwater quality results. The tabulation must provide the appropriate 35 IAC Part 620, Class I GQS or 35 IAC 742, Tier 1, Class I, GRO and must highlight any detected exceedances of those standards;

   4. A tabulated summary of groundwater elevation data;

   5. Potentiometric maps based on the current groundwater elevation data;

   6. A discussion of any problems encountered during the reporting period.

g. Annually, the operator shall prepare an assessment of the monitoring program which shall include an evaluation of the groundwater flow direction and the hydraulic groundwater at the facility. This assessment shall be submitted with the monitoring results due on July 15.

Section VII: GROUNDWATER MONITORING PROGRAM FOR THE SOUTH STACK

To identify any releases from the South Stack and demonstrate compliance with the applicable groundwater quality standards, the groundwater monitoring program must be conducted as follows:

1. Unless there is a desire to modify specific requirements set forth in this section, information submitted to Illinois EPA regarding the corrective action requirements set forth in this section is not a request to modify this Permit nor subject to the requirements of 35 IAC Part 703 Subpart G.

    a. A completed Illinois EPA RCRA Corrective Action Certification form (available on Illinois EPA website) must accompany all corrective action related information submitted to Illinois EPA. Professional Engineer signatures are not required for routine groundwater reports required by this section.

    b. To allow for the proper review of all corrective action related information submitted to Illinois EPA, one original and two copies of the information must be submitted.

2. The monitoring program must be capable of determining background groundwater quality hydraulically upgradient of and unaffected by the units and to detect any discharge of contaminants from any part of a potential source of discharge from the units. The Illinois EPA reserves the right to require installation of additional monitoring wells as may be necessary to satisfy the requirements of this Permit.

3. The groundwater monitoring program shall include consistent sampling and analysis procedures to assure that monitoring results will provide a reliable indication of groundwater quality in the zone being monitored.

4. The Permittee shall sample all groundwater monitoring points for all potential sources of contamination on a semi-annual basis in accordance with Condition VII.22 below including a minimum of 30 years after certification of closure.

5. The Permittee shall use the methods in Section 9.2.8 of the approved permit application or propose for the Illinois EPA's approval, a more appropriate method to statistically evaluate the groundwater monitoring data. The selected method must provide for statistical comparisons between upgradient and downgradient groundwater quality data and a reasonable balance between the probability of obtaining Type I (false positive) and Type II (false negative) errors. The Type I error rate must be no less than 5%. The proposal must consider the gathering of a background data set (from upgradient wells), sufficient to provide an accurate representation of the variability in the quality of groundwater that is unaffected by operations at the facility, and to assure that the selected test has a reasonable chance of detecting releases should they occur.

6. The Permittee shall examine the distribution of data from each well for each parameter to determine if the statistical methods specified in Condition VII.5 are appropriate to determine an impact to groundwater using the comparisons in Condition VII.8. If the data for a given well and parameter is not normally distributed, the Permittee shall propose a more appropriate method for those wells and/or parameters to statistically evaluate the groundwater monitoring data in accordance with Condition VII.5 above.

7. For each sampling event, using the methods in Condition VII.5 above, the Permittee must determine if a significant change in groundwater quality has occurred by comparing sample results from each downgradient well to the upgradient well's background data established during the first two years of monitoring. However, for well GF1D, background data collection shall be conducted quarterly beginning with the Third Quarter 2011. This comparison must evaluate each parameter for each well. The sample results from the S series wells shall be compared to the upgradient S series data. The sample results from the D series wells shall be compared to the upgradient D series data.

8. The Permittee shall conclude that a significant change in groundwater quality has occurred if the results of the evaluation in Condition VII.7 above indicate that the value for any parameter exceeds:

    a. The Groundwater Protection Standard listed in Condition VII.20 below. Groundwater Protection Standards must be submitted as a Class 1* permit application within 60 days of the fourth semi-annual sampling event following the effective date of this Permit. The Groundwater Protection Standards are to be determined as follows:

        i. The background value established in accordance with Section 9.2.8 of the approved permit application;

        ii. The Class I GQS listed in 35 IAC Part 620 Subpart D; or

iii. The applicable 35 IAC 742, Tier 1, Class I, Groundwater Remediation Objective.

b. A statistically significant increasing concentration trend at the 95% confidence level determined in accordance with Section 9.2.8 of the approved permit application.

9. Within 60 days of the original sample date, the Permittee may resample and test the determination made in Condition VII.8 above. If the evaluation of the resample result confirms the determination made in Condition VII.8 above, the Permittee must conclude that a significant change in groundwater quality has occurred.

10. In the event a significant change in groundwater quality has occurred or has been confirmed, the Permittee shall:

a. Notify the Illinois EPA Bureau of Land Permit Section in writing, within 10 days of the change in groundwater quality, identifying each well and each parameter;

b. Submit an assessment monitoring plan within 30 days of the significant change as determined in Condition VII.8 or Condition VII.9 above in the form of a request to modify the Corrective Action portion of the Permit. The assessment monitoring plan shall include appropriate methods for determining the source of the increase, the potential threat to human health and the environment and the concentration and extent of the contaminants if any. The assessment monitoring plan shall, at a minimum, include expanded sampling requirements for the affected well(s) and shall be implemented within 30 days of approval from the Illinois EPA.

c. Submit assessment report, based on and including the data and information generated from the completion of Condition VII.10.b above to the Illinois EPA within 90 days of approval of the assessment monitoring plan.

d. Propose a corrective action plan if assessment monitoring indicates that the facility has impacted groundwater. The corrective action plan shall be submitted within 30 days of approval of the assessment report required by Condition VII.10.c above in the form of a request to modify the Corrective Action portion of the Permit and shall include appropriate response action to address any impact of the facility. The plan shall be implemented within 30 days of Illinois EPA approval.

11. All monitoring wells shall be constructed in a manner that maintains the integrity of the bore hole and prevents contamination of the samples and groundwater. The casing material shall be inert so as not to affect the water sample.

12. A padlocked protective cover must be installed over the portion of the well casing extending above the ground surface to protect against damage.

13. Wells shall be easily visible and identified with the Illinois EPA monitoring point designation.

14. Should any well become consistently dry or unserviceable, a replacement well shall be provided within 10-feet of the existing well. This well shall monitor the same zone as the existing well and constructed in accordance with the current Illinois EPA groundwater monitor well construction standards at the time that the wells are replaced. A well which is more than 10-feet from the existing well or which does not monitor the same geologic zone must be approved via a Class 1* permit application and designated as a new well. If this facility determines that a replacement well will be a dry well, then it must submit for Illinois EPA approval either a proposal to install a new monitoring well or a proposal not to replace the well with appropriate rationale.

15. Within 30 days of installation of any groundwater monitoring well, boring logs compiled by a qualified geologist, well development data and as-built diagrams shall be submitted to the Illinois EPA utilizing the enclosed "Well Completion Report" form. For each well installed pursuant to this Permit, one form must be completed. As-built diagrams, for each monitoring point installed, shall include the horizontal location to the nearest ± 0.1 foot (grid coordinates), the type and inner diameter of casing material used, type, and length of screen packing material used, type and length of seals used, type of backfill used, finishing details, groundwater levels, elevation of stick-up (top of casing), ground surface elevation, bottom elevation, interval screened and screen slot size and depth. All elevations or levels are to be measured and reported to the nearest ± 0.01 Ft-MSL.

16. All borings, wells, and piezometers not used as monitoring points shall be abandoned in accordance with the standards in 35 IAC 811.316, and the decommissioning and reporting procedures contained in 77 IAC Part 920. In the event specific guidance is not provided by 77 IAC Part 920, the enclosed Illinois EPA monitoring well plugging procedures shall be followed.

17. The Illinois EPA shall be notified in writing at least 15 days prior to the installation of all new and replacement monitoring wells. All newly required monitoring wells must be installed within 60 days of the issuance of this Permit.

18. Surveyed elevation of stick-up is to be reported when the well is installed (with as-built diagrams) and every two years, or whenever the elevation changes.

19. Groundwater monitoring wells shall be maintained in the locations shown in Attachment 2 of the Additional Information to the submittal entitled, "Class 1* Permit Modification – Well G1A3 (G257) Status Change", (Log No. B-141R-M-151). The following monitoring points are to be used in the groundwater monitoring program for this SWMU. These monitoring points supersede all previously required monitoring points and represent the entire list of monitoring points now required for this SWMU.

Facility Designation	Illinois EPA Designation
^{S}G-128-05	G1F1
^{S}+G-129-05	+G1F2
^{S}MW-2	G1F3
^{S}WT-131-05	GF2S
^{D}MW-6	GF2D
^{S}MW-5	G1F4
^{S}G208	G1F5
^{S}G205	G1F6
G1F7	G1F7
G1F8	G1F8
+GF2S	+GF3S
+GF2D	+GF3D

+ - represents upgradient monitoring point(s)
# - represents monitor point(s) added to the monitoring program
^{S} - represents an S-series well
^{D} - represents a D-series well
$^{\#\#}$ - represents monitoring point to be deleted from the monitoring program

20. The concentration or values for the parameters contained in Lists 1 and 2 shall be determined for samples collected from the groundwater monitoring points and reported according to the schedule in Condition VII.22 and evaluated in accordance with Condition VII.8.

LIST 1

FIELD PARAMETERS	STORET	GWPS S-Series Wells	GWPS D-Series Wells
Bottom of Well Elevation (ft. ref MSL)*	72020	--	--
Depth to Water (ft. below land surface)	72019	--	--
Depth to Water (ft. from measuring point)	72109	--	--
Elevation of Groundwater Surface (ft. ref MSL)	71993	--	--
pH (S.U., unfiltered)	00400	6.5 – 9.0	6.5 – 9.0
Specific Conductance (umhos/cm, unfiltered)	00094	--	--
Temperature of Water Sample (°F)	00011	--	--
Elevation of Well Casing Measuring Point (ft MSL)	72110	--	--
Turbidity (NTU)	00076	--	--
Oxidation Reduction Potential (millivolts)	00090	--	--

* = To be reported a minimum of once every five years or whenever maintenance activities are conducted.

LIST 2

INORGANIC PARAMETERS FILTERED	Units	STORET	GWPS S-Series Wells	GWPS D-Series Wells
Antimony Sb, Dissolved	ug/L	01095	20	20
Arsenic As, Dissolved	ug/L	01000	10.0	29.3
Cadmium Cd, Dissolved	ug/L	01025	1	1
Chromium Cr, Dissolved	ug/L	01030	4	4
Copper Cu, Dissolved	ug/L	01040	34.3	25.0
Fluoride, Dissolved	mg/L	00950	0.274	0.55
Iron Fe, Dissolved	ug/L	01046	3,260	3,733
Lead Pb, Dissolved	ug/L	01049	5	5
Manganese Mn, Dissolved	ug/L	01056	170.1	171.0
Nickel Ni, Dissolved	ug/L	01065	10	10
Phosphorous P, Dissolved	mg/L	00666	0.01	0.32
Sulfate SO_4, Dissolved	mg/L	00946	450	227
Zinc Zn, Dissolved	ug/L	01090	10	10

LIST 2

INORGANIC PARAMETERS UNFILTERED	Units	STORET	GWPS S-Series Wells	GWPS D-Series Wells
Antimony Sb, Total	ug/L	01097	20	20
Arsenic As, Total	ug/L	01002	50	50
Cadmium Cd, Total	ug/L	01027	5	5
Chromium Cr, Total	ug/L	01034	35.4	100
Copper Cu, Total	ug/L	01042	650	650
Fluoride, Total	mg/L	00951	4	4
Iron Fe, Total	ug/L	01045	18,152	9,609
Lead Pb, Total	ug/L	01051	12.1	7.5
Manganese Mn, Total	ug/L	01055	353	323
Nickel Ni, Total	ug/L	01067	100	100
Phosphorous P, Total	mg/L	00665	1.22	0.19
Sulfate SO_4, Total	mg/L	00945	418	400
Total Dissolved Solids (TDS)	mg/L	70300	1,289	1,200
Zinc Zn, Total	ug/L	01092	5,000	5,000
Radium 226, Total	pCi/L	09501	0.64	0.69
Radium 226, Total, Counting Error	pCi/L	09502	-	-
Radium 228, Total	pCi/L	11501	1.47	1.64
Radium 228, Total, Counting Error	pCi/L	11502	-	-
Gross Alpha, Total	pCi/L	01501	50.2	13.1
Gross Alpha, Total, Counting Error	pCi/L	01502	-	-
Gross Beta, Total	pCi/L	03501	65	13.1
Gross Beta, Total, Counting Error	pCi/L	03502	-	-
Total Uranium	ug/L	28011	9.5	3.25

21. All monitoring points shall be maintained in accordance with the approved permit application such that the required samples and measurements may be obtained.

22. The schedule for sample collection and submission of semi-annual monitoring results is as follows:

Sampling Quarter	Sampling Due	Report Due Date
April-May (2nd)	List - 1 and 2	July 15
Oct-Nov (4th)	List - 1 and 2	January 15

1 - Field Parameters
2 - Indicator Parameters

23. Groundwater quality results must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment A to this Permit, in accordance with the schedule in Condition VII.22 above. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA's webpage titled, Electronic Reporting of Groundwater Data.

24. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by the facility's Permit for identification purposes. Only one copy of the LPC-592 must accompany your submittal. However, the Permitee must submit one original and a minimum of two copies of each notice or report you submit to the Illinois EPA. The form is not to be used for permit applications.

25. Annually, the operator shall prepare an assessment of the monitoring program which shall include an evaluation of the groundwater flow direction and the hydraulic gradients at the facility. This assessment shall be submitted with the monitoring results due on July 15.

Section VIII: STANDARD CONDITIONS FOR POST-CLOSURE CARE OF HWMUs

GENERAL REQUIREMENTS

1. EFFECT OF PERMIT. The existence of a RCRA Permit shall not constitute a defense to a violation of the Act or Subtitle G, except for development, modification, or operation without a permit. Issuance of this Permit does not convey property rights or any exclusive privilege. Issuance of this Permit does not authorize any injury to persons or property or invasion of other private rights, or infringement of state or local law or regulations. (35 IAC 702.181)

2. PERMIT ACTIONS. This Permit may be modified, reissued, or revoked for cause as specified in 35 IAC 703.270 through 703.273 and Section 702.186. The filing of a request by the Permittee for a permit modification or revocation, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 IAC 702.146)

3. 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. (35 IAC 700.107)

4. PERMIT CONDITION CONFLICT. In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 IAC 702.160)

5. DUTY TO COMPLY. The Permittee shall comply with all conditions of this Permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; permit revocation or modification; or for denial of a permit renewal application. (35 IAC 702.141 and 703.242)

6. DUTY TO REAPPLY. If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee must apply for a new permit at least 180 days before this Permit expires, unless permission for a later date has been granted by the Illinois EPA. (35 IAC 702.142 and 703.125)

7. PERMIT EXPIRATION. This Permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 35 IAC 703.181-703.209), and through no fault of the Permittee the Illinois EPA has not issued a new permit as set forth in 35 IAC 702.125.

8. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. (35 IAC 702.143)

9. DUTY TO MITIGATE. In the event of noncompliance with the Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (35 IAC 702.144)

10. PROPER OPERATION AND MAINTENANCE. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance, includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory, and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the Permit. (35 IAC 702.145)

11. DUTY TO PROVIDE INFORMATION. The Permittee shall furnish to the Illinois EPA, within a reasonable time, any relevant information which the Illinois EPA may request to determine whether cause exists for modifying, revoking, and reissuing or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Illinois EPA, upon request, copies of records required to be kept by this Permit. (35 IAC 702.148)

12. INSPECTION AND ENTRY. The Permittee shall allow an authorized representative of the Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:

    a. 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 conditions of this Permit;

    c. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances, or parameters at any location. (35 IAC 702.149)

13. MONITORING AND RECORDS. (35 IAC 702.150)

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste must be the appropriate method from Appendix A of 35 IAC 721. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, latest versions; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved Waste Analysis Plan.

b. The Permittee shall 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, and records of all data used to complete the application for this Permit for a period of at least three years from the date of the sample, measurement, report, or application. These periods may be extended by request of the Illinois EPA at any time. The Permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

c. Records of monitoring information shall include:

i. The date(s), exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The analytical technique(s) or method(s) used; and

vi. The result(s) of such analyses. (35 IAC 702.150)

14. REPORTING PLANNED CHANGES. The Permittee shall give written notice to the Illinois EPA as soon as possible of any planned physical alterations or additions to the permitted facility. In general, proposed changes to the facility will need to be submitted to the Illinois EPA as permit application that complies with the requirements of 35 IAC 703.280. (35 IAC 702.152(a))

15. CONSTRUCTION CERTIFICATION. For a new hazardous waste management facility, the Permittee shall not commence treatment, storage, or disposal of hazardous waste; and for a facility being modified the Permittee shall not treat, store, or dispose of hazardous waste in the modified portion of the facility, until:

    a. The Permittee has submitted to the Illinois EPA by certified mail or hand delivery a letter signed by the Permittee and a qualified Illinois lessened Professional Engineer stating that the facility has been constructed or modified in compliance with the Permit; and

    b. 1. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the condition of the Permit; or

    2. If, within 15 days of the date of submission of the letter in paragraph (a), the Permittee has not received notice from the Illinois EPA of its intent to inspect, prior inspection is waived and the Permittee may commence treatment, storage, or disposal of hazardous waste. (35 IAC 703.247)

16. ANTICIPATED NONCOMPLIANCE. The Permittee shall give advanced written notice to the Illinois EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements, regulations, or the Act. (35 IAC 702.152(b))

17. TRANSFER OF PERMITS. This Permit may not be transferred by the Permittee to a new owner or operator unless the Permit has been modified or reissued pursuant to 35 IAC 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 modification with the prior written approval of the Illinois EPA. The new owner or operator shall submit a revised permit application no later than 90 days prior to the scheduled change. (35 IAC 703.260)

18. MONITORING REPORTS. Monitoring results shall be reported at the intervals specified in the Permit. (35 IAC 702.152(d))

19. COMPLIANCE SCHEDULES. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than specified in 35 IAC 702.162. (35 IAC 702.152(e))

20. TWENTY-FOUR HOUR REPORTING.

a. The Permittee shall report to the Illinois EPA any noncompliance with the Permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the following circumstances. This report shall include the following:

i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. Information concerning the release or discharge of any hazardous waste or of a fire or explosion at the HWM facility, which could threaten the environment or human health outside the facility.

b. The description of the occurrence and its cause shall include:

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 applicable; and

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

c. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Illinois EPA may waive the five day written notice requirement in favor of a written report within 15 days. (35 IAC 702.152(f) and 703.245(b))

21. OTHER NONCOMPLIANCE. The Permittee shall report all instances of noncompliance not otherwise required to be reported under Standard Conditions 14, 15, and 16, at the time monitoring reports, as required by this Permit, are submitted. The reports shall contain the information listed in Standard Condition 20. (35 IAC 702.152(g))

22. OTHER INFORMATION. Where the Permittee becomes aware that it failed to submit any relevant facts in the Permit application or submitted incorrect information in a permit application or in any report to the Illinois EPA, the Permittee shall promptly submit such facts or information. (35 IAC 702.152(h))

23. SUBMITTAL OF REPORTS OR OTHER INFORMATION. All written reports or other written information required to be submitted by the terms of this Permit shall be sent to:

Illinois Environmental Protection Agency
Bureau of Land
Planning and Reporting Section - #24
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

24. SIGNATORY REQUIREMENT. All permit applications, reports or information submitted to the Illinois EPA shall be signed and certified as required by 35 IAC 702.126. (35 IAC 702.151)

25. CONFIDENTIAL INFORMATION. Any claim of confidentiality must be asserted in accordance with 35 IAC 702.103 and 35 IAC 161.

26. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE. The Permittee shall maintain at the facility, until post-closure is complete, the following documents and amendments, revisions, and modifications to these documents:

a. Post-closure plan as required by 35 IAC 724.218(a) and this Permit.

b. Cost estimate for post-closure care as required by 35 IAC 724.244(d) and this Permit.

c. Operating record as required by 35 IAC 724.173 and this Permit.

d. Inspection schedules as required by 35 IAC 724.115(b) and this Permit.

GENERAL FACILITY STANDARDS

27. GENERATOR REQUIREMENTS. Any hazardous waste generated at this facility shall be managed in accordance with the generator requirements at 35 IAC Part 722.

28. SECURITY. The Permittee shall comply with the security provisions of 35 IAC 724.114(b) and (c).

29. GENERAL INSPECTION REQUIREMENTS. The Permittee shall follow the approved inspection schedule. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 35 IAC 724.115(c). Records of inspections shall be kept as required by 35 IAC 724.115(d).

PREPAREDNESS AND PREVENTION

30. DESIGN AND OPERATION OF FACILITY. The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 IAC 724.131)

RECORD KEEPING

31. OPERATING RECORD. The Permittee shall maintain a written operating record at the facility in accordance with 35 IAC 724.173.

POST CLOSURE

32. CARE AND USE OF PROPERTY. The Permittee shall provide post-closure care for the facility as required by 35 IAC 724.217 and in accordance with the approved post-closure plan.

33. AMENDMENT TO POST-CLOSURE PLAN. The Permittee must amend the post-closure plan whenever a change in the facility operation plans or facility design affects the post-closure plan or when an unexpected event has occurred which has affected the post-closure plan pursuant to 35 IAC 724.218(d).

34. COST ESTIMATE FOR FACILITY POST-CLOSURE. The Permittee's original post-closure cost estimate, prepared in accordance with 35 IAC 724.244, must be:

    a. Adjusted for inflation either 60 days prior to each anniversary of the date on which the first post-closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year.

    b. Revised whenever there is a change in the facility's post-closure plan increasing the cost of post-closure.

    c. Kept on record at the facility and updated. (35 IAC 724.244)

35. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE. The Permittee shall demonstrate compliance with 35 IAC 724.245 by providing documentation of financial assurance, as required by 35 IAC 724.251, in at least the amount of the cost estimates required by the previous Permit Condition. Changes in financial assurance mechanisms must be approved by the Illinois EPA pursuant to 35 IAC 724.245. Financial assurance documents submitted to Illinois EPA should be directed to the following address:

    Illinois Environmental Protection Agency
    Bureau of Land #24
    Financial Assurance Program
    1021 North Grand Avenue East
    P.O. Box 19276
    Springfield, IL 62794-9276

36. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee shall comply with 35 IAC 724.248 whenever necessary.

Section IX: REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of Sections I, II, and VIII of this Permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this Permit.

Condition	Submittal	Due Date
Section I: POST-CLOSURE CARE FOR HWMUs		
C.10.c	Leachate analyses, levels, and amount removed	June 1of each year
C.10.d	Modification request to create or revise reduced list	As needed
D.1	Request permit modification to remove the liner or hazardous waste	Prior to removing the liner or wastes
D.2	Certify to the Illinois EPA that post-closure care was performed in accordance with the specifications	Within 60 days after completion of the post-closure care period
E.3	A corrective action plan to the Illinois EPA for approval if subsurface gas becomes a problem	Within 30 days after discovery of the problem
Section II: Groundwater Corrective Action Program for HWMUs		
C.5	Proposal for establishment of a Point of Compliance	Upon attainment of groundwater protection standards within the GMZ
D.2	Proposal for installation and addition or replacement, or for the removal of any Groundwater Recovery System well located within the GMZ	As needed. Illinois EPA approval required prior to implementation

Condition	Submittal	Due Date
D.5	Notify the Illinois EPA if any well: has been damaged, the structural integrity has been compromised, or has become consistently dry or unserviceable. A proposal for a replacement well(s) must be included with this submittal	Within 30 days of discovery
D.7	Submit completed boring logs, construction diagrams, and data sheets from installation and development of each new or replacement well	Within 30 days of the date that installation of the well is completed
D.7	Submit well plugging and abandonment certifications	Within 30 days of the date that the well is plugged and abandoned
E.5.a	Establishing background values / concentration limits	Within 45 days of receipt of the fourth quarter groundwater analytical results
I.3	Submit evaluation of effectiveness of the groundwater extraction system to hydraulically capture and withdraw the off-site plume of groundwater contamination	Semi-annually (in accordance with Condition II.J.2)
I.3	Submit notification or modification if off-site plume of contamination is not completely captured by the current extraction system design	Within 30 days of the semi-annual evaluation
J.2 and J.3	Groundwater monitoring data, statistical calculations, and groundwater surface elevation data.	Information Collected During Months of: April-May; Oct-Nov — Results Due by: July 15; Jan 15

Condition	Submittal	Due Date
J.4	Report surveyed elevation of stick-up	When a well is installed (with as-built diagrams) and every two years (during the second quarter sampling event) or whenever the elevation changes
J.5 and J.6	Report elevation (MSL) of the bottom of each groundwater monitoring well and information regarding inspection and maintenance of pumps	July 15
J.10	Report on effectiveness of Corrective Action Program	Second Quarter
J.11.a	Submit notification if any concentration limits specified in the Groundwater Protection standard are being exceeded at any GMZ boundary well	Within seven days after discovery of exceedance
J.11.b	Submit permit modification to Corrective Action Program	Within 90 days of the date an increase is discovered
J.12.a	Notify Illinois EPA that groundwater flow is not being adequately controlled	Within seven days of determination
J.12.c	Report to Illinois EPA describing changes to corrective action program to ensure groundwater flow is adequately controlled	Within 30 days determination
J.12.d	Request for permit modification describing changes to corrective action program to ensure groundwater flow is adequately controlled	Within 60 days of determination

Condition	Submittal	Due Date
J.13.a	Submit notification to make determination that another source caused the increase or that the increase resulted from error in sampling, analysis, or evaluation	Within seven days of discovery of increase
J.13.b	Submit report that demonstrates that a source other that a regulated unit caused the standard to be exceeded or that that apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation	Within 90 days of discovery of exceedance
J.13.c	Submit an application for a permit modification to make any appropriate changes to the Corrective Action Program, if necessary	Within 90 days of discovery of exceedance
J.14.a	Report concentration of additional constituent(s) detected in the groundwater pursuant to Condition II.I.2.a.1	Within seven days after completion of the analysis
J.15	Submit documentation that well maintenance procedures are completed	Semi-annually (in accordance with Permit Condition J.2)
K.3	Submit application for permit modification	Within 90 days of determination that the corrective action program no longer satisfies 35 IAC Part 724 Subpart F
Section VIII:	STANDARD CONDITIONS FOR POST-CLOSURE CARE OF HWMUs	
6	Complete application for new permit.	At least 180 days prior to permit expiration
11	Information requested by Illinois EPA and copies of records required to be kept by this permit	Submittal date to be determined by the Illinois EPA

Condition	Submittal	Due Date
14	Notify Illinois EPA of planned physical alterations or additions	Prior to planned change. Illinois EPA approval required prior to implementing change.
16	Notify Illinois EPA of changes which may result in permit noncompliance	At least 15 days prior to change
17	Application for permit modification indicating permit is to be transferred	At least 90 days prior to transfer date
19	Submission of any information required in a compliance schedule	Within 14 days after each schedule date
20	Report to Illinois EPA any non-compliance which may endanger health or environment	
	by telephone	Within 24 hours after discovery
	and	
	in writing	five days after discovery
21	Report all other instances of non-compliance	March 1 of each Year along with Annual Report

Section X: REPORTING AND NOTIFICATION REQUIREMENTS FOR NON-HAZARDOUS WASTE LANDFILLS

The reporting and notification requirements of Sections III and IV of this Permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this Permit.

Condition	Submittal	Due Date
Section III: Non-Hazardous Waste Landfills		
C.2	Construction Certification Report	Upon completion of construction of each unit
C.5	Clay liner recertification	Prior to waste disposal
C.6	Acceptance Report	Before structure if placed into service
D.10	Notification to EPA-FOS Regional office and county authority	No later than 5:00 p.m. the next business day following the acceptance of waste outside the specified operating hours
D.25	Notify Illinois EPA of the discovery of unauthorized waste	No later than 5:00 p.m. on the business day after detection
D.25	Summary of load checking reports	Submit with annual report
G.2	Notification of Changes	Within 15 days of change
I.4	Leachate monitoring results	Submitted semi-annually with groundwater reports
J.7	Written Notification of exceedance	Within two business days of occurrence
J.7	Modification request	Within 180 days of occurrence
J.9	Results from gas monitoring	Submitted with annual report

Condition	Submittal	Due Date
K.1	Closure notification	Upon completion of closure activities
K.4	Certification of completion of post-closure care	No later than 60 days after the post-closure care has been completed
K.8	Update cost estimates	June 1
K.9	Modification request to use controlled burning	Prior to use. Illinois EPA approval required prior to implementation
L.1	Annual Certification	May 1
L.2	Annual Report	May 1
Section IV: Groundwater Monitoring for Non-Hazardous Waste Landfills		
4	Well Completion Report	Within 60 days of installation
6	Notification of well replacement	15 days prior to installation
6	Permit modification request to replace well more than 10-feet from existing well or which does not monitor the same geologic zone	Prior to replacement
14	Notification of observed increase	Within 90 days of sampling date
15	Modification request	Within 180 days of sampling Date
16	Permit modification request	Within 30 days of Illinois EPA denial

Condition	Submittal	Due Date
17	Groundwater detection monitoring results for wells on semi-annual schedule	Second Quarter-July 15 Fourth Quarter-January 15
	Groundwater monitoring results for other wells	First Quarter – April 15 Second Quarter – July 15 Third Quarter – October 15 Fourth Quarter – January 15
18	Report elevation of well stick-up	When well is installed and every two years thereafter, or whenever there is reason to believe the elevation has changed
19	Evaluation of groundwater flow direction	July 15
21	Permit modification request	When background concentrations exhibit a statistically significant change.

Section XI: REPORTING AND NOTIFICATION REQUIREMENTS FOR SWMU CORRECTIVE ACTION

The reporting and notification requirements of Sections V, VI and VII of this Permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this Permit.

Condition	Submittal	Due Date
Section V: Corrective Action for SWMUs		
F.9	North Stack Annual Corrective Action Report	March 1.
G.13	South Stack Annual Corrective Action Report	March 1.
J.1	Proposal for interim measures.	Prior to implementation. IEPA approval required prior to implementation.
I.2	Olin Pond SWMU Assessment Plan	Within 30 calendar days of the approval of permit modification, Log No. B-141R-M-125
K.1	Cost estimate for investigation and/or corrective measures.	Include with each workplan or report.
K.2	Documentation of Financial Assurance	60 calendar days after approval of initial or revised cost estimate.
L.1	Notification of Newly-Identified SWMUs.	60 calendar days after discovery.
L.3	SWMU Assessment Plan.	Within 120 calendar days of request by BOL.
L.5	Report documenting results of SWMU Assessment Plan.	In accordance with schedule in SWMU Assessment Plan.

Condition	Submittal	Due Date
Section VI:	Groundwater Monitoring Program for the North Stack	
2.c	Groundwater Quality Report.	Second Quarter – July 15 Fourth Quarter – January 15
Section VII:	Groundwater Monitoring Program for the South Stack	
8.a	Proposal to establish groundwater Protection standards.	Within 60 days after the fourth semi-annual sampling event.
10.a	Notification of significant change in Groundwater quality.	Within 10 days of the change.
10.b	Assessment monitoring plan.	Within 30 days of the change.
10.c	Assessment report.	Within 90 days after approval of assessment monitoring plan.
10.d	Corrective Action Plan	Within 30 days after approval of assessment report.
15	Well Completion Report.	Within 30 days after installation.
17	Notification prior to installation of new and replacement monitoring wells.	Within 15 days prior to installation.
18	Surveyed elevation of stick-ups.	When installed every two years thereafter, or whenever elevation changes.
22	Semi-annual monitoring results.	Second Quarter – July 15 Fourth Quarter – January 15
25	Assessment of groundwater monitoring program	July 15

ATTACHMENT A

MONITORING WELL CONSTRUCTION DIAGRAM

COMPLETION REPORT FOR GROUNDWATER MONITORING WELL, AND

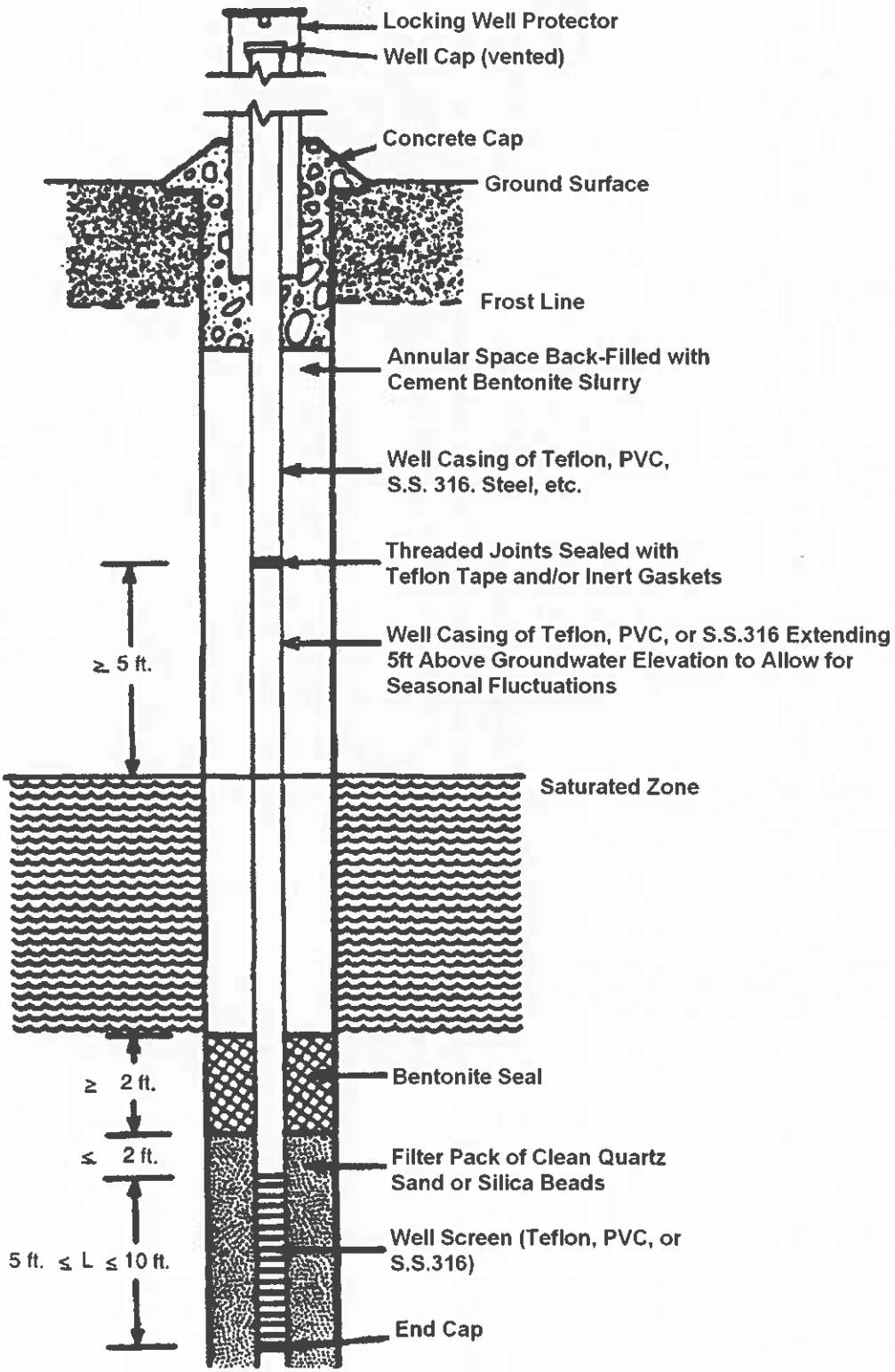
ILLINOIS EPA BORING LOG

ILLINOIS EPA GROUNDWATER FORMATTING REQUIREMENTS

STATE ID No: 1970450002

USEPA ID No: ILD074411745

Monitoring Well Diagram



Illinois Environmental Protection Agency

Field Boring Log

Page ____ of ____

Site File No. _____ Federal ID No. _____
Site File Name: _____
Quadrangle: _____ Sec. _____ T. _____ R. _____
UTM (or State Plane) Coord. N. (X) _____ E (Y): _____
Latitude ____ ° ____ ° ____ °Longitude ____ ° ____ ° ____ °
Drilling Location: _____
Drilling Equipment: _____

County: _____
Boring No. _____ Monitoring Well No.: _____
Surface Elevation: _____ Completion Depth: _____
Auger Depth: _____ Rotary Depth: _____
Date: Start _____ Finish: _____

Elev.	Description of Material	Graphic Log	Depth in Feet	Sample No.	Sample Type	Sample Recovery (X)	Potentiometer	N Value (Blow Counts)	OVA or HNU Readings	Remarks

SAMPLES

Personnel

G –
D –
H –
H –

Illinois Environmental Protection Agency **Well Completion Report**

Site Number: _____ County: _____

Site Name: _____ Well #: _____

State Plane Coordinate: X __ Y __ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___" Borehole #: _____

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: _____ Driller: _____

Consulting Firm: _____ Geologist: _____

Drilling Method: _____ Drilling Fluid (Type): _____

Logged By: _____ Date Started: _____ Date Finished: _____

Report Form Completed By: _____ Date: _____

ANNULAR SPACE DETAILS

Type of Surface Seal: _____

Type of Annular Sealant: _____

Installation Method: _____

Setting Time: _____

Type of Bentonite Seal – Granular, Pellet, Slurry (Choose One)

Installation Method: _____

Setting Time: _____

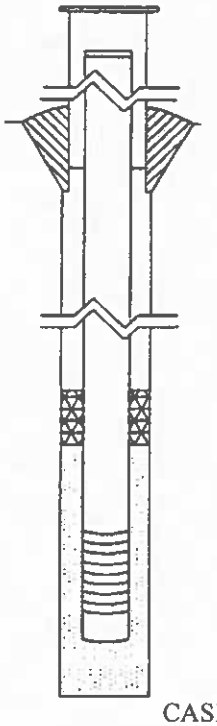
Type of Sand Pack: _____

Grain Size: _____ (Sieve Size)

Installation Method: _____

Type of Backfill Material: _____ (if applicable)

Installation Method: _____



Elevations (MSL)*	Depth (BGS) (.01ft.)	
____	____	Top of Protective Casing
____	____	Top of Riser Pipe
____	____	Ground Surface
____	____	Top of Annular Sealant
____	____	Static Water Level (After Completion)
____	____	Top of Seal
____	____	Top of Sand Pack
____	____	Top of Screen
____	____	Bottom of Screen
____	____	Bottom of Well
____	____	Bottom of Borehole

* Referenced to a National Geodetic Datum

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Above W.T.	SS304, SS316, PTFE, PVC, or Other
River Pipe Below W.T.	SS304, SS316, PTFE, PVC, or Other
Screen	SS304, SS316, PTFE, PVC, or Other

**Hand-Slotted Well Screens are Unacceptable

CASING MEASUREMENTS

Diameter of Borehole (inches)	
ID of Riser Pipe (inches)	
Protective Casing Length (feet)	
Riser Pipe Length (feet)	
Bottom of Screen to End Cap (feet)	
Screen Length (1st slot to last slot) (feet)	
Total Length of Casing (feet)	
Screen Slot Size**	

Formatting Requirements for the 01 Record of the Electronically Submitted Groundwater and Leachate Data
(the 01 Record portion of the LPC-160 is included for example purposes)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL Page 1 of _____
CHEMICAL ANALYSIS FORM

RECORD CODE							TRANS CODE
L	P	C	S	M	0	1	A
1					7		8

REPORT DUE DATE __ __/__ __/__ __

FEDERAL ID NUMBER _____ (1-15)

SITE INVENTORY NUMBER _____ (9-18)

MONITOR POINT NUMBER _____ (see Instructions) (19-22)

REGION _____ CO. _____

DATE COLLECTED __/__/__ (23 M, D, Y 28)

FACILITY NAME _____

FOR IEPA USE ONLY

LAB _____ (29)

BACKGROUND SAMPLE (X) _____ (54)

TIME COLLECTED __:__ (24 Hr. Clock) (55 11 M 58)

UNABLE TO COLLECT SAMPLE _____ (see Instructions) (59)

MONITOR POINT SAMPLED BY _____ (see Instructions) (60)

_____ OTHER (SPECIFY)

SAMPLE FIELD FILTERED - INORGANICS (X) _____ (61) ORGANICS (X) _____ (62)

SAMPLE APPEARANCE _____ (63-102)

COLLECTOR COMMENTS _____ (103-142)

LAB COMMENTS _____ (150-199)

Il 532 1213
LPC 160 12/2011

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

***Only Keypunch with Data in Column 35 or Columns 38-47**

KEY:

Spaces Numbered	Description	Format
Spaces 1-7	Record Code	LPCSM01
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	G000
Spaces 23-28	Date Collected	000000
Space 29	Lab	
Spaces 30-35	Filler	
Spaces 36-41	Report Due Date	000000
Spaces 42-47	Date Received	000000
Spaces 48-53	Filler 2	
Space 54	Background Sample	
Spaces 55-58	Time Collected	0000
Space 59	Unable to Collect Sample	
Space 60	Monitoring Point Sampled By	
Space 61	Field Filtered – Inorganic	
Space 62	Field Filtered – Organic	
Spaces 63-102	Sample Appearance	
Spaces 103-142	Collector Comments	
Spaces 143-149	Filler 3	
Spaces 150-159	Lab Comments	

Formatting Requirements for the 02 Record of the Electronically Submitted Groundwater and Leachate Data (the 02 Record portion of the LPC-160 is included for example purposes)

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET	Remarks See Inst.	Replicate	< or >	Value
		(30–34)	(35)	(36)	(37)	(38–47)
Q	TEMP OF WATER (unfiltered ° F)	0 0 0 1 1				
Q	SPEC COND (unfiltered umhos)	0 0 0 9 4				
Q	pH (unfiltered units)	0 0 4 0 0				
Q	ELEV OF GW SURF (ft ref MSL)	7 1 9 9 3				
Q	DEPTH OF WATER (ft below LS)	7 2 0 1 9				
A	BTM WELL ELEV (ft ref MSL)	7 2 0 2 0				
Q	DEPTH TO WATER FR MEA PT (ft)	7 2 1 0 9				

IL 532 1213
LPC 160 12/2011

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

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***Only Keypunch with Data in Column 35 or Columns 38-47**

KEY:

Spaces Numbered	Description	Format
Spaces 1-7	Record Code	LPCSM02
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	
Spaces 23-28	Date Collected	
Space 29	Lab	
Spaces 30-34	STORET Number	
Space 35	Remarks	
Space 36	Replicate	
Space 37	< or >	
Space 38-47	Value	

ATTACHMENT B

ILLINOIS EPA MONITORING WELL PLUGGING AND ABANDONMENT PROCEDURES

STATE ID No: 1970450002

USEPA ID No: ILD074411745

ILLINOIS EPA MONITOR WELL PLUGGING AND ABANDONMENT PROCEDURES

	Well Construction		Plugging Procedure
I. Unconsolidated Sediment Wells	I-A	...if backfilled with cement grout above bentonite seal and/or sandpack:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through temi pipe. 5. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.
	I-B	...if backfilled with soft sediments (cuttings) above bentonite seal and/or sandpack:	1. Knock out and remove thin surface concrete plug, if present. 2. Re-auger entire length of well. 3. Remove well casing from re-augured borehole. 4. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 5. Insert tremi pipe (1" i.d. pvc) into augers and extend to bottom. 6. Slowly pump slurry under low pressure through tremi pipe. 7. Continue slow pumping until all formation water and the water slurry mix is displaced from top of casing. 8. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 9. Pull a flight of augers (5" if in unstable materials and hole collapse is likely or 10" if in competent material and collapse is unlikely). 10. Top off cement slurry after each flight is removed.
	I-C	...if monitor well construction is unknown:	1. Follow procedures in I-A.
II. Bedrock Wells	II-A	...All bedrock monitor wells:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi-pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through tremi pipe. 5. Slowly withdraw pipe making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.

ATTACHMENT C

PREDICTION LIMIT TEST

STATE ID No: 1970450002

USEPA ID No: ILD074411745

ATTACHMENT C

Prediction Limit Test

The following statistical procedures must be followed as referenced in Section I (Corrective Action Program).

1) Calculate the background mean (X_b) for each parameter, using the values (X_i) from each background sampling event of upgradient wells as follows:

$$X_b = \frac{X_1 + X_2 \ldots X_n}{n}$$

Where X_i = each background value

n = the total number of background measurements

X_b = background mean

2) Calculate the background variance (S_b^2) and standard deviation (S_b) for each parameter using the values (X_i) from each background sampling event of upgradient wells as follows:

$$S_b^2 = \frac{(X_1 - \bar{X}_h)^2 + (X_2 - \bar{X}_b)^2 \ldots + (X_n - \bar{X}_h)^2}{n-1}$$

and $S_b = (S_b^2)^{1/2}$

3) Calculate the prediction limit using:

$$P = X_b + C(S_b)$$

Where C = Coefficient determined from Table 1, at the number of background measurements (n) and the number of downgradient monitoring wells to be statistically compared to upgradient wells at the facility (K) during a sampling event, such that $K \leq 5$.

P = the prediction limit

4) If the value of any routine parameter for any downgradient well exceeds the prediction limit value (P) for that parameter, the Permittee shall conclude that a statistically significant difference exists between the background and routine values for that parameter for that well.

5) When some of the upgradient values are less than the Method Detection Limit (MDL), a value of one half (1/2) the MDL shall be substituted for all background values that are reported as less than the MDL. All other computations shall be calculated as given above.

TABLE 1

FACTORS FOR OBTAINING ONE-SIDED
95% PREDICTION LIMITS FOR k ADDITIONAL
SAMPLES GIVEN A BACKGROUND SAMPLE OF SIZE n

Number of new measurements (k)

n	1	2	3	4	5
4	2.63	3.56	4.18	4.67	5.08
5	2.34	3.04	3.49	3.83	4.10
6	2.18	2.78	3.14	3.42	3.63
7	2.08	2.62	2.94	3.17	3.36
8	2.01	2.51	2.80	3.01	3.18
9	1.96	2.43	2.70	2.90	3.05
10	1.92	2.37	2.63	2.82	2.96
11	1.89	2.33	2.58	2.75	2.89
12	1.87	2.29	2.53	2.70	2.83
13	1.85	2.26	2.49	2.66	2.78
14	1.83	2.24	2.46	2.62	2.74
15	1.82	2.21	2.44	2.59	2.71
16	1.81	2.20	2.41	2.57	2.68
17	1.80	2.18	2.40	2.54	2.66
18	1.79	2.17	2.38	2.53	2.64
19	1.78	2.16	2.36	2.51	2.62
20	1.77	2.14	2.35	2.49	2.60
21	1.77	2.13	2.34	2.48	2.59
22	1.76	2.13	2.33	2.47	2.57
23	1.75	2.12	2.32	2.46	2.56
24	1.75	2.11	2.31	2.45	2.55
25	1.74	2.10	2.30	2.44	2.54
26	1.74	2.10	2.29	2.43	2.53
27	1.74	2.09	2.29	2.42	2.52
28	1.73	2.09	2.28	2.42	2.52
29	1.73	2.08	2.28	2.41	2.51
30	1.73	2.08	2.27	2.40	2.50
31	1.72	2.07	2.27	2.40	2.50
32	1.72	2.07	2.26	2.39	2.49
33	1.72	2.07	2.26	2.39	2.49
34	1.72	2.06	2.25	2.38	2.48

TABLE 1 (Continued)

FACTORS FOR OBTAINING ONE-SIDED
95% PREDICTION LIMITS FOR k ADDITIONAL
SAMPLES GIVEN A BACKGROUND SAMPLE OF SIZE n

35	1.71	2.06	2.25	2.38	2.48
36	1.71	2.06	2.25	2.37	2.47
37	1.71	2.06	2.24	2.37	2.47
38	1.71	2.05	2.24	2.37	2.46
39	1.71	2.05	2.24	2.36	2.46
40	1.71	2.05	2.23	2.36	2.46
41	1.70	2.05	2.23	2.36	2.45
42	1.70	2.04	2.23	2.35	2.45
43	1.70	2.04	2.23	2.35	2.45
44	1.70	2.04	2.22	2.35	2.44
45	1.70	2.04	2.22	2.35	2.44
46	1.70	2.04	2.22	2.34	2.44
47	1.70	2.03	2.22	2.34	2.44
48	1.70	2.03	2.22	2.34	2.43
49	1.69	2.03	2.21	2.34	2.43
50	1.69	2.03	2.21	2.34	2.43
60	1.68	2.02	2.20	2.32	2.41
70	1.68	2.01	2.19	2.31	2.40
80	1.67	2.00	2.18	2.30	2.39
90	1.67	2.00	2.17	2.29	2.38
100	1.67	1.99	2.17	2.29	2.38

$$\text{Factor} = t(n-1,1-a/k)\,(1+1/n)^{1/2}$$

ATTACHMENT D

COST ESTIMATES

STATE ID No: 1970450002

USEPA ID No: ILD074411745

Attachment D: Cost Estimates

The following values must be used when establishing financial assurance in accordance with this Permit, applicable rules, and regulations. The cost estimates for closure, post-closure care, and calculations for the amount of financial assurance required for this facility are shown in Table I-2, Table 10-1, Table 10-2, Table 11-2, Table 13-1, and Table 13-2 of Document D.127 (expressed in 2024 dollars) identified in Attachment F of this Permit.

I. HWMUs Post-Closure Care (In accordance with Condition I.F.1)
Hazardous waste disposal Area 1 (35.95 Acres) and Area 2 (8.17 Acres).
Post-Closure Care is to be provided until at least September 10, 2022.

A. HWMUs Post-Closure Care (from Table I-2)	$16,456,185

II. Non-Hazardous Waste Landfill (In accordance with Condition III.K.6):

B. MSWLF Closure (from Table 13-1)	$9,524,326
C. MSWLF Post-Closure Care (from Table 13-2)	$4,709,258
D. Non-Hazardous Sub-Total	$14,233,584

III. South Stack Closure, Post-Closure Care, and Corrective Action Activities (In accordance with Condition V.K.1):

E. South Stack Closure (from Table 10-1)	$6,886,012
F. South Stack Post-Closure Care (from Table 11-2)	$5,553,746
G. Corrective Action (from Table 10-2)	$7,444,745
H. South Stack Sub-Total	$19,884,503

IV. Summary of Costs

I. HWMUs Post-Closure Care	$16,456,185
J. Non-Hazardous Sub-Total	$14,233,584
K. South Stack Sub-Total	$19,884,503
L. Grand Total	$50,574,272

Note:

Table 11-2 includes North Stack Ground Water Sampling and Monitoring.
This table also contains cost estimate for post-closure care of the South Stack.

ATTACHMENT E

CONSTRUCTION CERTIFICATION

STATE ID No: 1970450002

USEPA ID No: ILD074411745

Attachment E: Construction Certification

This statement is to be completed by both the responsible officer and the qualified Illinois lessened Professional Engineer upon completion of construction in accordance with 35 IAC Section 702.126. Submit one copy of the certification with original signatures and two additional copies. Forward these certification statements and any information required by the Permit to the following address:

Illinois Environmental Protection Agency
Bureau of Land #33
Permit Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

FACILITY NAME: Laraway Recycling and Disposal Facility
IEPA's SITE CODE: LPC #1970450002
U.S. EPA ID NO.: ILD074411745
PART B PERMIT LOG No. B-141R
PERMIT (OR MODIFICATION) ISSUANCE DATE:
PERMIT CONDITION NO. REQUIRING CERTIFICATION:

The _____ has been constructed in accordance with the specifications in the Permit. Documentation that the construction was in accordance with the Permit is contained in the enclosed report. I certify under penalty of law that this document and all attachments were prepared under my direction of supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____	_____
Signature of Owner/Operator	Name and Title
_____	_____
Signature of Registered P.E.	Name of Registered P.E. and Illinois Registration Number
Date	(P.E. SEAL)

ATTACHMENT F

APPROVED PERMIT APPLICATION IDENTIFICATION

STATE ID No: 1970450002

USEPA ID No: ILD074411745

Attachment F: APPROVED PERMIT APPLICATION IDENTIFICATION

A. Application for Renewed RCRA Post-Closure Permit Issued May 17, 2010 (B-141R)

1. Application titled: "RCRA Part B Post-Closure Permit Renewal Application" dated January 28, 2005.

2. Additional information dated February 20, 2009.

3. Additional information dated May 20, 2009.

B. Construction/Operation of a Non-hazardous Waste Landfill

1. Application titled: "Laraway Recycling and Disposal Facility Class 3 Permit Modification – Solid Waste Unit Expansion" dated February 2008

2. Additional information dated February 13, 2009.

3. Additional information dated March 6, 2009.

4. Additional information dated May 18, 2009.

5. Additional information dated July 8, 2009.

6. Additional information dated August 13, 2009.

7. Additional information dated September 29, 2009.

8. Additional information dated November 13, 2009

C. Corrective Action for Solid Waste Management Units

1. Application titled: "North and South Stack Corrective Action Plan" dated February 2008.

2. Additional information dated July 31, 2008.

3. Additional information dated February 13, 2009.

4. Additional information dated May 8, 2009.

D. Approved Permit Modification Requests

1. Class 1 Permit Modification Request (Log No. B-141R-M-1) dated June 1, 2010, and approved by Illinois EPA on July 14, 2010.

2. Class 1* Permit Modification Request (Log No. B-141R-M-2) dated June 8, 2010, and approved by Illinois EPA on July 14, 2010.

3. Class 1* Permit Modification Request (Log No. B-141R-M-3) dated August 10, 2010.

4. Class 1* Permit Modification Request (Log No. B-141R-CA-1 and B-141R-M-4) dated July 12, 2010 and August 10, 2010, and approved by Illinois EPA on November 10, 2010.

5. Class 1* Permit Modification Request (Log No. B-141R-M-5) dated August 25, 2010, and approved by Illinois EPA on November 10, 2010.

6. Class 1* Permit Modification Requests (Log No. B-141R-M-6, 7, 8 and 9), dated September 2, 2010, September 15, 2010, October 6, 2010 and October 12, 2010, and approved by Illinois EPA on December 27, 2010.

7. Class 1* Permit Modification Request (Log No. B-141R-M-10), dated November 4, 2010, and approved by Illinois EPA on January 11, 2011.

8. Class 1 and 1* Permit Modification Requests (Log No. B-141-R-M-13, 14, 15 and 16), dated December 3, 2010; January 7, 2011; and February 7, 2011, and approved by Illinois EPA on February 25, 2011.

9. Class 1* Permit Modification Request (Log No. B-141R-M-11) dated October 29, 2010, and approved by Illinois EPA on March 4, 2011.

10. Class 1* Permit Modification Request (Log No. B-141R-M-20) dated March 1, 2011, and approved by Illinois EPA on April 8, 2011.

11. Class 1* Permit Modification Requests (Log No. B-141R-M-21, 23 and 24) dated March 23, 2011; April 25, 2011; and March 17, 2011, and approved by Illinois EPA on June 21, 2011.

12. Class 1* Permit Modification Request (Log No. B-141R-M-18) dated December 6, 2010; additional information was submitted December 22, 2010. Among other things this submittal included a revised Appendix K (North and South Stack Construction Quality Assurance Plan), and approved by Illinois EPA on September 1, 2011.

13. Class 1* permit Modification Requests (Log No B-141R-M-12, 17, 19, 26, 30, and 31) dated November 9, 2010, December 7, 2010, February 21, 2011, May 31, 2011, July 11, 2011, and July 18, 2011; and approved by Illinois EPA on August 19, 2011. Note that this approval letter also acknowledged the withdrawal of a Class 1* permit modification request dated April 14, 2011 (Log No. B-141R-M-22).

14. Class 1* Permit Modification Requests, all approved on September 1, 2011:
    Log No. B-141R-M-25 dated May 5, 2011
    Log No. B-141R-M-27 dated June 8, 2011
    Log No. B-141R-M-28 dated June 17, 2011
    Log No. B-141R-M-29 dated July 6, 2011
    Log No. B-141R-M-32 dated August 1, 2011

15. Class 1* Permit Modification Request (Log No. B-141R-M-36) dated October 12, 2011, 2011, and approved by Illinois EPA on November 10, 2011

16. Class 1* Permit Modification Requests (Log No. B-141R-M-33 and 35) dated September 26, 2011 and November 211, 2011

17. Class 1* Permit Modification Requests (Log Nos. B-141R-M-34, 37, 38, and 39) dated October 3, 2011, November 18, 2011, November 21, 2011, and January 17, 2012.

18. Class 1* Permit Modification Request (Log No. B141R-M-40, 41, 42, 43, 44, 46, and 47) dated January 24, 2012; January 27, 2012; February 3, 2012; February 6, 2012; April 12, 2012; and May 10, 2012.

19. Class 1* Permit Modification Requests (Log Nos. B-141R-M-49, 50, 51, and 52) dated May 29, 2012, June 6, 2012, June 29, 2012, and July 10, 2012.

20. Class 1* Permit Modification Request (Log No. B-141R-M-54) dated August 21, 2012.

21. Class 1* Permit Modification Request (Log No. B-141R-M-45) dated April 1, 2012.

22. Class 1* Permit Modification Request (Log No. B-141R-M-48) dated May 23, 2012, additional information submitted June 14, 2012.

23. Class 1* Permit Modification Request (Log No. B-141R-M-55) dated August 24, 2012.

24. Class 1* Permit Modification Request (Log No. B-141R-M-61) dated January 11, 2013.

25. Class 1* Permit Modification Request (Log No. B-141R-M-53) dated August 22, 2012.

26. Class 1* Permit Modification Request (Log No. B-141R-M-57) dated September 13, 2012.

27. Class 1* Permit Modification Request (Log No. B-141R-M-58) dated October 2, 2012. Additional information submitted November 28, 2012.

28. Class 1* Permit Modification Request (Log No. B-141R-M-59) dated November 1, 2012. Additional information submitted January 24, 2013.

29. Class 1* Permit Modification Request (Log No. B-141R-M-60) dated November 28, 2012.

30. Class 1* Permit Modification Request (Log No. B-141R-M-63) dated November, 2012.

31. Class 1* Permit Modification Request (Log No. B-141R-M-61) dated January 11, 2013.

32. Class 1* Permit Modification Request (Log No. B-141R-M-62) dated January 21, 2013.

33. Class 1* Permit Modification Request (Log No. B-141R-M-64) dated February 6, 2013. Additional information dated February 11, 2013.

34. Class 1* Permit Modification Request (Log No. B-141R-M-65) dated February 6, 2013.

35. Class 1* Permit Modification Request (Log No. B-141R-M-67) dated April 10, 2013.

36. Class 1* Permit Modification Request (Log No. B-141R-M-68) dated February 6, 2013.

37. Class 1* Permit Modification Request (Log No. B-141R-M-69) dated May 6, 2013.

38. Class 1* Permit Modification Request (Log No. B-141R-M-66) dated February 27, 2013.

39. Class 1* Permit Modification Request (Log No. B-141R-M-70) dated May 31, 2013.

40. Class 1* Permit Modification Request (Log No. B-141R-M-71) dated May 31, 2013.

41. Class 1* Permit Modification Request (Log No. B-141R-M-72) dated June 17, 2013.

42. Class 1* Permit Modification Request (Log No. B-141R-M-73) dated May 13, 2013.

43. Class 1* Permit Modification Request (Log No. B-141R-M-74) dated August 12, 2013 and September 6, 2013 and approved by Illinois EPA on September 18, 2013.

44. Class 1* Permit Modification Request (Log No. B-141R-M-75) dated September 19, 2013 and approved by Illinois EPA on February 7, 2014.

45. Class 1* Permit Modification Request (Log No. B-141R-M-76) dated October 30, 2013 and approved by Illinois EPA on February 7, 2014.

46. Class 1* Permit Modification Request (Log No. B-141R-M-77) dated October 31, 2013 and approved by Illinois EPA on February 7, 2014.

47. Class 1* Permit Modification Request (Log No. B-141R-M-78) dated October 31, 2013. Additional information dated November 14, 2013 and November 25. 2013. Approved by Illinois EPA on February 7, 2014.

48. Class 1* Permit Modification Request (Log No. B-141R-M-79) dated November 25, 2013 and approved by Illinois EPA March 25, 2014.

49. Class 1* Permit Modification Request (Log No. B-141R-M-80) dated December 9, 2013 and approved by Illinois EPA March 25, 2014.

50. Class 1* Permit Modification Request (Log No. B-141R-M-81) dated January 28, 2014 and approved by Illinois EPA March 25, 2014.

51. Class 1* Permit Modification Request (Log No. B-141R-M-82) dated January 28, 2014 and approved by Illinois EPA March 25, 2014.

52. Class 1* Permit Modification Request (Log No. B-141R-M-83) dated March 13, 2014 and approved by Illinois EPA May 15, 2014.

53. Class 1* Permit Modification Request (Log No. B-141R-M-84) dated March 18, 2014 and approved by Illinois EPA May 15, 2014.

54. Class 1* Permit Modification Request (Log No. B-141R-M-86) dated May 21, 2014 and June 23, 2014 and approved by Illinois EPA on July 15, 2014.

55. Class 1* Permit Modification Request (Log No. B-141R-M-87) dated May 22, 2014 and approved by Illinois EPA September 3, 2014.

56. Class 1* Permit Modification Request (Log No. B-141R-M-88) dated July 16, 2014 and approved by Illinois EPA September 3, 2014.

57. Class 1* Permit Modification Request (Log No. B-141R-M-89) dated July 28, 2014 and approved by Illinois EPA on September 26, 2014.

58. Class 1* Permit Modification Request (Log No. B-141R-M-90) dated July 28, 2014 and approved by Illinois EPA on September 26, 2014.

59. Class 1* Permit Modification Request (Log No. B-141R-M-91) dated August 4, 2014 and approved by Illinois EPA October 9, 2014.

60. Class 1* Permit Modification Request (Log No. B-141R-M-92) dated August 14, 2014 and approved by Illinois EPA on September 26, 2014.

61. Class 1* Permit Modification Request (Log No. B-141R-M-93) dated September 15, 2014 and approved by Illinois EPA on October 20, 2014.

62. Class 1* Permit Modification Request (Log No. B-141R-M-94) dated October 15, 2014 and approved by Illinois EPA on April 20, 2015.

63. Class 1* Permit Modification Request (Log No. B-141R-M-96) dated December 1, 2014 and approved by Illinois EPA on March 3, 2015.

64. Class 1* Permit Modification Request (Log No. B-141R-M-97) dated December 18, 2014 and approved by Illinois EPA on March 3, 2015.

65. Class 1* Permit Modification Request (Log No. B-141R-M-98) dated March 19, 2015 and approved by Illinois EPA on April 20, 2015.

66. Class 1* Permit Modification Request (Log No. B-141R-M-99) dated May 13, 2015 and approved by Illinois EPA on June 30, 2015.

67. Class 1* Permit Modification Request (Log No. B-141R-M-100) dated June 16, 2015 and approved by Illinois EPA on August 10, 2015.

68. Class 1* Permit Modification Request (Log No. B-141R-M-101) dated July 7, 2015 and approved by Illinois EPA on August 10, 2015.

69. Class 1* Permit Modification Request (Log No. B-141R-M-102) dated July 22, 2015.

70. Class 1* Permit Modification Request (Log No. B-141R-M-103) dated September 8, 2015.

71. Class 1* Permit Modification Request (Log no. B-141R-M-95) dated October 29, 2014.

72. Class 1* Permit Modification Request (Log No. B-141R-M-105) dated November 2, 2015.

73. Class 1* Permit Modification Request (Log No. B-141R-M-104) dated January 19, 2016.

74. Class 1* Permit Modification Request (Log No. B-141R-M-106) dated January 19, 2016.

75. Class 1* Permit Modification Request (Log No. B-141R-M-107) dated March 18, 2016.

76. Class 1* Permit Modification Request (Log No. B-141R-M-109) dated May 17, 2016.

77. Class 1* Permit Modification Request (Log No. B-141R-M-110) dated June 17, 2016.

78. Class 1* Permit Modification Request (Log No. B-141R-M-112) dated August 9, 2016.

79. Class 1* Permit Modification Request (Log No. B-141R-M-113) dated August 11, 2016.

80. Class 1* Permit Modification Request (Log No. B-141R-M-115) dated November 1, 2016.

81. Class 1* Permit Modification Request (Log No. B-141R-M-108) dated April 15, 2016.

82. Class 1* Permit Modification Request (Log No. B-141R-M-111) dated July 20, 2016.

83. Class 1* Permit Modification Request (Log No. B-141R-M-116) dated November 3, 2016.

84. Class 1* Permit Modification Request (Log No. B-141R-M-117) dated December 15, 2016.

85. Class 1* Permit Modification Request (Log No. B-141R-M-122) dated April 5, 2017.

86. Class 1* Permit Modification Request (Log No. B-141R-M-126) dated August 18, 2017

87. Class 1* Permit Modification Request (Log No. B-141R-M-128) dated October 11, 2018. Closure certification report covering 19.2 acres of the solid waste landfill.

88. Class 1* Permit Modification Request (Log No. B-141R-M-129) dated November 21, 2017. Modifications to base grade elevations and drainage basins.

89. Class 1* Permit Modification Request (Log No. B-141R-M-118) dated December 15, 2016. Changes to the facility's groundwater and landfill gas monitoring programs.

90. Class 1* Permit Modification Request (Log No. B-141R-M-119) dated January 5, 2017. Demonstration of alternate source for groundwater exceedances during the third and fourth quarter 2016 groundwater sampling events.

91. Class 1* Permit Modification Request (Log No. B-141R-M-120) dated March 8, 2017. Proposed changes to the groundwater monitoring program for the non-hazardous waste landfill. Note that the proposed change from quarterly to semi-annual groundwater monitoring for select wells contained in this submittal was not approved.

92. Class 1* Permit Modification Request (Log No. B-141R-M-121) dated March 21, 2017. Proposal for an assessment monitoring plan to address dissolved sulfate levels in Well G188 at the facility's non-hazardous waste landfill.

93. Class 1* Permit Modification Request (Log No. B-141R-M-123) dated May 11, 2017. Additional information dated January 25, 2018. Updates to cost estimates.

94. Class 1* Permit Modification Request (Log No. B-141R-M-136) dated October 2, 2018. Construction certification for Phase 9A.

95. Class 1* Permit Modification Request (Log No. B-141R-M-133) dated May 10, 2018. Updated closure/post-closure plans and cost estimates.

96. Class 1* Permit Modification Request (Log No. B-141R-M-135) dated August 13, 2018. Revised clay liner elevations in the future Phase 12 and 13 areas, revised waste placement procedures, allowed use of non-hazardous refractory brick waste for internal landfill access roads, acceptance of gas probe GP-14 installation report, and an updated leachate monitoring schedule.

97. Class 1* Permit Modification Request (Log No. B-141R-M-140) dated May 7, 2019. Updated closure/post-closure plans and cost estimates

98. Class 1* Permit Modification Request (Log No. B-141R-M-144) dated November 27, 2019. Construction Certification for Phases 8B, 9B, and 10A.

99. Class 1* Permit Modification Request (Log No. B-141R-M-147) dated November 27, 2019. Construction Certification for Phase 11A. Additional information received April 2, 2020.

100. Class 1* Permit Modification Request (Log No. B-141R-M-143) dated September 20, 2019. Changes in status for Well G1A1 and revised MAPC values.

101. Class 1* Permit Modification Request (Log No. B-141R-M-124) dated November 27, 2019. Alternate Source Demonstration for Well R149

102. Class 1* Permit Modification Request (Log No. B-141R-M-127) dated September 26, 2017. Alternate Source Demonstration for Well R173, exceedances in well G52S, and recalculated background value for well G173.

103. Class 1* Permit Modification Request (Log No. B-141R-M-130) dated December 5, 2017. Alternate Source Demonstration for Well P112.

104. Class 1* Permit Modification Request (Log No. B-141R-M-134) dated June 14, 2018. Alternate Source Demonstration for Well R113 and P112.

105. Class 1* Permit Modification Request (Log No. B-141R-M-141) dated June 26, 2019. Alternate Source Demonstration for Wells G52S, R122, G148, and P112.

106. Class 1* Permit Modification Request (Log No. B-141R-M-131) dated March 21, 2018. Proposed changes to conditions for well G175.

107. Class 1* Permit Modification Request (Log No. B-141R-M-137) dated November 14, 2018. Proposed changes to conditions for well G175.

106. Additional information submitted in support of Items 102 -107 dated February 5, 2020.

107. Class 1* Permit Modification Request (Log No. B-141R-M-148) dated March 4, 2020. Assessment Monitoring Report.

108. Class 1* Permit Modification Request (Log No. B-141R-M-138) dated January 14, 2019. Request Corrections to 10/18/18 Permit (Log # B-141R-M-118, M-119, M-120, M-121, & M-123).

109. Class 1* Permit Modification Request (Log No. B-141R-M-142) dated August 2, 2019. Update to Section E of the Post-Closure Permit Application.

110. Class 1* Permit Modification Request (Log No. B-141R-M-145) dated December 30, 2019. Alternate source demonstration for well R112

111. Class 1* Permit Modification Request (Log No. B-141R-M-146) dated January 8, 2020. Alternate source demonstration for wells G52S and R122.

112. Class 1* Permit Modification Request (Log No. B-141R-M-149) dated May 18, 2020. Changes to the groundwater monitoring program for Wells G1B2, G1A2, and G1A3.

113. Class 1* Permit Modification Request (Log No. B-141R-M-151) dated August 24, 2020. Changes to the groundwater monitoring program for Well G1A3.

114. Class 1* Permit Modification Request (Log No. B-141R-M-152) dated September 17, 2020. Alternate source demonstrations for second and third quarter exceedances at wells G173, G188 and G195; a notice of well replacement for G173; and a proposed permit language modification.

115. Class 1* Permit Modification Request (Log No. B-141R-M-150) Dated May 20, 2020 (Additional information received December 14, 2020). Cost Estimate Updates.

116. Class 1* Permit Modification Request (Log No. B-141R-M-154) Dated October 6, 2020 (Additional information received May 8, 2021 (two submittals), and May 19, 2021. Construction Certification report for Cells 12A, 13A, and 14A.

117. Class 1* Permit Modification Request (Log No. B-141R-M-153) dated September 30, 2020. Closure Certification report for approximately 24.2 acres on the east side of the facility covering portions of Phases 4, 5, and 6.

118. Class 1* Permit Modification Request (Log No. B-141R-M-155) dated February 5, 2021. Additional information dated June 9, 2021. Construction report for new solid waste groundwater monitoring wells.

119. Class 1* Permit Modification Request (Log No. B-141R-M-157) dated March 8, 2021. Additional information dated May 19, 2021. Alternate source demonstration for new solid waste groundwater monitoring exceedances.

120. Class 1* Permit Modification Request (Log No. B-141R-M-158) dated May 14, 2021. Updates to cost estimates.

121. Class 1* Permit Modification Request (Log No. B-141R-M-161) dated August 13, 2021. Change sampling frequency for wells G197, G198 and G1B4.

122. Class 1* Permit Modification Request (Log No. B-141R-M-162) dated September 9, 2021. Construction certification report for cells 11B and 12B.

124. Class 1* Permit Modification Request (Log No. B-141R-M-164) dated November 17, 2021. Additional information dated May 16, 2022.

125. Class 3 Permit Modification Request (Log No. B-141R-M-125) Dated July 31, 2017. Additional information dated September 9, 2017, January 19, 2021, May 26, 2022, October 12, 2022, October 25, 2022, and November 22, 1022.

126. Class 1* Permit Modification Request (Log No. B-141R-M-169) dated August 10, 2022. Abandonment of well G1A5 and construction of well G281

127. Class 1* Permit Modification Requests, all approved on July XX, 2024.
Log No. B-141R-M-167 (2022 Cost Estimate) – Dated May 9, 2022
Log No. B-141R-M-174 (2023 Cost Estimate) – Dated May 12, 2023
Log No. B-141R-M-178 (Disposal Cell Phase
9C / 10B Construction Acceptance Report) – Dated January 22, 2024
Log No. B-141R-M-181 (2024 Cost Estimate) – Dated May 8, 2024

ATTACHMENT G

GROUNDWATER REPORTING FORMS

STATE ID No: 1970450002

USEPA ID No: ILD074411745

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

RCRA FACILITY GROUNDWATER, LEACHATE AND GAS REPORTING FORM

This form must be used as a cover sheet for the notices and reports, identified below as required by: (1) a facility's RCRA interim status closure plan; (2) the RCRA interim status regulations; or (3) a facility's RCRA Permit. All reports must be submitted to the Illinois EPA's Bureau of Land Permit Section. This form is for use by Hazardous Waste facilities only. Reporting for Solid Waste facilities should be submitted on a separate form. All reports submitted to the Illinois EPA's Bureau of Land Permit Section must contain an original, plus a minimum of two copies.

Note: This form is not to be used with permit or closure plan modification requests. The facility's approved permit or closure plan will state whether the document you are submitting is required as a report or a modification request.

Facility Name: _____ Site ID #: _____
Facility Address: _____ Fed ID #: _____

Check the appropriate heading. Only one heading may be checked for each corresponding submittal. Check the appropriate sub-heading, where applicable. Attach the original and all copies behind this form.

___ LPC-160 Forms

Groundwater	Leachate
___ Quarterly – Indicate one: 1 2 3 4	___ Quarterly – Indicate one: 1 2 3 4
___ Semi-Annual	___ Semi-Annual
___ Annual	___ Annual
___ Biennial	___ Biennial

___ Groundwater Data (without LPC-160 Forms)
___ Quarterly – Indicate one: 1 2 3 4
___ Annual ___ Semi-Annual ___ Biennial

___ Well Construction Information
___ Well Construction Forms, Boring Logs and/or Abandonment Forms
___ Well Survey Data (e.g., Stick-up Elevation Data)

___ Notice of Statistically Significant Evidence of Groundwater Contamination (35 Ill. Adm. Code 724.198)

___ Notice of Exceedence of Groundwater Concentration Limit (35 Ill. Adm. Code 724.199(h))

___ Notice of Alternate Source or Error in Sampling Analysis or Evaluation of Groundwater (35 Ill. Adm. Code 724.199(i))

___ Gas Monitoring Reports

___ Other (identify)

_____

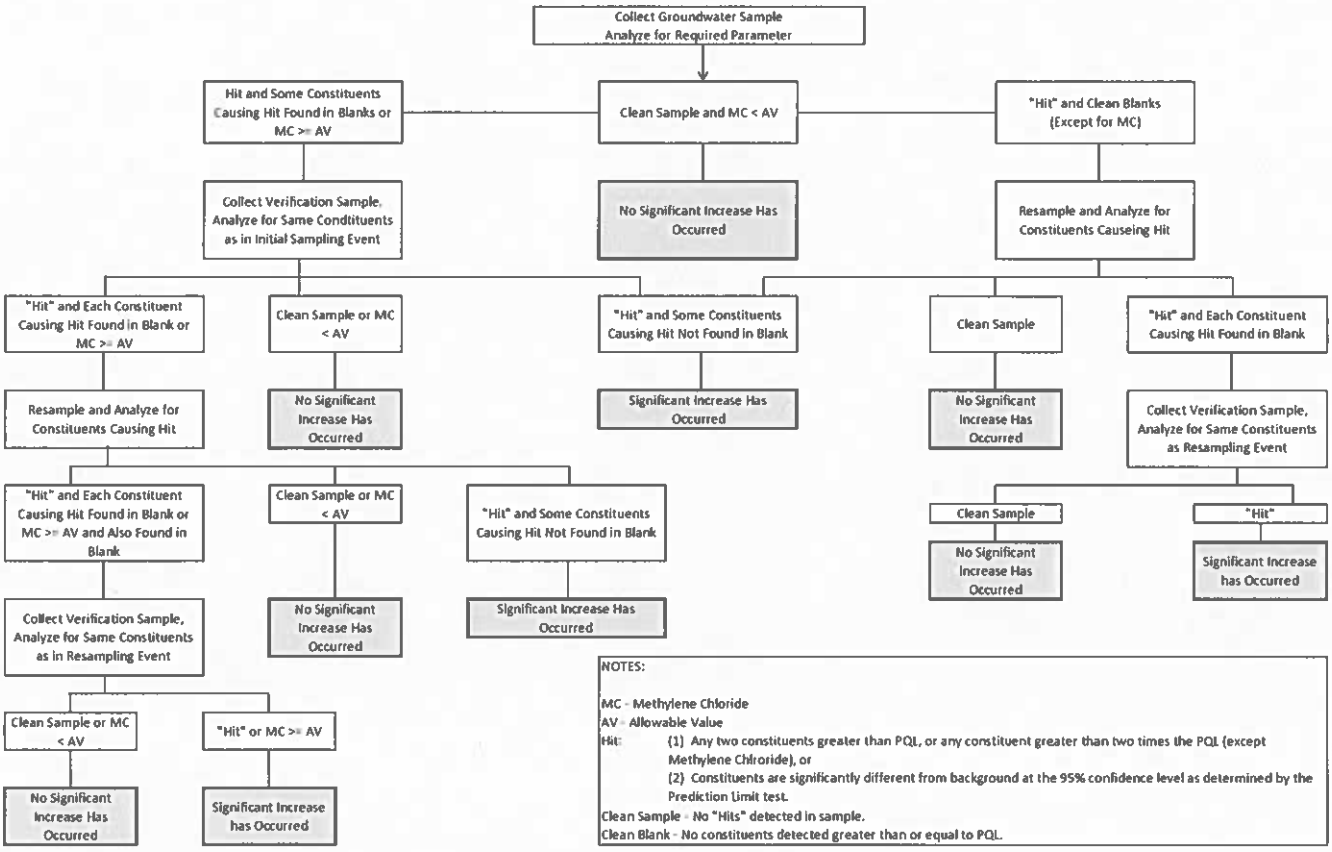
_____

ATTACHMENT H

STATISTICAL PROCEDURES FLOW CHART

STATE ID No: 1970450002

USEPA ID No: ILD074411745


Collect Groundwater Sample
Analyze for Required Parameter
Hit and Some Constituents Causing Hit Found in Blanks or MC >= AV
Clean Sample and MC < AV
"Hit" and Clean Blanks (Except for MC)
Collect Verification Sample, Analyze for Same Condtituents as in Initial Sampling Event
No Significant Increase Has Occurred
Resample and Analyze for Constituents Causeing Hit
"Hit" and Each Constituent Causing Hit Found in Blank or MC >= AV
Clean Sample or MC < AV
"Hit" and Some Constituents Causing Hit Not Found in Blank
Clean Sample
"Hit" and Each Constituent Causing Hit Found in Blank
Resample and Analyze for Constituents Causing Hit
No Significant Increase Has Occurred
Significant Increase Has Occurred
No Significant Increase Has Occurred
Collect Verification Sample, Analyze for Same Constituents as Resampling Event
"Hit" and Each Constituent Causing Hit Found in Blank or MC >= AV and Also Found in Blank
Clean Sample or MC < AV
"Hit" and Some Constituents Causing Hit Not Found in Blank
Clean Sample
"Hit"
Collect Verification Sample, Analyze for Same Constituents as in Resampling Event
No Significant Increase Has Occurred
Significant Increase Has Occurred
No Significant Increase Has Occurred
Significant Increase has Occurred
Clean Sample or MC < AV
"Hit" or MC >= AV
No Significant Increase Has Occurred
Significant Increase has Occurred
NOTES:
MC - Methylene Chloride
AV - Allowable Value
Hit: (1) Any two constituents greater than PQL, or any constituent greater than two times the PQL (except Methylene Chloride), or
(2) Constituents are significantly different from background at the 95% confidence level as determined by the Prediction Limit test.
Clean Sample - No "Hits" detected in sample.
Clean Blank - No constituents detected greater than or equal to PQL.

ATTACHMENT I

FACILITY PLAN

STATE ID No: 1970450002

USEPA ID No: ILD074411745

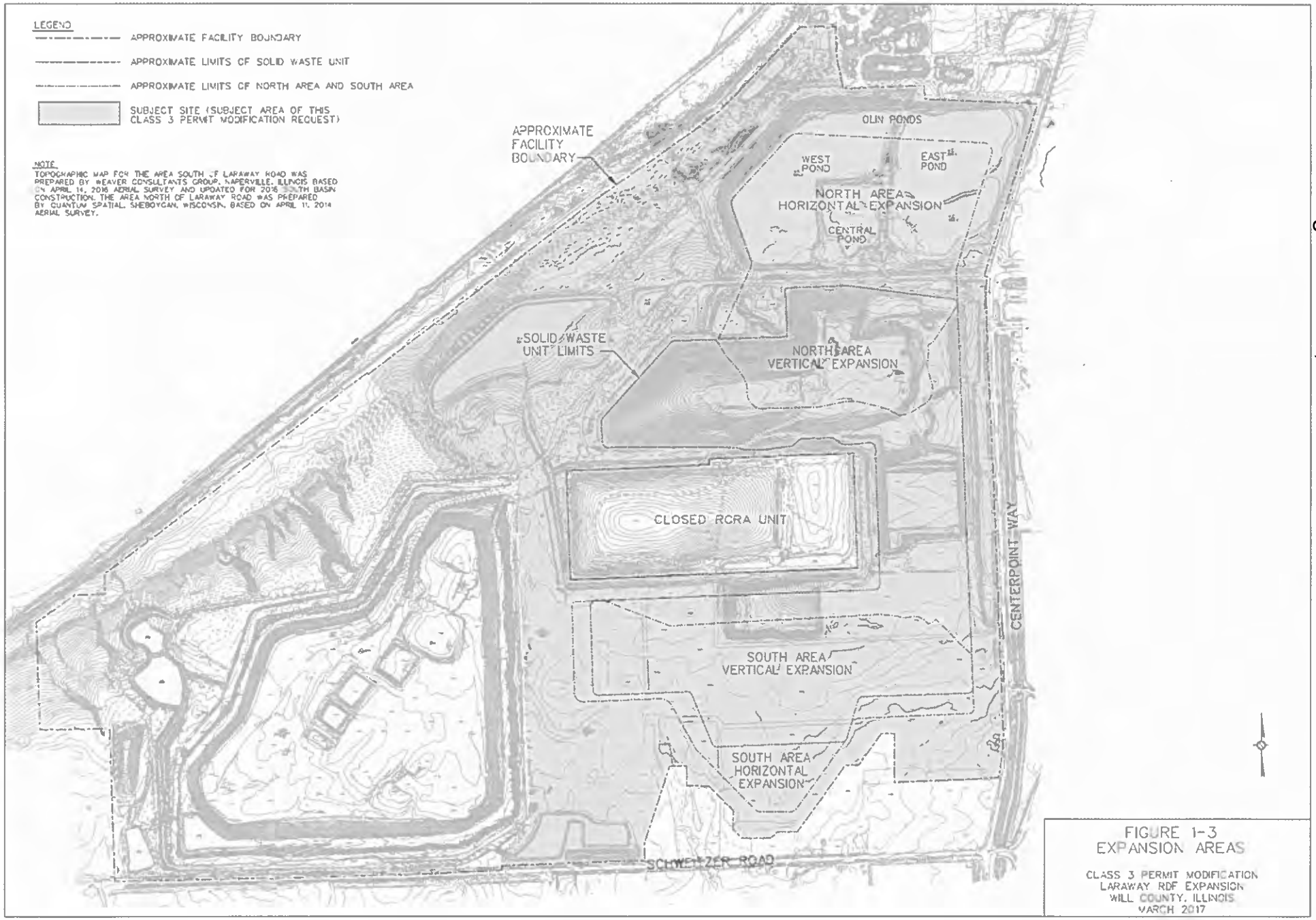
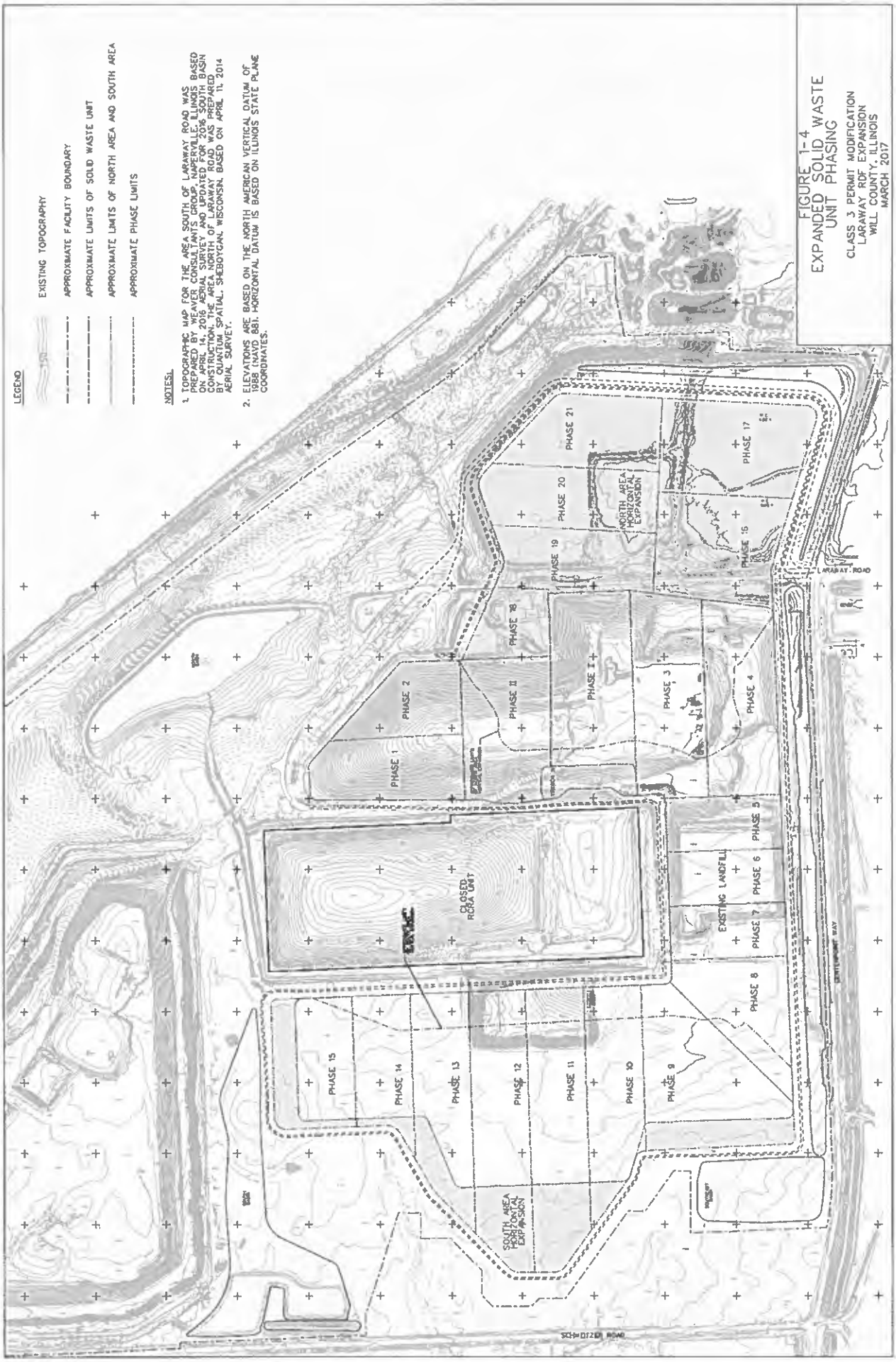


FIGURE 1-3
EXPANSION AREAS

CLASS 3 PERMIT MODIFICATION
LARAWAY RDF EXPANSION
WILL COUNTY, ILLINOIS
MARCH 2017


LEGEND
EXISTING TOPOGRAPHY
APPROXIMATE FACILITY BOUNDARY
APPROXIMATE LIMITS OF SOLID WASTE UNIT
APPROXIMATE LIMITS OF NORTH AREA AND SOUTH AREA
APPROXIMATE PHASE LIMITS
NOTES:
1. TOPOGRAPHIC MAP FOR THE AREA SOUTH OF LARAWAY ROAD WAS PREPARED BY WILLETT CONSULTING, LLC, LOCKPORT, ILLINOIS BASED ON APRIL 14, 2016 AERIAL SURVEY AND UPDATED FOR 2016 SOUTH BASIN CONSTRUCTION. THE AREA NORTH OF LARAWAY ROAD WAS PREPARED BY QUANTUM SPATIAL, SHEBOYGAN, WISCONSIN, BASED ON APRIL 11, 2014 AERIAL SURVEY.
2. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). HORIZONTAL DATUM IS BASED ON ILLINOIS STATE PLANE COORDINATES.
FIGURE 1-4
EXPANDED SOLID WASTE UNIT PHASING
CLASS 3 PERMIT MODIFICATION
LARAWAY RDF EXPANSION
WILL COUNTY, ILLINOIS
MARCH 2017
PHASE 1
PHASE 2
PHASE 11
PHASE 18
PHASE 19
PHASE 20
PHASE 21
PHASE 17
PHASE 16
PHASE 3
PHASE 4
PHASE 5
PHASE 6
PHASE 7
PHASE 8
PHASE 9
PHASE 10
PHASE 11
PHASE 12
PHASE 13
PHASE 14
PHASE 15
CLOSED RCRA UNIT
EXISTING LANDFILL
NORTH AREA HORIZONTAL EXPANSION
SOUTH AREA HORIZONTAL EXPANSION
LARAWAY ROAD
SCHWEITZER ROAD

ATTACHMENT J

Illinois EPA Determinations Regarding Specific Permit Modification Requests

STATE ID No: 1970450002

USEPA ID No: ILD074411745

Attachment J:

Illinois EPA Determinations Regarding Specific Permit Modification Requests

The Illinois EPA has determined that certain portions of submittals identified in Section D of Attachment F as part of the approved permit application cannot be approved as proposed. The following determinations apply to specific modification requests as identified below. All Item references are to Attachment F.

1. Regarding Item D.27: The Illinois EPA has determined the following:

    a. Attachment 4 of the October 2, 2012 submittal cannot be approved due to the following:

        i. The attachment includes portions of a document denied by the September 1, 2011 Illinois EPA letter (Log No. B-141R-M-18, 25, 27, 28, 29 and 32);

        ii. The attachment includes parameters that are not of concern in the subject submittal;

        iii. The attachment includes proposed background values for monitoring well G1B3 which is not included in the subject groundwater assessment; and

        iv. The attachment refers to MAPCs rather than AGQSs making the intended purpose of the calculations confusing.

2. Regarding Item D.28, Condition II.J.17 remains outstanding.

3. Regarding Item D.29:

    a. The Illinois EPA has determined that the request to delete total and dissolved barium from Conditions II.E.1, List E1 and Condition II.E.2, List E2 is not adequate to meet the requirements of Title 35 Illinois Administrative Code (35 IAC) 724.197(a)(3) and 724.200(d) therefore cannot be approved. Semi-annual evaluation of those parameters must continue pursuant to the current requirements for parameters in Lists E1 and E2 of the Permit.

b. Due to Comment 3.a above, the proposed revisions to the Permit Renewal Application cannot be approved. Within 90 days of the date of this Illinois EPA response, revised portions of the Permit Renewal Application consistent with this Illinois EPA determination must be submitted as a Class 1* permit application pursuant to the requirements of 35 IAC Part 703.280.

c. The Illinois EPA does not concur with the facility's assertion that the 35 IAC 620, Class 1 GQSs are not applicable until corrective action is completed. Conditions II.D, Table 2 and II.F.2 designate GMZ monitoring wells that must meet applicable GQSs serving as sentry wells to indicate if the corrective action must be modified.

4. Regarding Item D.30:

a. The facility does not specifically state that it wants to discontinue monitoring for total and dissolved arsenic, lead, manganese, and sulfate, in groundwater at the North Stack, but it is implied based on the proposal to conduct a Tier 2 Evaluation for those parameters. Due to ongoing exeedences for those parameters, a request to discontinue monitoring them cannot be approved at this time.

b. The proposal to conduct a Tier 2 evaluation for arsenic, lead, manganese, and sulfate within 180 days of Illinois EPA approval of the subject submittal cannot be approved at this time. However, a TACO evaluation must be submitted for Illinois EPA review and approval by August 15, 2014. This is due to the following:

i. The distance downgradient from compliance wells to the property boundary (as little as 100 ft) and the lack of retardation factors for inorganic constituents makes it unlikely that compliance can currently be achieved at the nearest point of human exposure which, at this time, is the property boundary.

ii. Based on a phone conversation with Sean Chisek during the week of January 27, 2013, the facility expressed a desire to establish an ELUC restricting groundwater use on the downgradient railroad property, which would move the nearest point of human exposure to the Des Plaines River and make it more likely to achieve compliance. Currently, the facility has secured no such agreement from the railroad. ELUCs cannot be imposed on an adjacent property without the adjacent property owner's approval.

iii. The August 15, 2014, date allows an additional 18 months of monitoring following the source removal in order to determine if significant improvement of groundwater quality occurs as a result of that effort.

iv. The additional 18 months will provide a data set to allow for a more robust trend evaluation. The data set will span from the 4th Quarter 2010 through the 2nd Quarter 2014 and will include the following ten sampling events: 4Q 2010, 2Q 2011, 4Q 2011, 1Q 2012, 2Q 2012, 3Q 2012, 4Q 2012, 2Q 2013, 4Q 2013, and 2Q 2014.

5. Regarding Item D.30:

   a. The Illinois EPA has determined that it cannot approve the request to designate monitoring wells G124, G126, G161 and R134 to be used only for monitoring groundwater elevation due to outstanding issues with arsenic in groundwater. See Comment 2 above.

   b. On February 27, 2013, the facility submitted a work plan to investigate the source(s) of arsenic currently observed in various GMZ groundwater monitoring wells. That document is currently under review by the Illinois EPA. At this time, Condition II.J.17 remains outstanding pending the submittal and Illinois EPA review of that investigation.

   c. On October 4, 2012, the Illinois Pollution Control Board (Board) adopted amendments to 35 IAC Part 620 that include new and revised Groundwater Quality Standards for numerous organic and inorganic parameters. In accordance with 35 IAC 703.271(c) the facility must submit proposed revisions adequate to update the Permit to meet those new requirements. The proposal must be submitted in the form of a Class 1* permit application pursuant to 35 IAC 703.280 within 90 days of the date of this Illinois EPA letter.

6. Regarding Item D.38:

   a. The facility must include monitoring wells G1B1 and G1B2 in investigation activities. This is due to the following:

      i. Wells G1B1 and G1B2 are located at positions most unlikely to be affected by any of the waste management units at the facility, approximately 2,100 and 1,900 ft. respectively side gradient to upgradient of the hazardous waste landfill; much farther than proposed wells WT-208-07 and WT-209-07 (about 625 ft.), well WT-207-07 (about 1,000 ft.), and well D-122-05 (about 1,500 ft.)

ii. Illinois EPA does not concur with the following statement made in the July 8, 2013, email:

> "The other wells [G1B1 and G1B2] could be representative of the groundwater in the general area, but are not upgradient of the unit. If they're not upgradient, they wouldn't be valid as upgradient background wells."
>
> The statement acknowledges that wells G1B1 and G1B2 monitor groundwater that is representative of the general area and not affected by the regulated unit. Unless groundwater data demonstrates otherwise, the wells appear to meet the requirements of 35 IAC 724.197(a)(1) and <u>are</u> potentially valid as background wells.

b. The facility must determine if there is/are potential geologic sources of arsenic in groundwater. Therefore, samples must be collected from each geologic unit down to the upper bedrock present at the facility. This includes the soil horizon, the Peoria Silt, the Lemont Formation Yorkville Member, the Equality formation, the Henry Formation, and the upper weathered portions of the Silurian Dolomite. Those samples must be analyzed to determine arsenic concentrations in those materials, and must be evaluated to determine the potential for arsenic to be leached from those materials based on the geochemical conditions that are determined to be present at the facility.

7. Regarding Item D.49, the proposed AGS/MAPc value of 12 ug/L for p-isopropyltoluene is not approved. At this time, the detections appear to be an anomaly and therefore not representative of actual groundwater conditions.

8. Regarding Item D.50, the revised Page 10-9 of the Solid Waste Expansion Class 3 Permit Modification Application is not approved. It lists a revised MAPC/AGQS of 12ug/L for p-isopropyltoluene. As discussed in Condition 7, this revised MAPC/AGQS is not approved.

9. Regarding Item D.77, the request to modify Permit Condition II.I.2.b to refer to constituent List E1 cannot be approved. Condition II.I.2.b refers to annual sampling and analysis as does List E3. Analysis of List E1 is required by Condition II.I.1.b of the Permit.

NIJMAN · FRANZETTI LLP

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Jennifer T. Nijman
jn@nijmanfranzetti.com
312.251.5255

August 26, 2024

VIA EMAIL melanie.jarvis@illinois.gov
Melanie Jarvis
Illinois Environmental Protection Agency
Division of Legal Counsel

Re: 1970450002 – Will County
Laraway Recycling and Disposal Facility
ILD074411745
Log Nos. B-141R-M-167, B-141R-M-174, B141R-M-178, and B-141R-M-181
Log No. B-141R2
RCRA Permit File – 24A and 24D
Permit Approval/Permit Correspondence

Dear Melanie:

This letter is submitted on behalf of Waste Management of Illinois, Inc. to request a 90-day extension to appeal the final determinations issued by the Illinois Environmental Protection Agency (IEPA) on July 29, 2024 (Log Nos. B-141R-M-167, B-141R-M-174, B141R-M-178, and B-141R-M-181) and July 30, 2024 (Log No. B-141R2) (together, the "final determinations") as listed above. The final determinations are overlapping and closely related – we would appreciate your insight on whether the requests for extension, and the appeals, may be combined and filed together.

The final determinations provide the applicant thirty-five (35) days from the issuance of the final determinations to appeal, but with written notice from the applicant and IEPA, the thirty-five (35) day period may be extended for ninety (90) days. This letter is timely submitted within 35-days of July 29 and July 30, 2024. WMIL requests a 90-day extension for both final determinations from September 3 (September 2 is a holiday) to December 3, 2024.

Very truly yours,

Jennifer Nijman
Counsel for Waste Management of Illinois, Inc.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JAMES JENNINGS, INTERIM DIRECTOR

217/524-3301

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

JUL 30 2024

9589 0710 5270 0389 7097 06

Waste Management of Illinois, Inc.
Attn: Ian Johnson
21233 West Laraway Road
Joliet, Illinois 60436-9525

Waste Management of Illinois, Inc.
Attn: James Wilson
700 East Butterfield Road Suite 400
Lombard, Illinois 60148-5671

Re: 1970450002 – Will County
Laraway Recycling and Disposal Facility
USEPA ILD074411745
Log No. B-141R2
RCRA Permit File – 24D
Permit Correspondence

Dear Mr. Johnson and Mr. James Wilson:

The purpose of this letter is to inform Waste Management of Illinois, Inc. (WMI) of the Illinois EPA's post-closure care evaluation and determination for a closed hazardous waste management unit, Areas 1 and 2, at the above-referenced Laraway Recycling and Disposal Facility (Laraway).

Laraway has been conducting post-closure care activities at Areas 1 and 2 since September 10, 1992, the date Illinois EPA accepted certification of closure, under the requirements of the facility's RCRA Post-Closure Permit (Log Nos. B-141 and B-141R).

The Illinois EPA has conducted a review and evaluation of the post-closure status and financial assurance liability for Areas 1 and 2 to determine whether the environmental conditions and associated regulatory requirements identified at this site meet the standards of the Illinois Environmental Protection Act (Act), Title 35 Illinois Administrative Code (35 IAC) Subtitle G, Subtitle C of the Resource Conservation and Recovery Act (RCRA), and the USEPA's "Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA", dated December 15, 2016 (2016 USEPA Guidance). In addition, USEPA's guidance "Implementing Climate Resilience in Hazardous Waste Permitting Under the Resource Conservation and Recovery Act (RCRA)", dated June 5, 2024 (June 5, 2024 USEPA Guidance) is also referenced in this letter. A copy of the 2016 USEPA Guidance and June 5, 2024 USEPA Guidance are attached to this letter.

1. Post-Closure Care Period Evaluation

Condition I.C.2 of the facility's current RCRA Post-Closure Permit states, post-closure care of the Areas 1 and 2 must be provided for at least thirty (30) years, until at least September 10, 2022. The Illinois EPA has evaluated the conditions of the site, as identified in this letter, and determined that it is necessary to continue post-closure care of Areas 1 and 2 beyond September 10, 2022, for at least thirty (30) years in accordance with 35 IAC 703.282. Additionally, the facility must modify the current RCRA Post-Closure Plan in order to address current and future environmental concerns identified in this letter.

The Illinois EPA's determination to require Laraway to extend post-closure care for Areas 1 and 2 is based on the following:

a. Leachate: The ongoing generation of leachate from Areas 1 and 2 requires continued leachate collection and management under post-closure care in accordance with 35 IAC 724.410(b)(2). According to Laraway's annual leachate report for 2023, reported volumes of leachate generated from the Areas 1 and 2, were 824,265 gallons in 2022 and 1,023,250 gallons in 2023.

According to the 2016 USEPA Guidance, monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit (e.g., it can suggest a cover or liner failure when leachate is detected late in the post-closure care period).

b. Nature of waste in the landfill: The wastes contained in Areas 1 and 2, approximately 55 acres in size, are considered RCRA hazardous wastes. Area 1 accepted a mixture of municipal solid waste and industrial bulk waste, some of which was hazardous waste. Area 2 accepted containers of waste.

Since hazardous wastes remain in place, Areas 1 and 2 are susceptible to long-term risks and therefore requires continued maintenance and management under post-closure care.

c. Unit Type/Design: The existing final cover system design for Areas 1 and 2, from top to bottom is: 1) a 28-inch thick final cover protective layer to support vegetation (the top 6 inches (minimum) of which is topsoil); 2) a 12-oz/sy non-woven geotextile; 3) a geonet drainage layer; 4) a 40-mil high density polyethylene (HDPE) geomembrane; and 5) a 24-inch compacted clay layer ($K = 1.00 \times 10^{-7}$ cm/s).

The existing leachate collection system was installed as a retrofit system to Areas 1 and 2. The Areas 1 and 2 landfills were not designed to meet the requirements of 35 IAC 724.401 as confirmed in the facility's RCRA Permit renewal application, dated February 27, 2020. 35 IAC 724.410 requires minimum requirements which must be met during the post-closure care period to provide long-term minimization of migration of liquid though the cover system and minimization of leachate. As noted in the 2016 USEPA Guidance, a viable cover is the most important mechanisms in preventing leachate generation and, ultimately, a release of contaminants to the environment. Maintenance and monitoring of the cover system must continue to preserve its integrity. As the subject units do not meet the minimum design standards of a hazardous waste landfill, a continued long-term monitoring and maintenance of Areas 1 and 2 are necessary.

d. Landfill Gas: Area 1 is equipped with a Gas Collection and Control System (GCCS). After nearly thirty-two (32) years of post-closure care, landfill gas continues to be generated, and therefore, a landfill gas monitoring/management program must continue at Area 1. The gas collection system must remain operational and be maintained.

e. Long-Term Care (also known as Long-Term Stewardship): The establishment and maintenance of physical and legal land use controls at Areas 1 and 2 are necessary to prevent exposure to the hazardous waste and hazardous constituents abandoned within the landfill. The Illinois EPA has determined that long-term monitoring, including maintenance of the cover system and groundwater monitoring system, control of any liquids (leachate), and landfill gas, and restrictions of future land uses must be established at the site. These measures must continue to minimize future exposure and potential hazardous waste releases to the environment in accordance with 35 IAC 724.410(b)(1), Section 12(a), 21(n), and 39(g) of the Act and the 2016 USEPA Guidance.

f. Climate Change Consideration: Long-term care of the hazardous waste management unit mentioned above must also consider impacts from climate change. The June 5, 2024 USEPA Guidance requires the RCRA authorized states to incorporate climate change considerations into their RCRA permitting program. The June 5, 2024 USEPA Guidance requires that, "RCRA permits will include the conditions that the permitting Authority determines are necessary to ensure that the facility operation will be compliant and protective in the face of such impacts." Hazardous wastes remain at Areas 1 and 2; therefore, vulnerability screening and assessment for any potential climate change impacts must be incorporated into the long-term care for Areas 1 and 2.

2. Financial Assurance Requirements Evaluation

Historically, during the post-closure care period, the Illinois EPA has accepted the facility's proposal to reduce financial assurance liability based on the number of years of post-closure care that had been completed by the facility. However, this reduction did not take into consideration the established long-term environmental threats at facilities with hazardous waste remaining on site. The financial risk to the Illinois EPA and citizens of Illinois, should the Illinois EPA have to unexpectedly assume operation of the post-closure care of the facility, had not been appropriately accounted for. The Illinois EPA has evaluated the risk to the state and citizens of Illinois, based on current climate change guidance, USEPA post-closure care guidance, and in accordance with requirements for post-closure care, cost estimates, and financial assurance for the hazardous waste management unit(s) under 35 IAC Part 724, and has determined that a rolling 30-year post-closure care cost estimate must be maintained by the facility, as required by 35 IAC 724.217(a) (1) and 35 IAC 703.282. If any evidence shows that the estimated cost should be higher than the rolling 30-year cost estimate, then it should be adjusted to a higher number of years.

3. Pending RCRA Renewal Permit Application

A RCRA renewal permit application was received by the Illinois EPA on February 28, 2020, followed by two addendums received on August 21, 2023, and February 8, 2024. As the facility's RCRA permit is in the process of being renewed, the facility must submit an addendum to the renewal permit application to revise the post-closure plan for the Area 1 and 2 units to extend the post-closure care and provide rolling 30-year financial assurance for the post-closure care of the Area 1 and 2 units within sixty (60) days of the date of this letter.

If Item 3 above is not addressed in a timely manner, the Illinois EPA may: (1) issue a renewal permit with conditions to reflect the extension of the post-closure care period; or (2) deny the renewal of the RCRA permit for the facility.

This action shall constitute the Illinois EPA's final action for the requirements described above. The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Act by filing a petition for a hearing within thirty-five (35) days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed ninety (90) days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the request for an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276
217/782-5544

For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board, Clerk
State of Illinois Center
100 West Randolph Street, Suite 11-500
Chicago, IL 60601-3233
312/814-3620

Work required by this letter or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

If you have any questions concerning this matter, please contact John Roop, P.E., by email at john.roop@illinois.gov or by phone at 217/524-3071.

Sincerely,

Jacqueline M. Cooperider (for JMC)

Jacqueline M. Cooperider, P.E.
Permit Section Manager
Bureau of Land

JMC:jjr/1970450002-RCRA-PCCFA-Notice.docx

Attachments: USEPA Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal facilities under Subtitle C of RCRA

USEPA June 5, 2024, Guidance: Implementing Climate Resilience in Hazardous Waste Permitting Under the Resource Conservation and Recovery Act (RCRA)

cc: Norberto Gonzalez, Emily Keener, U.S. EPA – Region V

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 15 2016

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

NOW THE
OFFICE OF LAND AND
EMERGENCY MANAGEMENT

MEMORANDUM

SUBJECT: Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA

FROM: Barnes Johnson, Director
Office of Resource Conservation and Recovery

TO: RCRA Division Directors, Regions 1-10
RCRA Enforcement Managers, Regions 1-10
Regional Counsels, Regions 1-10

Purpose

The purpose of this memorandum is to provide guidance to assist regulators in evaluating conditions at hazardous waste disposal facilities subject to Subtitle C of the Resource Conservation and Recovery Act (RCRA) that are approaching the end of the original 30-year post-closure care period, and in determining whether the post-closure care period should be adjusted or allowed to end. Any such determinations must ensure ongoing protection of human health and the environment. This guidance also provides information to assist facility owners and operators in preparing documentation to inform the regulators' evaluations.

This guidance has the additional benefit of helping regulated entities understand what may be necessary to ensure protection of human health and the environment at units subject to post-closure care requirements. This enables waste generators and handlers to have a better understanding of the costs associated with land disposal so they can better evaluate long-term waste management strategies, including waste minimization.

Introduction and Need for Guidance

The RCRA Subtitle C hazardous waste management regulations establish a post-closure care[1] period for certain hazardous waste treatment, storage and disposal facilities, and specify post-closure care activities. The post-closure care requirements apply to land disposal units (landfills, land treatment units,

[1] Post-closure care can be generally described as the period of time after closure during which owners and operators conduct specified monitoring and maintenance activities to preserve the integrity of the containment system and to continue to prevent or control releases of contaminants.

and surface impoundments) that leave hazardous waste in place after closure. Post-closure care also applies to some non-land-based units (*e.g.,* certain tanks or containment buildings) that cannot fully decontaminate or "clean close" [1] all equipment, structures, and soils. Post-closure care activities consist of two primary responsibilities: monitoring and reporting, and maintaining the integrity of the waste containment systems (see 40 CFR 264/265.117). Post-closure care for each hazardous waste management unit must begin after completion of closure of the unit and normally continue for 30 years after that date; the regulations also provide discretion to the permitting authority to adjust the length of the post-closure care period.

Many facilities around the country are approaching the end of the initial post-closure care period established in their RCRA permits or post-closure plans. Accordingly, questions have arisen about how to evaluate conditions at these facilities to determine whether the post-closure care period needs to be adjusted – that is, extended, or whether a 30-year post-closure care period is protective for a specific unit. In response, the Office of Resource Conservation and Recovery has developed this guidance recommending criteria to consider when evaluating facilities nearing the end of the post-closure care period [2] and thus ensure that human health and the environment will continue to be protected by the resulting determination. It also sets forth a recommended process for evaluating the post-closure care period in a timely fashion. Finally, this guidance discusses additional considerations that may be important for decision-makers when evaluating the adequacy of the post-closure care period.

This guidance supplements existing guidance on the post-closure care period, including the Technical Evaluation Criteria and Site-Specific Factors to Consider in Determining the Length of the Post-Closure Care Period, presented in the Appendix B of the *RCRA Guidance Manual for Subpart G Closure and Post-Closure Care Standards and Subpart H Cost Estimating Requirements* of January 1987.[3]

Regulatory Overview of the Post-Closure Care Period

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[1] The RCRA Subtitle C regulations generally provide for two types of closure: closure by removal or decontamination (referred to as "clean closure") and closure with waste in place. The premise of clean closure is that all hazardous wastes have been removed from a given RCRA unit and any releases at or from the unit have been remediated. More information on clean closure is available in *Memorandum: Risk-Based Clean Closure* from Elizabeth Cotsworth, Acting Director Office of Solid Waste, March 16, 1998.

[2] This document is solely intended to provide guidance to federal and state regulators on implementing the RCRA Subtitle C regulations and to provide policy advice and recommendations. As such, this document does not impose any legally binding requirements, and the use of such phrases as "guidance," "recommend," "may," "should," and "can," are not intended to impose or connote any legal obligations. Accordingly, this document does not change or substitute for any law, regulation, or any other legally binding requirement and is not legally enforceable. The policies described in this document may not apply to a particular situation based upon the circumstances, and EPA may deviate from or revise any of the policies described in this document without prior notice to the public. While EPA has made every effort to ensure the accuracy of the discussion in this document, the obligations of the regulated community are determined by statutes, regulations or other legally binding requirements. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

[3] OSWER Policy Directive #9476.00-5, EPA/530-SW-87-10.

EPA regulations[4] require that the post-closure care period for each hazardous waste management unit subject to the requirements of 40 CFR 264/265.117 through 264/265.120 must begin after completion of closure of the unit and continue for 30 years after that date. Still, the regulations' identification of a default 30-year post-closure care period does **not** reflect a determination by EPA that 30 years of post-closure care is necessarily sufficient to eliminate potential threats to human health and the environment in all cases. Nor is the full 30-year period always necessary. In fact, the regulations provide for a permit authority to conduct a case-by-case review of the post-closure care period and establish arrangements to adjust the length of the post-closure care period on a facility or unit-specific basis, where the record supports a determination that the revised post-closure care period will remain protective of human health and the environment.[5]

The regulations provide that the decision to alter the length of the post-closure care period can be made at any time preceding *partial closure*[6] of a hazardous waste management unit subject to post-closure care; at any time preceding *final closure*[7] of a facility; or at any time during the post-closure care period for a particular unit. For permitted facilities, such a decision must be made through the permit renewal or modification procedures in parts 124 and 270 of the regulations. For interim status facilities, adjustment to the post-closure care period must be made in accordance with § 265.118(g).

According to § 264.117 the post-closure care period may be modified under certain circumstances provided the modifications are protective of human health and the environment:

- The post-closure care period may be shortened where "the reduced period is sufficient to protect human health and the environment (*e.g.*, leachate or ground-water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure)."

- The post-closure care period may be extended where "the extended period is necessary to protect human health and the environment (*e.g.*, leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health or the environment)."

The provisions for interim status facilities are similar [§§ 265.117 and 265.118(g)].

For more details on particularly relevant portions of the federal RCRA hazardous waste regulations, see Appendix A.

Criteria to Consider for Evaluating the Post-Closure Care Period

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[4] 40 CFR 264.117 (for permitted facilities) and 265.117 (for interim status facilities)

[5] EPA explained this approach early in the RCRA program. *See* 45 Fed. Reg. 33197 (May 19, 1980); *see also* 47 Fed. Reg. 32287-88 (July 26, 1982); 46 Fed. Reg. 2819 (Jan. 12, 1981).

[6] *Partial closure* is defined in 40 CFR 260.10 as "the closure of a hazardous waste management unit in accordance with the applicable closure requirements of parts 264 and 265 of this chapter at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile or other hazardous waste management unit, while other units of the same facility continue to operate."

[7] *Final closure* is defined in 40 CFR 260.10 as "the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under parts 264 and 265 of this chapter are no longer conducted at the facility unless subject to the provisions in § 262.34."

An overarching consideration in determining whether to extend the post-closure care period, or allow it to end, is the inherent uncertainty associated with the long-term presence of hazardous waste in the unit. Because many hazardous wastes degrade slowly or do not degrade under containment in these units, the continued presence of hazardous waste in the unit (*i.e.*, any case other than clean closure) indicates the potential for unacceptable impacts on human health and the environment in the future if post-closure care is not maintained. For instance, there are often uncertainties in whether controls will continue to function as planned and whether future activities will lead to unplanned exposures to human and environmental receptors. Even if there is no current evidence of actual releases from the facility, significant factors can change over time. For example, groundwater flow can change direction due to the sequencing of dry and wet years, pumping at municipal water supply or other well fields, or shifting gradients resulting from seasonal variations or tidal influences. Landfill components, such as caps and liners (which have a finite design life), can degrade over time, especially if maintenance is discontinued. Exposure pathways that have been eliminated by means of an engineered control may be reopened (*e.g.*, if animals burrow through the cap). Thus, continued monitoring and maintenance activities may be appropriate unless or until it can be demonstrated that site-specific conditions adequately minimize the risk that contaminants will migrate from the unit (*e.g.*, site geology/hydrogeology) or that, in the event the engineering controls fail, a release would not pose an unacceptable risk to human health and the environment. This section provides recommended criteria that can be used to evaluate site-specific conditions and associated risks or remaining uncertainties in determining whether to adjust the post-closure care period.

These criteria can also be periodically used to evaluate whether activities in the post-closure plan should be amended. For instance, if the regulator determines it is necessary to extend the post-closure care period, these criteria can be used to determine if the frequency of one or more post-closure care monitoring requirements could be reduced during that extended timeframe. Each criterion is not necessarily applicable for every unit in post-closure care, for example, the "Gas Collection System Integrity" criterion would not apply to units without a gas collection system. The questions provided under each criterion are intended to help identify potential threats to human health and the environment. However, they do not all need to be answered in order to make a decision concerning the appropriate post-closure care period and the monitoring/maintenance activities.

Waste Treatment: Knowing whether the hazardous waste was disposed prior to the effective date of the Land Disposal Restrictions (LDR) program is an important piece of information when evaluating site-specific conditions. Hazardous waste treatment that destroys harmful contaminants or reduces toxicity of the waste before placement in a land disposal unit provides a more lasting form of groundwater protection than waste containment alone. Similarly, through a process called stabilization or immobilization, metal contaminants – that cannot be treated – can be chemically and physically solidified or bound into the wastes that contain them (*e.g.,* through chemical fixation). Thus, reducing the mobility or leachability of hazardous constituents in a waste is another means of achieving LDR's groundwater protection goal. Relevant questions for this criterion include:

- Were all the wastes pre-treated in accordance with the treatment standards of the LDR program or does the unit contain wastes that were placed on the land prior to the effective dates of the LDR rules?

EPA recommends reviewing the waste analysis data for treated wastes in the land disposal unit.

Nature of Hazardous Wastes Remaining in the Unit: The current properties of the hazardous waste (*e.g.*, degradation, solubility, liquid-to-solid ratio) provide an important indication of the waste's ability to migrate or disperse in the environment.

- What is the degree of risk (*e.g.*, exposure pathways, probability of exposure) presently associated with the wastes in the unit?
    - Are the wastes highly toxic?
    - Do they degrade into substances that are more or less toxic, or non-toxic?
    - Are there indications that the waste might become incompatible with the liner?
- What is the potential for adverse impacts from releases based on the current understanding of contaminant fate and transport considerations (*e.g.*, presence of persistent, bioaccumulative contaminants, as compared to biodegradable contaminants; constituent speciation(s); and leaching profiles)?
- Is the waste in a stable state? Are there indications that the waste may become unstable?

EPA recommends that current data from regulatory standards be used for comparison to facility-specific performance goals articulated in the post-closure plan, and that, as necessary, the plan be updated to account for any new information on toxicity and carcinogenicity. EPA also recommends reviewing and possibly updating the list of constituents to analyze, since scientific understanding of constituents of concern may change over time. In addition, the data gathered should include an analysis of potential degradation products as well as of the types of wastes known to have been placed in the unit(s).

Unit Type/Design: The main objective of the disposal units is the containment of the hazardous waste. Thus, emphasis should be placed on the unit's ability to contain hazardous wastes over the long term.

- Is the unit, for example, a landfill, a surface impoundment, or a closed tank with residual contamination?
- Does the unit meet the minimum technology requirements (*e.g.*, double liners, leachate collection system)? Or was the unit already in existence at the time these requirements were promulgated and closed before retrofitting?
- To what extent does the overall design and construction of the unit minimize the need for long-term maintenance, resist the generation of leachate and emissions, and contain any remaining waste in perpetuity?

It is recommended that the permitting authority consider any unit-specific design, in concert with applicable closure and post-closure care requirements, when evaluating whether adjustment of the post-closure care period is warranted to protect against any potential impact on human health and the environment. There can be circumstances in which continuing to maintain unit-specific controls may be necessary to protect human health and the environment, particularly if the unit pre-dated the minimum technology requirements; this could support a decision to extend the post-closure care period. Conversely, there might be circumstances where the overall design and construction of the unit minimize the need for long-term maintenance and could support a decision to shorten or end the post-closure care period.

Leachate: The leachate collection and removal system controls leachate build-up on the liner, working in conjunction with the liner's barrier system to minimize the potential for groundwater contamination.

Monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit (*e.g.,* it can suggest a cover or liner failure when leachate is detected late in the post-closure care period). [8]

- Will the integrity and functionality of the leachate collection system, leachate generation rate, and leachate quality remain adequate to prevent harm to human health or the environment in the absence of post-closure care?
- Can the facility owner or operator show through monitoring/modeling and/or statistical analysis that the leachate would not pose a threat to human health and the environment because it would not exceed applicable standards at compliance or exposure points?
- Is it likely those standards will be exceeded in the future, for example, through formation and release of degradation products? Do the data demonstrate that there are no increasing trends in the concentration of leachate constituents?
- Can the facility owner or operator demonstrate that maintenance and operation of the leachate collection system can be ceased without posing a threat to human health and the environment?

EPA recommends that potential impacts from changes in leachate characteristics and generation rate that could result from discontinued maintenance be considered.

Groundwater: Groundwater monitoring serves as the primary means of detecting leachate releases and groundwater contamination. It is important that groundwater analytical results, adequacy and reliability of the groundwater-monitoring network, and groundwater-monitoring well integrity be evaluated before the post-closure care period nears its end.

Groundwater should not exceed risk-based concentrations for a reasonable exposure scenario (or point of exposure) using currently acceptable risk assessment methods and up-to-date risk-based levels and scenarios. If the evaluation determines that unacceptable risk exists, these risks should be addressed. The risk evaluation should consider reasonable current or future groundwater use in the general area of the site (*e.g.*, if a drinking water source is located nearby).

Review of the groundwater monitoring system should have been done as part of operation and maintenance inspections over time. Evaluation of the groundwater monitoring network should refer to the most recent operation and maintenance inspection. The well network evaluation should look at groundwater flow direction, well construction, and placement relative to groundwater flow direction.

[8] "If leachate is generated late in the post-closure care period, this could suggest a cover or liner failure warranting an extension of the post-closure care period." See page B-13 of the RCRA Guidance Manual for Subpart G Closure & Post-Closure Care Standards and Subpart H Cost Estimating Requirements, EPA/530-SW-87-010 (January, 1987).

- Is groundwater quality in compliance with current standards?
- Have there been changes or are changes anticipated in land use/groundwater use that could change the applicable standards (*e.g.*, introduction of agricultural irrigation to an area) or the directional flow (*e.g.*, sequencing of dry and wet years, pumping at municipal water supply or other well fields, or shifting gradients resulting from seasonal variations or tidal influences)?
- Do the data indicate any trend in the concentration of analytes in groundwater?
- Has an expanded list of analytes (*e.g.*, selected from Appendix VIII of 40 CFR part 261) been considered for analysis within a reasonable time frame?
- Have the monitoring wells been maintained to provide valid data, for example, no well screen occlusion?

Siting and Site Geology/Hydrogeology: Relevant facility location characteristics (which might have changed since the post-closure plan was approved) may include proximity to vulnerable areas such as residential areas and surface and drinking water sources. The current and reasonably anticipated future land use of the facility and surrounding properties may also be relevant. Location in potentially vulnerable areas increases the likelihood and potential severity of releases. For example, if units are located in areas prone to flooding or with a high water table, it may be appropriate for reviewers to consider the potential for continuing risks to surface water in evaluating whether to modify the post-closure care period. Conversely, units located in areas not prone to flooding, or at great distance from the water table, might have less need for long-term maintenance. Additional hydrologic and geologic conditions such as wetlands and earthquake zones, unstable soils, and areas at risk for subsurface movement could have changed since a unit first entered post-closure care and might also need to be taken into account. Proximity to residential areas can also present unique considerations. It is also appropriate to consider whether facility conditions minimize the potential for adverse impacts on local populations if there is a release from the unit. [9]

[9] If a unit managing vapor-forming chemicals has releases to the environment, it creates the potential for vapor intrusion issues to neighboring communities due to migrating plumes of contaminated groundwater or migrating soil gases, even when the community is some distance away. Consider evaluating risks from subsurface intrusion of toxic constituents (*e.g.*, vinyl chloride from aerobic degradation of perchloroethylene/trichloroethylene), or landfill gases such as methane and hydrogen sulfide, into buildings or structures located near the unit in post-closure care. See the *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, June 2015.

- Does the site geology include subsurface strata that might contain or retard migration?
- What is the distance to the groundwater table, bearing in mind seasonal fluctuations, and the proximity of any useable aquifers?
- Is the unit located in a dry climate that provides minimal precipitation?
- Is the pattern of land use changing or likely to change in the future in a way that would bring people closer to or farther away from the facility?
- Have zoning laws changed?
- Is there a sizable buffer zone around the facility that could limit human activity near the site into the future?
- What is the distance to sensitive receptors for groundwater flow and emissions?
- Could the distance to sensitive receptors change under reasonably foreseeable future conditions, as reflected, for example, in land use development plans for the area?
- Is there the potential for impact on surface water quality?
- Have new potential exposure pathways been identified and evaluated? For example, vapor intrusion had not been identified as a potential exposure pathway at the time many permits were issued.[11]

In addition, EPA recommends that the potential effects of climate change be taken into account in making these assessments.[10] For example, flooding from more intense and frequent storms and sea-level rise may lead to contaminant releases from units subject to post-closure care requirements by transport of contaminants through surface soils, groundwater, surface waters and/or coastal waters. Saltwater intrusion and increased groundwater salinity in coastal aquifers may increase the permeability of clay liners installed at waste sites, such as landfills. Changes in precipitation patterns and temperature may also adversely affect the performance and efficacy of engineering controls.

Facility History: All waste management units (during active life or in post-closure care) must be adequately managed to prevent releases of contaminants to the environment. A well-managed facility is more likely to maintain its structural integrity. Good compliance records, routine maintenance and inspections, emergency procedures to handle natural disasters, and prompt and efficient response to spills and other incidents, are some of the management practices that help demonstrate whether the unit has been adequately managed.

[10] For more information on climate change adaptation consult the "Climate Change Adaptation Technical Fact Sheet: Landfills and Containment as an Element of Site Remediation," EPA 542-F-14-001 (May 2014).

- From the facility records (including frequency of all maintenance activities), to what extent did the unit closure design and activities described in the closure plan and closure certification minimize the need for ongoing monitoring and maintenance?
- Has past noncompliance with regulatory requirements contributed to present environmental conditions that warrant an extension of the post-closure care period (*e.g.*, non-compliance with current LDR standards)?
- Is there a history of any releases and what are current contaminant levels?
- If a release did occur, have corrective measures been successfully implemented and has subsequent monitoring shown no evidence of a recurrence?
- Are analyses being conducted for the correct parameters?
- How complete and accurate is the facility operating record?
- Is there confidence that the record accurately reflects spills, releases, lapses in maintenance or other events that may have a bearing on potential facility impacts?
- To what extent have closure activities minimized or eliminated escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, surface waters or the atmosphere during the post-closure care period?

In order to fully understand the facility history, EPA recommends that the permit authority also review the closure plan and certification of closure. [11]

Gas Collection System Integrity: For units that have a landfill gas collection system, it is important to analyze the extent to which it is capable of being modified or shut down at the end of the post-closure care period without exceeding emission levels that are consistent with applicable regulatory standards and with public safety at the facility. In addition, because gas emissions can increase or decrease over time, it is recommended that statistical or graphical analysis of the data be used to identify any significant changes in gas emissions.

- To what extent is the gas collection system capable of being modified or shut down at the end of the post-closure care period without exceeding emission levels that are consistent with applicable regulatory standards and with public safety at the facility?

Integrity of Cover System: A viable cover is the most important mechanism in preventing leachate generation and, ultimately, releases of contaminants. Cracks, burrows from animals, and other problems are likely to occur after termination of post-closure care. If testing and inspection end, problems can go undetected and releases could occur. Thus, it is vital to evaluate the performance of the cover system during the post-closure care period.

[11] For further information on closure performance standards, see 40 CFR 264.111 and 265.111.

- Has the cover system been designed and maintained to minimize migration of water into the management unit and to prevent contaminants from escaping into the environment?
- Has periodic testing or inspection been conducted to identify and assure any necessary repairs? Potential concerns include differential settlement, problems with cover integrity (cracks, burrows, etc.), cover drainage, and the adequacy of the diversion or drainage system. Even where such problems have not occurred, are they likely to arise without long-term care, *e.g.*, will the cover system remain intact without mowing to prevent growth of trees?
- Is the remaining waste likely to be so benign that even with a compromised cover system release of hazardous constituents is unlikely?
- To what extent will the integrity of the cover system be preserved in the absence of long-term care or with reduced maintenance requirements?

For alternative covers, it is recommended that the potential effects of climate change (*e.g.*, increasing frequency and intensity of weather events) be taken into account to the extent practical. For example, will the vegetation remain viable under altered precipitation patterns?

Long-Term Care: The concept of long-term care (also known as long-term stewardship) generally includes the establishment and maintenance of physical and legal controls that are necessary to prevent unacceptable exposure to hazardous waste or contaminated environmental media left in place at a site or closed facility. As a general matter, the RCRA post-closure care requirements (for example, monitoring and cap maintenance) fall under the umbrella of long-term care. When considering whether to adjust the post-closure care period, permitting authorities should evaluate any continuing need to maintain engineering controls (ECs),[12] particularly those specified in the RCRA post-closure care regulations.

- How will the potential for human exposure to contamination be minimized in the absence of RCRA post-closure care?
- How is the integrity of the entire containment system going to be preserved over time?
- Can maintenance and monitoring activities cease or be reduced without causing an adverse impact to human health and the environment?

A further need to maintain ECs could justify an extension of the post-closure care period. This may be the case even if the frequency of some activities could be adjusted (*e.g.*, some activities may be needed more frequently in the early years of the post-closure care period and less frequently later).

The RCRA post-closure care regulations provide for the imposition of institutional controls (ICs)[13] as well. For example, §§ 264/265.117(c) provides that post-closure uses of a property where hazardous wastes remain after final or partial closure must never be allowed to disturb the integrity of the containment system or the functioning of the monitoring system, with limited exceptions. In addition, §§ 264/265.119(b)(1)(ii) provide that the owner or operator must record a notation, in accordance with state law, on the deed to the facility property – or on some other instrument which is normally examined during title search – that will in perpetuity notify any potential purchaser of the property that, among other things, the property's use is restricted under the RCRA closure/post-closure regulations. States can

[12] Engineering controls are the engineered physical barriers or structures (*e.g.*, caps, impermeable liners, mitigation barriers, or fencing) designed to monitor and prevent exposure to the contamination.
[13] Institutional controls are administrative or legal instruments (*e.g.*, deed restrictions/notices, easements, restrictive covenants, zoning) intended to minimize the potential for human exposure to contamination by limiting land or resource use.

choose to supplement or support such deed restrictions under state law, *e.g.*, by setting up a deed restriction tracking system, ensuring that deed restrictions remain in place, or ensuring that information on existing ICs is available to interested parties.

Even in cases where the post-closure care period need not be extended to protect human health and the environment, the permitting authority may want to ensure that some long-term ICs, such as an easement that provides access to the property, are continued. EPA recommends that any ICs (under state or local authority) needed beyond the post-closure care period be in place before the post-closure care period ends. EPA expects that the permit authority would typically need to assess the availability and adequacy of other potential mechanisms for overseeing ICs as part of evaluating whether any modification to the post-closure care period was warranted.

EPA also recommends that consideration be given as to whether a funding source is available to support any necessary ECs and ICs in the future (see Appendix B for a list of ICs resources.) This could be done, for example, as part of an anticipated future use (or end-use strategy) that generates revenue, so that protective controls at the unit can be continued while supporting beneficial reuse of the land into the future.

Recommended Approach for Reviewing Hazardous Waste Management Units Approaching the End of the Post-Closure Care Period

EPA believes that, at a minimum, it is important to make a decision about the length of the post-closure care period, and to document such decision, well before that period nears its end. Therefore, EPA recommends that regulators assess the overall status of all the units under post-closure care, and plan to evaluate the adequacy of their post-closure care periods well in advance of their anticipated conclusions. EPA also recommends that the results from the evaluation of the post-closure care period be included in the regulator's administrative record for the facility.

As stated before, the federal RCRA hazardous waste regulations provide discretionary authority to the permitting authority to extend or shorten the length of the post-closure care period. However, the facility owner or operator is responsible for providing the information necessary to support this decision (see, for example, 40 CFR 270.30(h), Duty to provide information). A lack of relevant and complete information may justify a conclusion by the regulatory authority that extension of the post-closure care period is necessary to protect human health and the environment until such information is provided.

EPA's recommendations for evaluating units approaching the end of the post-closure care period are discussed in more detail below.

Timing: Regulators should track permit terms and dates of all post-closure permits and have a strategy for when they will begin looking at whether to adjust the post-closure care period, allowing enough time for the necessary steps to take place prior to the 30-year expiration:

- Identify and gather necessary information
- Evaluate information
- Decide whether to adjust the post-closure care period
- Incorporate tentative decision into permit renewal (or modification) process.

For units with operating permits, EPA recommends starting the process at least 18 months before the expiration of the post-closure permit or post-closure care period, whichever comes first. It is important to keep in mind that in accordance with § 270.1(c) units subject to post-closure care must have post-closure permits or an enforceable document in lieu of a post-closure permit and, under § 270.50, permits can be issued for no longer than ten years. Consequently, over the course of a 30-year post-closure care period, the permit would normally need to be renewed at least twice (unless the post-closure care period has been modified). In addition, for a permitted land disposal facility, the length of the post-closure care period is an important component of the five-year review required under § 270.50(d). The facility owner or operator may also initiate the post-closure care evaluation and/or modification process by submitting a permit modification. Similarly, regulators should evaluate petitions to end or shorten the post-closure care period in a timely manner.

For facilities conducting post-closure care under interim status, regulators might want to adopt time frames for review similar to those of permits (*e.g.*, every ten years) to initiate the process of identifying and gathering relevant information. At a minimum, they should evaluate the adequacy of the post-closure care period well in advance of its end date. The facility owner or operator may also initiate the process by submitting a revision to their post-closure plan, including a petition in accordance with § 265.118(g)(1).

Post-Closure Plan: When considering adjusting or ending the post-closure care period, regulators should request a copy of the most current version of the approved post-closure plan, along with any proposed revisions provided by the owner or operator. Under §§ 264.118(b) and 265.118(c), the post-closure plan identifies certain activities (and their frequency) that must be conducted during the post-closure care period (*e.g.*, monitoring and maintenance). The post-closure plan may also identify performance standards or performance goals, which should be updated to account for any new information on toxicity and carcinogenicity. The post-closure plan thus provides an important starting point for the review. The project file should have a history of permit modifications including those made to the post-closure plan. It is also important that the results of the post-closure period assessment be incorporated into a revised post-closure plan (and the permit), as appropriate.

Relevant Information: As part of the review of the post-closure plan and any relevant historical information, regulators should determine whether they possess the information necessary to adequately evaluate the conditions at the unit so that a decision about the post-closure care period can be made. Relevant information may include monitoring reports, results from testing or inspections of the cover system, information concerning land use and institutional controls, and any other information that would be helpful in determining whether post-closure care continues to be needed for the unit. The absence of adequate information (*e.g.*, to address unresolved risk issues), including failure of the permittee to provide necessary information, will make it difficult for the permitting authority to conclude that allowing the post-closure period to end or shortening the post-closure care period meets the regulatory standard. The permitting authority can conclude that an extension of the post-closure care period is necessary to protect human health and the environment until the information necessary to make a final determination is available. Any proposal to adjust the post-closure care period should be supported by adequate data and analysis to demonstrate the anticipated long-term performance of the unit. To account for cyclical fluctuations in weather and hydrology, EPA recommends that multiple-year performance data be considered (*e.g.,* ten years).

The recommended criteria outlined in the previous section are also relevant to inform deliberations on whether and what additional information about the facility is necessary.

If information becomes available indicating changing circumstances that might necessitate the need to revisit the post-closure care (*e.g.*, monitoring results show leaching) it is recommended that the regulator immediately request any additional information needed from the facility owner or operator to inform a decision about adjusting the post-closure care period. This can be accomplished through various means, including under the facility's permit terms (*e.g.*, under § 270.30(h), the permit holder has a duty to provide relevant information and records; under § 270.30(k)(4), monitoring results must be reported at intervals specified in the permit); through enforcement of the relevant interim status regulations; or through inspections or studies required pursuant to RCRA sections 3007 or 3013.

Expiration/Renewal of Post-Closure Permits: Permits are issued for a fixed term not to exceed ten years, which means post-closure permits will need to be renewed periodically throughout the post-closure care period (*e.g.*, a 30 year period could span three permit terms). Renewal applications must be submitted 180 days before the expiration date of an effective permit (see § 270.10(h)). Frequently, facility owners or operators do not submit a renewal application as they approach the permit's expiration date because they believe they will submit an acceptable certification that they have completed post-closure care for the unit(s). If, towards the end of the permit term, the permitting authority has not received a permit renewal application from the facility or if the permitting authority anticipates that there may be any issues regarding the acceptability of the certification of completion of post-closure care, EPA recommends that the regulatory authority remind the owner or operator that the regulations require the facility to provide the required certification or reapply for a permit, and request submission of the permit renewal application (see §§ 270.10(h) and 270.30(b)). Timely submission of an application for permit renewal will ensure that a valid permit is in effect (pursuant to § 270.51) pending a resolution. If a facility owner or operator does not submit a timely renewal application, and the permit is not administratively continued, the regulator may consider initiating an enforcement action or issuing a new permit (see § 270.51(c)).

Public Participation: Any potential adjustments to the length of the post-closure care period are subject to requirements for involving the public. For permitted facilities, extensions to the post-closure care period would be processed as a Class 2 modification, and reductions would be Class 3. In both cases, the regulator must provide public notice, hold a public meeting, and allow an opportunity for written comments to be submitted. Similarly, for adjustments in the length of the post-closure care period at interim status facilities, the regulator must provide public notice and an opportunity for written comments. Although there is no specific provision in the regulations to notify the public when a post-closure care period ends, we recommend that the regulatory authority consider providing notice to the local community when they release a facility owner or operatory from their post-closure care obligation.

Financial Assurance Requirements: Finally, permitting authorities should keep in mind that an adjusted post-closure care period may also necessitate revisions to the associated post-closure cost estimate and financial assurance.

Additional Considerations

Benefits of Post-Closure Permits: Permits are site-specific legal documents that establish the technical and administrative conditions to which a facility must adhere, in order to ensure that monitoring and maintenance activities are performed to prevent and address releases that could potentially threaten

public health and the environment and lead to cleanup obligations.[14] Thus, it is critical that any modifications to the permit are made, as necessary, to ensure they are complete and current. Permits are issued in, at most, ten-year increments to ensure they are periodically reviewed and requirements are updated as necessary. Additionally, facility owners and operators may request modifications to a permit. Although there are resources associated with permit maintenance, permits provide numerous benefits and protections such as:

- Basic Permitting Requirements – Permits are subject to the regulations governing facility permitting as set forth in 40 CFR part 270, which covers basic EPA permitting requirements, such as application requirements, standard permit conditions (*e.g.,* duty to comply, duty to reapply, duty to provide information), and monitoring and reporting requirements (*e.g.,* annual monitoring reports, compliance schedules).
- Unit-Specific Informational Requirements – Where applicable, owners or operators of a permit must submit information including detailed plans and engineering reports under § 270.14(b)(13).
- Financial Assurance – The owner or operator of a permitted unit must establish and maintain financial assurance. At facilities with units in post-closure, requirements include financial assurance for post-closure care in accordance with the approved post-closure plan for the facility, for as long as the unit remains subject to RCRA post-closure care requirements, including the post-closure permit requirement (§ 264.145).
- Corrective Action – Section 264.101 requires that all permits include requirements for facility-wide corrective action as necessary to protect human health and the environment.
- Enforceability – The permitting authority can enforce RCRA permit requirements including through facility inspections, record reviews, and other means. Section 270.28 provides that the permittee shall allow the regulatory authority to perform inspections at the facility.
- Public Participation – The permitting process of 40 CFR parts 270 and 124, and the permit modifications procedures in § 270.42 provide for public involvement. The public has the opportunity to comment on a facility's closure and post-closure plans as part of the initial permitting process and any amendments made to the plans as part of the permit modification procedures.
- Additional Conditions – Section 3005(c)(3) of RCRA (codified at 40 CFR 270.32(b)(2) and commonly referred to as the "omnibus authority"), allows for additional site-specific permit conditions to be incorporated into RCRA permits, should such conditions be necessary to protect human health and the environment.
- When permits incorporate the technical requirements contained in parts 264, 266, and 267 of the regulations, those permit conditions are not subject to challenge (*i.e.,* a number of permit conditions are required by the regulations themselves).
- Permit requirements cannot be terminated merely by sale of the property or bankruptcy of the owner or operator.

Relationship of Subpart F Corrective Action and Post-Closure Care: Corrective action and post-closure care requirements for a regulated unit may be linked, for example, in the case of groundwater

[14] Owners and operators of units subject to post-closure care, must have post-closure permits, "unless they demonstrate closure by removal or decontamination as provided under § 270.1(c)(5) and (6), or obtain an enforceable document in lieu of a post-closure permit, as provided under paragraph (c)(7) of this section" (see §270.1(c)).

monitoring and/or corrective action for releases from closed regulated units being handled pursuant to 40 CFR 264.90–264.100. In many cases, it may be desirable (either by the facility owner/operator, the regulatory agency, or both) to coordinate the post-closure care and monitoring/corrective action requirements. EPA recommends that the regulatory agency consider extending the post-closure care period (and associated permits or other enforceable documents) when corrective action continues beyond the original post-closure care period (see §§ 264.90(c)(3) and 264.96(c)).

Post-Closure Rule:[15] This rule amended the regulations applicable to facilities with land disposal units in two areas. First, it modified the requirement for a post-closure permit to provide EPA and the authorized states discretion to use a variety of authorities to address the post-closure period at non-permitted facilities. In addition, it amended the regulations governing closure of land-based units to allow EPA and the authorized states to address those units through the corrective action program in certain situations where regulated units and other solid waste management units have contributed to a release.

Scope of Guidance and Relationship to Existing Guidance: This document is not intended to provide guidance on decisions to extend or shorten the post-closure care period for *non-hazardous* waste units (*i.e.,* units regulated under RCRA Subtitle D), nor is it intended to replace existing guidance concerning establishment and attainment of remedial goals at contaminated facilities addressed under RCRA Subtitle C authority. This guidance is meant to supplement any existing guidance on the post-closure care period, and should be used in concert with the Technical Evaluation Criteria and Site-Specific Factors to Consider in Determining the Length of the Post-Closure Care Period, presented in the Appendix B of the *RCRA Guidance Manual for Subpart G Closure and Post-Closure Care Standards and Subpart H Cost Estimating Requirements* of January 1987.[16] This document provides additional considerations and factors that are not included in the 1987 guidance, such as vapor intrusion, updated toxicity values, and climate change considerations – although the updates presented in this guidance are not intended to be comprehensive.

Relationship to State Authorities: Under RCRA, states may apply to, and receive from EPA, authorization of a state program to operate in lieu of the federal RCRA hazardous waste program. *These state programs may be broader in scope or more stringent than EPA's RCRA hazardous waste regulations, and requirements can vary from state to state.* Members of the regulated community are encouraged to contact their state agencies for the particular post-closure care requirements that apply to them in any particular state.

For additional information, feel free to contact me, or your staff may contact Lilybeth Colon (colon.lilybeth@epa.gov, 703-308-2392) or Tricia Buzzell (buzzell.tricia@epa.gov, 703-308-8622).

[15] See *Standards Applicable to Owners and Operators of Closed and Closing Hazardous Waste Management Facilities: Post-Closure Permit Requirement and Closure Process*; Final Rule, October 22, 1998 (63 FR 56710).

[16] OSWER Policy Directive #9476.00-5, EPA/530-SW-87-10. Appendix B of this guidance presents technical factors to consider in determining the length of the post-closure care period as well as a number of hypothetical scenarios illustrating how site-specific information might be used to support an extension or reduction in the length of the period.

Appendix A: Overview of Federal Regulatory Provisions

Regulations governing RCRA post-closure care are set forth in 40 CFR part 264 subpart G for permitted facilities and part 265 subpart G for interim status facilities. Additional requirements for post-closure care of specific types of units are included in the regulations for those units. See §§ 264/265.197 (Tank Systems); §§ 264/265.228 (Surface Impoundments); §§ 264/265.258 (Waste Piles); §§ 264/265.280 (Land Treatment Units); §§ 264/265.310 (Landfills); § 264.603 (Miscellaneous Units); §§ 264/265.1102 (Containment Buildings); and §§ 264/265.1202 (Hazardous Waste Munitions and Explosives Storage).

Regulations governing financial assurance for post-closure care are set forth in 40 CFR part 264 subpart H for permitted facilities and part 265 subpart H for interim status facilities.

Regulations governing facility permitting are set forth in 40 CFR part 270.

Post-Closure Care – Sections 264.117(a) and 265.117(a) establish general requirements for post-closure care and a 30-year post-closure care period. However, the regulations also allow the permitting authority to shorten the 30-year post-closure care period if the reduced period is sufficient to protect human health and the environment, or to extend it, if necessary (see the *Post-Closure Plan Amendment* section for more details). Sections 264.117(a)(2)(i) and 265.117(a)(2)(i) provide the following examples for shortening the post-closure care period: "...(*e.g.*, leachate or groundwater monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure)."

Sections 264.117(a)(2)(ii) and 265.117(a)(2)(ii) provide the following example for extending the post-closure care period: "...(*e.g.*, leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment)."

Post-Closure Plan – Under §§ 264.118 and 265.118, the owner or operator of specified units must have a written post-closure plan. The plan must identify monitoring and maintenance activities that will be carried out after closure, and their frequency, to assure compliance with the requirements of specific subparts, including subparts F, K, L, M, N and X, where applicable. For permitted facilities (§ 264.118(a)), the post-closure plan must be submitted with the permit application and approved by the permitting authority as part of permit issuance procedures. The approved post-closure plan becomes a condition of any RCRA permit issued (see the *Post-Closure Plan Amendment* section for more details). For interim status facilities (§ 265.118), the owner or operator must submit the post-closure plan to the permitting authority within specified time frames, and the regulations provide for making the post-closure plan available to the regulatory authority.

Procedures for Post-Closure Plan Amendment – For permitted facilities, the process for making changes to the post-closure plan is through permit modification (permit modification procedures are set forth in § 270.42). Under § 264.118(d)(1), the owner or operator may submit a written notification or request for a permit modification to amend the post-closure plan. Under § 264.118(d)(2), the owner or operator must submit a written notification of the permit modification or request for a permit modification to authorize a change in the approved post-closure plan under certain circumstances. Specific reasons set forth in the regulations include changes in operating plans or facility design that affect the approved post-closure plan, and

events occurring during the active life of the facility that affect the approved post-closure plan. For interim status facilities, § 265.118(d) prescribes procedures for amending the post-closure plan. The permitting authority may also request modifications to the post-closure plan under §§ 264.118(d)(4) and 265.118(d)(4).

Procedures for Post-Closure Care Period Adjustment – Adjustments to the post-closure care period may be initiated at any time preceding partial or final closure or at any time during the post-closure care period of a particular unit. For interim status facilities, § 265.118(g) prescribes a process for extending or shortening the post-closure care period that includes provisions for public involvement. For permitted facilities, § 264.117(a)(2) provides for shortening or extending the post-closure care period in accordance with the permit modification provisions in parts 124 and 270.

Section 270.41 provides for Agency-initiated permit modifications. EPA may modify a permit for the following reasons: if there have been material and substantial alterations or additions to the facility; there is new information that was not available at the time of permit issuance; new statutory or regulatory requirements were promulgated; EPA has cause to initiate a compliance schedule under § 270.33; or as necessary to assure that the facility continues to comply with the currently applicable requirements in parts 124, 260 through 266, and 270, when a permit for a land disposal facility is reviewed by the Director under § 270.50(d).

Section 270.42 contains the regulations that apply to the modification of a permit at the request of the permittee. For all modifications, the permittee submits information to EPA that describes the exact change to be made to the permit conditions, identifies whether the modification is Class 1, 2, or 3, and provides the applicable permit application information.

The process for extending the post-closure care period is a Class 2 modification, while the process for shortening the post-closure care period is a Class 3 modification (§ 270.42, Appendix I, E2 and E3). These procedures include provisions for public involvement. The post-closure care period can also be modified through permit renewal under § 270.32(d).

Financial Assurance for Post-Closure Care – EPA's regulations under parts 264/265 subpart H establish requirements for financial assurance, including financial assurance requirements for post-closure care (see §§ 264.140 and 265.140). Under §§ 264.144 and 265.144, the owner or operator is required to have detailed written cost estimates for post-closure monitoring and maintenance in accordance with the applicable post-closure care requirements. Under §§ 264.145 and 265.145 generally, the owner or operator is required to establish financial assurance for post-closure care in an amount equal to the current post-closure cost estimate.

Certification of Completion of Post-Closure Care and Release of Owner and Operator from Financial Assurance Requirements – Under §§ 264.120 and 265.120, the owner or operator must submit certification that the post-closure care for the unit(s) was performed in accordance with the approved post-closure plan; the certification must be sent by registered mail to the permitting authority. This certification must be submitted no later than 60 days after the completion of the post-closure care period for each hazardous waste disposal unit. The certification must be signed by the owner or operator and a qualified professional engineer. Documentation supporting the professional engineer's certification must be furnished to the permitting authority upon request until the permitting authority releases the owner or operator from the financial assurance requirements for post-closure care under §§ 264.145(i) and 265.145(h).

Under §§ 264.145(i) and 265.145(h), within 60 days of receipt of certification from the owner or operator and a qualified professional engineer that the post-closure care has been completed for a hazardous waste disposal unit in accordance with the approved plan, the permitting authority will notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care for that unit. If the permitting authority has reason to believe that post-closure care has not been in accordance with the approved post-closure plan, the permitting authority must provide the owner or operator a detailed written statement of any such reason.

Scope of the Post-Closure Permit Requirements – Under § 270.1(c), owners and operators of surface impoundments, landfills, land treatment units, and waste pile units that received waste after July 26, 1982, or that certified closure (according to § 265.115) must have post-closure permits, unless they demonstrate closure by removal or decontamination, or obtain an enforceable document in lieu of a post-closure permit as provided under § 270.1(c)(7). Under § 270.10(h), if a permittee has an effective permit and they want to renew it, they must submit a new application at least 180 days before the expiration date of the effective permit.

Monitoring and Records – Under § 270.30(j)(2), the permittee must retain records of all monitoring information for a period of at least three years from the date of sample, measurement, report, or certification, unless extended by request of the permitting authority at any time. Records from all groundwater monitoring wells and associated groundwater surface elevations must be maintained for the active life of the facility, and for disposal facilities for the entire post-closure care period.

Compliance with an Expiring Permit – Under § 270.51(c), if the permittee is not in compliance with the conditions of the expiring or expired permit, the permitting authority may issue a new permit under part 124, initiate enforcement action, or take other actions authorized by the RCRA regulations.

Appendix B: Institutional Controls (ICs) Resources

The following resources may be helpful in implementing and maintaining ICs throughout the post-closure care period and beyond.

- EPA guidance on *Ensuring Effective and Reliable Institutional Controls at RCRA Facilities* (Matt Hale, Director, Office of Solid Waste, and Susan Bromm, Director Office of Site Remediation and Enforcement, June 14, 2007) sets forth guiding principles and recommendations that can help EPA and state decision makers on the use of ICs at RCRA facilities, and EPA resources for additional information and assistance.

- *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups* guidance provides some discussion about how ICs can be used at post-closure care facilities. (p.3 text box) EPA 540-F-00-005, OSWER 9355.0-74FS-P, September 2000, https://www.epa.gov/fedfac/institutional-controls-site-managers-guide-identifying-evaluating-and-selecting-institutional

- *Institutional Controls: A Guide to Preparing Institutional Control Implementation and Assurance Plans at Contaminated Sites* provides information and recommendations that should be useful for planning, implementing, maintaining and enforcing ICs, and offers an overview of EPA's policy regarding the roles and responsibilities of the parties involved in the various life-cycle stages of ICs. Final, December 2012. OSWER 9200.0-77, EPA-540-R-09-002, https://www.epa.gov/fedfac/institutional-controls-guide-preparing-institutional-control-implementation-and-assurance

- *Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites* guidance also discusses how ICs could be used at RCRA post-closure care facilities. (Section 2.3) Final, December 2012. OSWER 9355.0-89, EPA-540-R-09-001, https://www.epa.gov/fedfac/institutional-controls-guide-planning-implementing-maintaining-and-enforcing-institutional

- *Long-Term Stewardship: Ensuring Environmental Site Cleanups Remain Protective over Time* report identifies long-term stewardship challenges and opportunities for improvement, and makes recommendations for how EPA and its state, tribal, and local partners should proceed in addressing them. This report also includes a definition of long-term stewardship, why long-term stewardship is important, and what EPA and others are currently doing to address long-term stewardship issues. Final, September 2005, EPA 500-R-05-001, https://nepis.epa.gov/Exe/ZyNET.exe/P100119V.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C00thru05%5CTxt%5C00000015%5CP100119V.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

OFFICE OF RESOURCE CONSERVATION AND RECOVERY

WASHINGTON, D.C. 20460

June 5, 2024

MEMORANDUM

SUBJECT: Implementing Climate Resilience in Hazardous Waste Permitting Under the Resource Conservation and Recovery Act (RCRA)

FROM: Carolyn Hoskinson, Director

Digitally signed by CAROLYN HOSKINSON
Date: 2024.06.05 20:15:53 -04'00'

TO: Land, Chemicals, and Redevelopment Division Directors, Regions 1-10

PURPOSE

The purpose of this memorandum is to provide guidance to EPA Regions, states, and territories on when and how to consider potential adverse climate change impacts in the hazardous waste permitting process under RCRA. This includes recommendations for conducting climate change vulnerability screenings and assessments for treatment, storage, and disposal facilities (TSDFs) to determine whether there are climate vulnerabilities that hazardous waste permits should address.

Adverse impacts of climate change can include the frequency and intensity of extreme weather events, changing wind patterns, temperature fluctuations, increased precipitation, sea level rise, storm surges, inland and coastal flooding, bank and shoreline erosion, changes in groundwater levels and direction of flow, drought, increased risk of wildfires, and permafrost thaw. These potential impacts can threaten the resilience of engineering and other controls at TSDFs for which applicants seek permits from EPA Regions or states and territories authorized to implement the RCRA program. This memorandum identifies authorities, provides interpretations of relevant RCRA provisions, and recommends approaches to ensure that controls will provide long-term effectiveness through resilience to adverse climate change impacts into the future.[1]

Definitions of key terms pertaining to climate adaptation used in this memorandum are included in the attachment.

[1] This document does not substitute for the statute or regulations, nor is it a regulation itself. Thus, it cannot impose legally binding requirements on EPA, states, or the regulated community, and may not apply to a particular situation based upon the circumstances. Any decisions regarding a particular situation will be made based on the statute and the regulations, and EPA and authorized state/territory decision makers retain the discretion to adopt approaches on a site-specific basis that differ from these recommendations where appropriate.

BACKGROUND

EPA released a Climate Adaptation Plan (CAP) in October 2021 which laid out five priority actions for the agency to implement in the coming years, including integrating consideration of climate impacts into EPA's programs, policies, rulemaking processes, and enforcement activities.[2] In October 2022, EPA's Office of Land and Emergency Management (OLEM) released its Climate Adaptation Implementation Plan, which included the commitment to incorporate climate adaptation into OLEM's mission, programs, and management functions.

IMPLEMENTATION

The 40 CFR Part 264 standards for RCRA TSDFs are designed to ensure that hazardous waste treatment, storage and disposal are conducted in a manner that protects human health and the environment (See RCRA 3004(a)). These standards are implemented through RCRA permits at permitted TSDFs. RCRA permits must ensure that facility operations will comply with these standards (RCRA 3005(c)(1)) and must contain any additional terms or conditions that EPA or the authorized state determines are necessary to protect human health and the environment (RCRA 3005(c)(3)).

The climate change impacts described above may affect what a facility needs to do to comply with the RCRA standards applicable to TSDFs. EPA expects that EPA Regional offices and authorized states and territories will consider the potential for adverse climate change impacts to affect TSDF operations in the permitting process, and that RCRA permits will include the conditions that the permitting authority determines are necessary to ensure that facility operations will be compliant and protective in the face of such impacts. Climate change adaptation considerations should be incorporated as appropriate during initial permit issuance, permit renewal, and/or permit maintenance (e.g., permit modification). The potential for climate impacts should be considered and addressed throughout the expected active life of the facility, as well as during post-closure, as appropriate, not just for the term of the permit or permit modification under consideration.

Conducting climate vulnerability screenings and analyses at TSDFs can help determine whether changes to facility permits are necessary to ensure that TSDFs are resilient to climate events and remain so into the future. For example, prior to receiving a renewal permit application, or during the process of reviewing an application for an initial permit or modification, EPA Regions, states, and territories should perform an initial climate vulnerability screening as appropriate to determine which adverse climate change impacts might apply to the facility. The vulnerability screening is a high-level screening step to determine if a site or facility is located in a geographic area at risk to adverse climate change impacts. If the results of the screening indicate that climate change impacts might plausibly impact the protectiveness of facility operations, EPA, states, and territories should conduct, or should request or require an owner or operator to conduct, a more detailed climate vulnerability assessment to determine whether adaptive measures are necessary. If an initial climate vulnerability screening indicates that adaptative measures are necessary, and no further information or analysis is needed, then the more detailed climate vulnerability assessment is not necessary. However, if the initial climate vulnerability screening indicates a plausible basis for concern and there is uncertainty as to the level of

[2] For additional information, see https://www.epa.gov/climate-adaptation/climate-adaptation-plan.

climate risk or the adaptive measures that may be needed, then the regulator may require a climate vulnerability assessment.

KEY RCRA REGULATORY AUTHORITIES RELEVANT TO CLIMATE CHANGE CONSIDERATIONS IN PERMITTING

Several regulatory authorities support consideration of potential adverse climate change impacts on permitted activities and the development of permit conditions, as needed, to ensure that such activities will be protective of human health and the environment in the face of such impacts. Below is a list of regulatory provisions, although this is not an exhaustive list of the potentially relevant regulatory provisions.

Facility Design and Operation [§ 264.31]
Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a release of hazardous waste or hazardous waste constituents that could threaten human health and the environment. EPA Regions and authorized states/territories should consider the potential adverse climate change impacts in ensuring that this standard is satisfied. For example, more frequent storm events as well as temperature fluctuations can influence how a facility's units (e.g., containers, tanks, landfills) should be designed and operated to protect human health and the environment. Facility design and operation may need to change in the face of future climate conditions.

Facility Location Standards [§ 264.18(b)]
The RCRA regulations generally require facilities located within a 100-year floodplain to be designed, constructed, operated and maintained to prevent washout, should there be a flood. The number of facilities within a 100-year floodplain will likely increase as a result of potential adverse climate change impacts causing floodplains to expand. TSDFs located in a 100-year floodplain will need to ensure their operations comply with this requirement, and permit writers should take care to ensure that permits adequately address this requirement. These requirements should be considered during permit renewal as well as initial permit issuance. In view of changing climate conditions, it will be important to employ an approach for identifying the 100-year floodplain that considers predicted future conditions, and recent flooding events and their impact on the facility, rather than simply long-term historical data.

Contingency Plans [§ 264.50 – 264.56]
The RCRA regulations require that TSDFs have contingency plans designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. Development and review of contingency plans should consider potential adverse climate change impacts.

Omnibus Authority under Section 3005(c)(3) [§ 270.32(b)(2)]
The omnibus permit authority provides that "Each permit issued under section 3005 of this act shall contain terms and conditions as the Administrator or State Director determines necessary to protect human health and the environment." EPA expects that climate change impacts can generally be addressed using more specific regulatory authorities such as those identified above. However, where permitting authorities determine that permit conditions beyond those required under these specific authorities are necessary to protect human health or the environment from potential adverse climate change impacts, the EPA Region or the state/territory has the responsibility to impose such terms and conditions by exercising their omnibus authority.

Review of State Permits [§ 271.19]
EPA has the authority to oversee state program implementation to ensure it is consistent with the state's own authorized requirements. This includes the authority for EPA to comment on a draft permit. EPA can enforce the terms of the comment, even if those terms are not incorporated into the permit, if the comment indicates that the terms are necessary to implement the approved program, as provided in § 271.19(b). EPA Regions should consider potential adverse climate change impacts in evaluating the use of its comment authority.

Agency Initiated Permit Modifications [§ 270.41(a)(2)]
This provision authorizes the permitting authority to modify a permit based on "information [that] was not available at the time of permit issuance ... and would have justified the application of different permit conditions at the time of issuance." Such a basis for permit modifications could include changes due to climate change-related factors (e.g., updated floodplain maps or precipitation data from federal or state sources) that may impact facility operations.

Part B Permit Application [§ 270.14-270.28]
The RCRA Part B permit application regulations specify information that must be submitted in permit applications. Particularly relevant are the provisions of § 270.14(11)(iii) and (iv), which relate to floodplains, and also § 270.14(19) relating to mapping and location. EPA Regions and authorized states/territories should work with facility owners and operators to ensure that Part B permit applications are prepared using up-to-date climatological data and data projections for the anticipated life of the facility. This ensures that unit-specific designs and permit conditions remain protective in the face of potential adverse climate change impacts. While not part of the specific Part B Application requirements, a general permit application requirement under § 270.10(k) provides broader authority to require additional information necessary to develop permit conditions that can be used to address climate adaptation concerns.

CLIMATE ADAPTATION TOOLS

RCRA climate vulnerability screening tools and assessment methodologies are currently under development. One screening tool has been released in RCRAInfo for sea level rise projections at RCRA facilities (https://rcrapublic.epa.gov/rcra-public-web/action/posts/5). EPA also anticipates releasing further policy and guidance regarding how permits can incorporate climate change adaptation considerations through its effort to update the RCRA Model Permit and through development of the

Updates to the RCRA Hazardous Waste Permitting Regulations and Other Technical Corrections rulemaking.

In the interim, for further information, please see the Superfund Climate Resilience website which provides an overview of climate-related initiatives within the Superfund program, with information about strategies that can be used to evaluate and strengthen climate resilience at Superfund sites. While this website offers guidance on Superfund sites, it can also help inform decisions at RCRA facilities. EPA intends to develop a climate vulnerability assessment methodology for the RCRA program, based on Superfund's methodology.

CONCLUSION

RCRA permits must be protective of human health and the environment. Climate change has the potential to impact TSDF compliance with RCRA regulatory provisions, and more broadly, the protectiveness of TSDF operations. Thus, throughout the RCRA permitting process, including issuance of initial permits, permit renewals, and permit modifications, EPA Regions and authorized states and territories should work with facilities to consider potential adverse climate change impacts in assuring that RCRA requirements are met and that RCRA permits are protective of human health and the environment in the face of those impacts.

If you have questions about this document or would like assistance with evaluating climate vulnerabilities and adaptation measures as they relate to RCRA permitting, please contact Jeff Gaines, Office of Resource Conservation and Recovery (ORCR), at (202) 566-0332 or gaines.jeff@epa.gov.

KEY TERMS PERTAINING TO CLIMATE ADAPTATION

For purposes of this memo, key terminology[3] includes:

Adaptation: Taking action to prepare for and adjust to both the current and projected impacts of climate change.

Adaptive Capacity: The ability of a human or natural system to adjust to climate change (including climate variability and extremes) by moderating potential damages, taking advantage of opportunities, or coping with the consequences.

Climate Change: Climate change refers to changes in global or regional climate patterns attributed largely to human-caused increased levels of atmospheric greenhouse gases.

Extreme Weather Event: An extreme weather event is an event that is rare at a particular place and time of year. Definitions of rare vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of a probability density function estimated from observations. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense.

Resilience: Climate resilience can be generally defined as the capacity of a system to maintain function in the face of stresses imposed by climate change and to adapt the system to be better prepared for future climate impacts.

Vulnerability: The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes; it is a function of the character, magnitude, and rate of climate variation to which a system is exposed; its sensitivity; and its adaptive capacity.

[3] https://www.epa.gov/system/files/documents/2022-03/fy-2022-2026-epa-strategic-plan.pdf