

October 31, 2024

MICHAEL MCCOY
METRO WASTE AUTHORITY
300 EAST LOCUST STREET, SUITE 100
DES MOINES IA 50309-1864

**RE: Metro Park East Sanitary Landfill
Permit No. 77-SDP-01-72
CCR Alternative for Solidification Request (Document No. [111177](#))
Permit Revised**

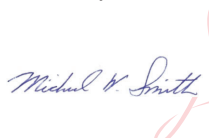
Dear Mr. McCoy:

Enclosed is the revised permit for the Metro Park East Sanitary Landfill. The permit and the approved plans must be kept at the sanitary disposal project in accordance with [Iowa Administrative Code 567 subparagraph 113.11\(1\)"a"](#). Please review the permit in its entirety with your operators, as they must become familiar with it.

The revised permit partially approves the request, dated October 25, 2024, by Metro Waste Authority to use diatomaceous earth filter media and or sawdust for solidification of liquid waste. Diatomaceous earth filter media is subject to spontaneous combustion and therefore we are not approving that portion of the request. The use of sawdust for solidification is approved in the revised permit. Note that the permit contains special provisions that may require a response or action by you, which, if not properly complied with, may prompt enforcement action by this department.

If you have any questions, please contact me at [\(515\) 229-8356](tel:515-229-8356) or mike.smith@dnr.iowa.gov.

Sincerely,

 Digitally signed by
Michael W. Smith
Date: 2024.10.31
09:11:14 -05'00'

Michael W. Smith, P.E.
Environmental Engineer Senior

Enclosure

copy: Matthew Morris
Metro Waste Authority
12181 12TH AVE NE
Mitchellville, IA 50169-9802

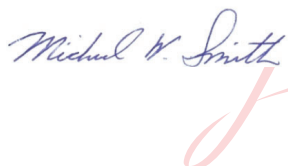
Kathryn Kinley, P.E.
HDR
1917 S 67th Street
Omaha, NE 68106

DNR Field Office #5

**IOWA DEPARTMENT OF NATURAL RESOURCES
SANITARY DISPOSAL PROJECT PERMIT**

- I. Permit Number:** 77-SDP-01-72P
Metro Park East Landfill
- II. Permitted Agency:** Metro Waste Authority
- III. Project Location:** The landfill consists of approximately 314.38 acres generally located within Sections 1 and 2, Township 78 North, Range 22 West, in Polk County, Iowa.
- IV. Responsible Official**
Name: Michael McCoy, Executive Director
Address: Metro Waste Authority
300 East Locust Street, Suite 100
Des Moines, IA 50309-1864
Phone: 515-323-6535
Email: mmc@mwatoday.com
- V. Licensed Design Engineer**
Name: Katie Kinley, P.E.
Address: HDR Engineering, Inc.
1917 S 67th Street
Omaha, NE 68106-2973
Phone: 402-392-6980
Email: Kathyryn.Kinley@hdrinc.com
Iowa License Number: 26021
- VI. Date Permit Issued:** **October 19, 2020**
Revised **October 31, 2024** **Amendment #12**
- VII. Permit Expiration Date:** **August 12, 2025**

Digitally signed
by Michael W.



Smith
Date: 2024.10.31
09:15:41 -05'00'

- VIII. Issued by:** _____
Iowa Department of Natural Resources

IX. General Provisions

The above named permitted agency is hereby authorized to operate a sanitary disposal project at the described location in conformance with Iowa Code section 455B, the rules pursuant thereto existing at the time of issuance, and any subsequent new rules which may be duly adopted, and any provisions contained in Section X of this permit.

The issuance of this permit in no way relieves the applicant of the responsibility for complying with all other local, state, and federal statutes, ordinances, and rules or other requirements applicable to the establishment and operation of this sanitary disposal project.

No legal or financial responsibility arising from the construction or operation of the approved project shall attach to the State of Iowa or the Department of Natural Resources (DNR) due to the issuance of this permit.

If title to this project is transferred, the new owner must apply to the DNR for a transfer of this permit within thirty days of the date of title transfer pursuant to subrule 113.4(3). This permit is void sixty days after the date of title transfer unless the DNR has transferred the permit.

The permit holder shall file a Quarterly Solid Waste Fee Schedule and Retained Fee Report utilizing the DNR's Form 542-3276 and remit tonnage fee payment, as applicable, for all wastes disposed at the sanitary disposal project in accordance with Iowa Code section 455B.310. The Reports will be due January 1, April 1, July 1 and October 1 for the quarters ending September 30, December 31, March 31 and June 30, respectively. The permit holder shall mail the completed report to the Solid Waste Section, Wallace State Office Building, 502 East Ninth Street, Des Moines, Iowa 50319. This reporting procedure supersedes any previous conflicting permit provisions.

The permit holder shall weigh all solid waste collection vehicles and solid waste transport vehicles on a scale certified by the Iowa Department of Agriculture and Land Stewardship. If conditions are such that make it impractical to provide an on-site scale, then off-site scale facilities may be used if justified and approved by the DNR. The permit holder shall comply with the waste weighing, record keeping and tonnage fee reporting requirements defined in rule 101.14(455B,455D). The scale weighing facilities shall comply with the certification and licensing requirements of the Iowa Department of Agriculture and Land Stewardship at all times. The permit holder shall maintain a current copy of the weighing scale facility licensing certificate issued by the Iowa Department of Agriculture and Land Stewardship at all times.

The permit holder shall comply with the gas control provisions of IAC 567 Chapters 20 through 31, including paragraph 23.1(2)"rrr" for the New Source Performance Standards and paragraph 23.1(5)"a" for the Emission Guidelines.

The permit holder shall ensure that the sanitary disposal project does not (1) cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to Section 402 of the Clean Water Act, and (2) cause the discharge of a nonpoint source of pollution into waters of the

United States, including wetlands, that violates any requirement of an areawide or statewide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act.

The permit holder shall submit an updated Municipal Solid Waste Sanitary Landfill Financial Assurance Report Form no later than April 1st, annually, pursuant to rule 113.14(455B). Use of this form provides permit holders a uniform means of submitting all required documentation to ensure that closure and postclosure cost estimates and applicable financial assurance instruments are updated as required.

Failure to comply with Iowa Code section 455B, or any rule of order promulgated pursuant thereto, or any provisions of this permit may result in 1) a civil penalty of up to \$5000 for each day of violation, pursuant to Iowa Code section 455B.307, or 2) the suspension or revocation of this permit, pursuant to Iowa Code section 455B.305.

X. Special Provisions

1. The permit holder is authorized to accept solid waste for disposal in accordance with the approved Metro Waste Authority Landfill Service Area 2019 Environmental Management System Annual Report.

The permitted service area includes: All cities and the unincorporated area in Polk County; the cities of Carlisle, Hartford, and Norwalk in Warren County; the cities of Mingo and Prairie City in Jasper County; the city of Jefferson in Greene County and the cities of Adel, Dawson, Linden, Minburn, Perry, Redfield, and Waukee and the unincorporated area in Dallas County.

The permit holder also accepts waste from the Prairie Solid Waste Agency's Transfer Station located in Union County in accordance with the DNR's October 4, 2007 letter and 567 IAC 101.12.

In accordance with subrule 101.13(2), the permit holder shall submit an updated Comprehensive Solid Waste Management Plan to the DNR in accordance to DNR schedule.

2. The permit holder shall develop and operate the site in accordance the hereby approved 2020 Municipal Solid Waste Landfill (MSWLF) Permit Renewal Application (Documents Nos. 98374, 98376, 98377, 98378, 98379, 98380, 98381, 98382, 98383, and 98384), dated September 3, 2020, as submitted by HDR, and the following:
 - a. Waste disposal is limited to Cells A, B, C, D, and Cell E. The site vertical height shall not exceed a maximum waste elevation in approved constructed cells as indicated on Sheet 5 Capping Plan in Appendix 2B of the approved 2015 Permit Renewal documentation, dated February 5, 2015, while maintaining 4:1 (horizontal:vertical) side slopes. Any further expansion beyond these cells shall require prior DNR approval.
 - b. The permit holder shall collect leachate from the leachate control system and properly dispose of the leachate either by treatment in an on-site facility, discharge with an

NPDES permit; or by discharge to the Des Moines Metropolitan Wastewater Reclamation Authority's Wastewater Reclamation Facility or the City of Runnels publicly owned treatment works (POTW). If the discharge is to a POTW with a pretreatment program approved by the DNR, the discharge must comply with the terms and conditions of a local permit issued for the discharge by the POTW. If the discharge is to a POTW without an approved pretreatment program a completed treatment agreement form shall be submitted to the DNR's Wastewater Section. Copies of the local permit or treatment agreement shall be provided to the DNR's Solid Waste Section and the local Field office. The treatment agreement must be on DNR Form 31 (542-3221) and must comply with the requirements of subrule 64.3(5).

In addition, the permit holder shall monthly measure leachate head levels and elevations at all piezometers and record the volume of leachate collected and transported to the treatment works. Records of leachate contaminants testing required by the treatment works and any NPDES permit for on-site treated leachate discharges shall be maintained.

- c. The permit holder shall annually submit a Leachate Control System Performance Evaluation Report (LCSPER) pursuant to subparagraph 113.7(5)"b"(14) as a supplement to the facility Annual Water Quality Report, as defined in subrule 113.10(10). The following shall be recorded by the permit holder and reported in the LCSPER for each leachate thickness measurement that equals or exceeds 12 inches:
 - 1) Date of original and any verification measurement.
 - 2) If 12 inch or greater leachate column is verified, specific actions taken by the certified operator to lower leachate thickness, or an explanation why specific actions were not necessary.
 - 3) Date and results of follow-up measurement.
 - 4) Repeat steps 2 and 3 as necessary until a compliant measurement is collected.
 - d. The permit holder shall follow the approved Emergency Response and Remedial Action Plan (ERRAP) procedures during all emergencies pursuant to subrule 113.8(5). An updated ERRAP shall be submitted at the time of each permit renewal application. An updated ERRAP shall be included with any request for permit modification to incorporate a facility expansion or significant changes in facility operation that require modification of the currently approved ERRAP.
3. The permit holder is authorized to construct the liner and leachate collection system in accordance with the Development Drawings and Site Maps contained in Appendix 2 and the Leachate Control System Plan contained in Appendix 5 of the 2020 Permit Renewal Documentation, dated September 3, 2020, as submitted by HDR, and the following:
 - a. The permit holder is authorized to utilize recycled asphalt shingles in the construction of compost facility in the manner depicted in plans and specifications dated March 30, 2017, as submitted by HDR. No construction record is required unless significant deviations to the plan are made.

- b. The permit holder shall notify the DNR and have the site inspected when the construction of a new MSWLF unit or significant components thereof has been completed, in accordance with subrule 113.4(6). Prior to the inspection, the QC&A officer shall submit a final report to the DNR that verifies compliance with the requirements of rule 113.7 and the approved plans and specifications. No waste disposal shall commence in any newly constructed unit or portion thereof until it has been inspected and approved by the DNR.
- c. The specifications for the leachate piping and manholes associated with future Cells I, J, K, and L and located outside of the MSWLF unit shall be revised to include containment structures or countermeasures to achieve compliance with subparagraph 113.7(5)"b"(10) prior to construction of any of these cells.
- d. The Construction Certification Report for Phase II, Cell A, dated August 6, 2007, as submitted by Foth and approved on August 15, 2007, is incorporated into the permit.
- e. The Construction Quality Assurance Report – Addendum No. 1, pertaining to the groundwater collection system installation and liner repair due to the presence of a groundwater seep in the northwest corner of Phase II, Cell IIA, dated September 17, 2007, submitted by Foth and approved on October 10, 2007, is incorporated into the permit.
- f. The Phase 2A Gravel Underdrain Layer Installation report, dated December 29, 2008 and approved on February 5, 2009, is incorporated into the permit.
- g. The Construction Observation Report, P-31 Cell IIB West Liner and Leachate System, dated September 2, 2009, as submitted by Foth and approved on September 13, 2009, is incorporated into the permit.
- h. The Construction Observation Report, P33 Cell B East Liner and Leachate System, dated August 6, 2010, as submitted by Barker Lemar Engineering Consultants, is hereby incorporated as part of the permit documents.
- i. The Construction Observation Report P-36 Leachate Storage System Improvements for the Metro Park East Landfill, dated July 9, 2012, as prepared by Barker Lemar Engineering Consultants is hereby approved and incorporated into the permit documents.
- j. The DNR authorizes the use of Cell C North Liner and Leachate System based on approval of the Construction Quality Assurance Report for P41 Cell C North Liner and Leachate System, dated September 10, 2013, prepared and submitted by SCS Aquaterra.
- k. The DNR approved the construction certification for Force Main for Leachate Conveyance System, dated March 20, 2014, as prepared and submitted by SCS Aquaterra.

- i. The Construction Quality Assurance Report, dated December 7, 2015, was approved and incorporated into the permit on December 8, 2015, and the Construction Quality Assurance Report - Supplemental, dated February 5, 2016, was approved and incorporated into the permit on February 12, 2015, both prepared by SCS Aquaterra, for the construction of P49 Cell C South Liner and Leachate Systems.
 - m. The DNR authorizes the use of Cell D North based on the CQA Report, dated December 10, 2018, as prepared by HDR, which was approved and incorporated into the permit on December 11, 2018.
 - n. The Supplemental Cell D North Construction Quality Assurance Report, dated January 16, 2019, as prepared by HDR, was approved and incorporated into the permit on January 16, 2019.
 - o. The DNR authorizes the use of Cell D South based on the Cell D South Construction Quality Assurance Report, dated October 15, 2019, as prepared by HDR, that was approved and incorporated into the permit on October 18, 2019.
 - p. The Cell E Northern 1/3 CQA Report (docs #104462-104465), dated October 28, 2022, as prepared by HDR, is approved on November 1, 2022 and incorporated into the permit. The permit holder shall submit a supplement to this report before DNR can approve use of the remainder of Cell E for waste disposal.
 - q. The Cell E Southern 2/3 CQA Report (doc #105752), dated February 3, 2023, as prepared by HDR, is approved on February 6, 2023 and incorporated into the permit.
4. Hydrologic monitoring at the site shall be conducted in accordance with the hereby-approved Hydrologic Monitoring System Plan (HMSP) in Appendix 4 of the 2020 Permit Renewal Documentation, dated September 3, 2020, as submitted by HDR, and the following:
 - a. The HMSP for the Phase II MSWLF Unit, Cells IIA, IIB, IIC, and IID shall include monitoring well MW-26, downgradient groundwater monitoring wells MW-67, MW-B, MW-C, MW-E and groundwater underdrains GU-3, GU-4, GU-5, and GU-18.

The HMSP for the CWTS includes upgradient monitoring point MW-49R (Appendix I parameters), downgradient groundwater monitoring point MW-36 (trend analysis of boron levels only), and Appendix I parameters for monitoring points MW-37, MW-66, and UO-4.
 - b. DNR construction documentation form 542-1277 and boring logs for all monitoring wells and piezometers shall be submitted within 30 days of installation. DNR construction documentation form 542-1323 shall be submitted within 30 days of establishing surface water monitoring points.

- c. The permit holder shall conduct background and routine semiannual groundwater sampling and analysis; as well as perform statistical tests for the approved monitoring points for the Appendix I parameters and total suspended solids (TSS) in accordance with rule 113.10(455B). Groundwater samples shall **not** be field-filtered prior to laboratory analysis and total suspended solids shall be analyzed using Method 1376585, with a reporting limit goal of ≤ 2 mg/l). Turbidity measurement may be approved by the DNR in lieu of TSS, provided a correlation between the two is established.
- d. The permit holder shall include in each Annual Water Quality Report (AWQR) an evaluation of TSS/turbidity data and other pertinent sampling and analytical results, to determine if representative samples of groundwater have been collected. If samples are not representative, the permit holder may be required to utilize low flow or no-purge sampling methods, consider new well construction with an optimized filter pack design, and/or additional well development. If sample quality does not improve with improved well construction, well development, and/or sampling methods, the DNR will consider higher TSS/turbidity levels as representative of site groundwater conditions.
- e. The frequency for full Appendix II analysis at monitoring points that are in assessment monitoring and have had at least two (2) rounds of analysis using the entire Appendix II list may be decreased to once every (5) five years. If monitoring points exit assessment monitoring and later return to assessment monitoring an additional two (2) rounds of analysis using the entire Appendix II list is required.
- f. The permit holder shall measure groundwater elevations within 1/100 of a foot in each well immediately prior to purging, each time groundwater is sampled.
- g. The permit holder shall collect semiannual groundwater elevation measurements from the GU-3A, GU-3, GU-4, GU-5, SP-D1, SP-D2, SP-D3, SP-D4, SP-D5, and SP-D6, in order to measure the separation of the base of the MSWLF unit from the groundwater table as required in paragraph 113.6(2)"i". This data shall be included in the AWQR.
- h. An AWQR summarizing the effects the facility is having on groundwater quality shall be submitted by January 31 each year. This report shall be prepared in accordance with subrule 113.10(10) by a qualified groundwater scientist pursuant to paragraph 113.10(1)"d" and by using the DNR AWQR Format. The AWQR shall include an analysis of the elevation data from the standpipes and wells that confirms that the underdrain system is maintaining an inward gradient.
- i. The documentation forms for the construction of monitoring points MW-A and MW-AR, dated May 18, 2007, as submitted by Barker Lemar Engineering Consultants and approved on June 13, 2007, are incorporated into the permit.
- j. Construction documentation for Phase II monitoring wells MW-B and MW-35R, and well abandonment documentation for monitoring well MW-35, dated December 31, 2008, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

- k. Abandonment documentation for monitoring wells MW-A and MW-AR, dated March 10, 2010, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
 - l. The Monitoring Well Installation Documentation for MW-C, dated October 28, 2010, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit. This monitoring well is a required downgradient monitoring well for Cell C.
 - m. The abandonment documentation for seven farm wells and one cistern located on the permit holder's property, dated November 2, 2010, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
 - n. The installation documentation of monitoring wells MW-66 and MW-67 as provided in the Monitoring Well Installation, dated November 20, 2013, prepared by Barker Lemar Engineering Consultants is incorporated into the permit.
 - o. The abandonment documentation for monitoring wells MW-35R and MW-49 and the installation documentation for new monitoring wells MW-35R2 and MW-49R, all contained in report dated May 11, 2017, as submitted by Barker Lemar Engineering Consultants, is hereby approved and incorporated into the permit.
 - p. The abandonment documentation for monitoring wells MW-20, MW-21, MW-22R, MW-47, MW-59, MW-71, and MW-72, contained in report dated May 16, 2019, as submitted by EcoSource, is hereby approved and incorporated into the permit.
 - q. The installation documentation of monitoring well MW-E as provided in the Monitoring Well Documentation Form for MW-E, dated September 28, 2013, prepared by Team Services, and supplemental information (Response Received) dated December 6, 2023, submitted by HDR is incorporated into the permit.
5. The permit holder is authorized to recirculate leachate in accordance with the Leachate Management Plan contained in Appendix 5B of the 2015 Permit Renewal Documentation, dated February 5, 2015, as submitted by Barker Lemar Engineering Consultants, and the following:
- a. Leachate shall not be applied on user vehicle access areas.
 - b. Leachate shall not be applied to vegetated areas on final cover or frozen waste cover. A means of frost protection must be provided for all leachate control elements. However, leachate may be applied to vegetated and non-vegetated intermediate cover in accordance with the Demonstration Request for the Recirculation of Leachate Over Vegetated Intermediate Cover Inside the Composite Lined Cell, dated June 29, 2021, submitted by MWA and the Pilot Study Report, dated November 8, 2021, as submitted by HDR.
 - c. Leachate shall be applied evenly on the affected area.

- d. Leachate recirculation shall be conducted only during hours of operation and when an operator is on duty.
 - e. Leachate shall be applied in a manner such that ponding or runoff will not occur.
 - f. Leachate recirculation shall be controlled such that not more than one foot of leachate head will be allowed to accumulate above the MSWLF unit liner.
 - g. Records shall be maintained as to the time and quantities of leachate application and be submitted with the facility LCSPER.
 - h. Leachate recirculation shall be immediately terminated if it causes ponding, runoff, excessive odor, vector control problems, vapor drift, ice formation, or operational problems. The DNR's local field office shall be immediately notified if any of the above events occur.
6. The DNR authorizes the operation of the Neptune Evaporator on Closed Phase I MSWLF Unit in accordance with the Misting/Evaporator Pilot Study Report – Year 2, dated February 26, 2016, as submitted by Barker Lemar Engineering Consultants. In addition to the operation of the Neptune Evaporator, the permit holder may construct and operate the misting/evaporator system as requested August 8, 2020, by Metro Waste Authority (Document No. 98241). The permit holder shall also:
- a. Restrict access to evaporation area to authorized individuals.
 - b. Provide individuals with authorized access the proper training and personal protective equipment including non-employees who are authorized to be in area of leachate evaporation.
 - c. Provide a containment pad 200 feet by 200 feet with means to capture and recycle captured leachate. The containment area shall be inspected prior to each day's usage.
 - d. Leachate shall not be allowed to drift on user vehicle access areas.
 - e. Leachate shall not be allowed to drift onto frozen waste cover. A means of frost protection must be provided for all leachate control elements.
 - f. Leachate evaporation shall be conducted only during hours of operation and when an operator is on duty.
 - g. Leachate evaporation shall not be conducted during periods of precipitation or immediately after periods of heavy or extended precipitation.
 - h. Leachate shall be applied in a manner such that ponding or runoff will not occur.

- i. Records shall be maintained as to the time and quantities of leachate application and be submitted with the facility LCSPER and the evaluation report. The report will evaluate impact on vegetation and on storm water quality.
 - j. Leachate evaporation shall be immediately terminated if it causes ponding, runoff, excessive odor, vector control problems, vapor drift beyond Phase I area, ice formation, or operational problems. The DNR local field office shall be immediately notified if any of the above events occur.
7. The DNR authorizes the use of Humified Coal Combustion Residue (CCR) as an alternative daily cover material based on the report entitled Humidified CCR ADC Demonstration Report, dated July 17, 2013, submitted by Barker Lemar Engineering Consultants, and Response Letter to INDR Inquiry, dated July 30, 2013, submitted by Metro Waste Authority.

The permit holder is authorized to utilize Humified Coal Combustion Residue (CCR) as an alternative daily cover material in accordance with the request dated May 1, 2012 as submitted by Barker Lemar Engineering Consultants and the following:

- a. Quantities exceeding 1-week usage shall be disposed in the workplace area. Only Humified CCR placed at a ratio of no more than 3:1 (3 tons of waste to 1 ton of approved CCR) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
- b. The Humified CCR may be used in lieu of the 6-inch daily cover requirement. Humified CCR shall not be used as a substitute for intermediate or final soil cover.
- c. The waste must be compacted, before the Humified CCR is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
- d. Humified CCR shall be applied to the active waste face at the end of each day of operations and more frequently if necessary to control fire or fire hazards, blowing litter, scavenging, odors, insects, and rodents.
- e. The permit holder shall scarify the Humified CCR cover material over the working face area on which it is applied prior to each day's use of that area as a working face.
- f. The permit holder shall maintain in the landfill files appropriate laboratory analytical documentation that demonstrates that the CCR is not hazardous by TCLP metals test. Documentation reporting of such testing shall be submitted to both the DNR's Main and local Field office.
- g. If, at any time, the DNR or permit holder deems this material to be ineffective or otherwise unsatisfactory, the permit holder shall immediately revert to soil or another previously approved alternative daily cover. The permit holder shall immediately notify the DNR's Main and local Field office through both written and verbal notification of this

action. This notification is not necessary if use of this material ceases only on a temporary basis, such as during adverse operational or weather conditions.

8. The permit holder is authorized to solidify liquid wastes in accordance with the results of the 2011 Liquid Waste Solidification Pilot Test Report, dated November 15, 2011, as prepared by Barker Lemar Engineering Consultants, and the following:
 - a. All liquid waste solidification process shall be conducted over the composite liner constructed at the base of the Phase II MSWLF unit.
 - b. Liquid wastes shall be unloaded in a trench/pit constructed with absorbent materials, consisting of either fly ash, CCR, wood chips, sawdust, animal bedding from Prairie Meadows, non-shredded mixed paper/plastic bails, rosemary bagasse from Kemin Industries, automobile shredder residue, or spearmint bagasse from Kemin Industries. The documentation and reporting requirements include remittance of the appropriate tonnage fees for all solidified liquid wastes, including both the liquid wastes (which includes solidification of on-site generation of leachate) and absorbents used to treat the wastes, on the appropriate reporting forms.
 - c. Use of any other absorbents must be approved by the DNR prior to use. The liquids will be mixed with absorbent materials and mixed until the liquids have been solidified sufficiently to pass the paint filter test. No run-off of liquids shall occur during mixing.

If fly ash is used as the absorbent material, paint filter tests shall not be required if the application rate is less than 200 gallons of liquid waste per cubic yard of fly ash and visual observation of the final mixture indicates no free liquids.
 - d. The solidified liquids shall be disposed at the working face except as allowed for alternative daily cover per Special Provision X.7.
 - e. Liquid waste solidification processes shall not be conducted during significant rain events, high wind conditions, or extremely cold temperatures.
 - f. Documentation of the following must be retained and made available for DNR review upon request:
 - 1) Liquids waste generator name,
 - 2) Waste description and quantities,
 - 3) Documentation that the accepted materials are nonhazardous, and
 - 4) EPA Method 9095B paint filter test results, if required per item #8b.
 - g. Approved absorbents shall only be stored onsite for a maximum period of 1 week unless covered to prevent blowing dust (i.e. tarp).
 - h. The permit holder shall remit quarterly, the appropriate tonnage fees for all solidified liquid wastes, including both the liquid wastes and absorbents used to treat the wastes,

on the appropriate reporting forms. The use of the absorbents in this manner constitutes treatment of waste for disposal and therefore is not a beneficial use.

9. In accordance with the Disposal of Untreated Petroleum Contaminated Soils approved variance dated May 12, 2011, and approved request for extension, dated May 15, 2012, as submitted by Barker Lemar Engineering Consultants, the permit holder is authorized to directly, and immediately upon receipt, dispose of untreated petroleum contaminated soils (PCS) at the working face for a period to coincide with the solid waste permit which expires August 12, 2020; and the following:
 - a. The PCS must be determined to be not hazardous (via federal exemption and/or analytical testing) and immediately buried at the working face.
 - b. The untreated PCS must not contain free liquids as determined by the paint filter liquids test (EPA Method 9095), nor exhibit one of the four characteristics of a hazardous waste defined in 40 CFR Part 261 Subpart C for ignitability (D001), corrosivity (D002), reactivity (D003) and toxicity (D004-D0043).
 - c. PCS resulting from the cleanup of petroleum underground storage tanks are exempt from RCRA hazardous waste management if the media and debris 1) exhibit the TC for D018-D043, and 2) are subject to the corrective action requirements in 40 CFR Part 280 of the UST regulations. This exemption does not apply to petroleum contaminated media resulting from spills or releases from aboveground storage tanks, other surface spills, or if the PCS become contaminated with a listed hazardous waste.
 - d. PCS meeting the above-referenced criteria is deemed a "solid waste" and therefore applicable waste flow and tonnage fee requirements will need to be adhered. PCS may continue to be received for remediation pursuant to subrule 109.11(2), or accepted from outside the planning area for disposal as long as the provisions of IAC 567 Chapter 101.4 are followed (i.e. maintain written approvals).
10. The permit holder is authorized to dispose of class II biosolids in accordance with variance request (Document No. 97368), dated April 1, 2020, approved on April 2, 2020 and incorporated into the permit. Subsequently, the DNR approved, on November 20, 2023, the permit holder's waiver request (Document No. 108196) to remove source designation of the biosolids in a request submitted by Metro Waste Authority, dated November 10, 2023.
11. The permit holder shall conduct subsurface gas monitoring in accordance with the Methane Migration Monitoring Plan contained in Appendix 8A of the 2020 Permit Renewal Documentation, dated September 3, 2020, as submitted by HDR, and the following:
 - a. The permit holder shall quarterly monitor and annually report site methane concentrations in accordance with rule 113.9(455B). Specific actions, as defined in the rules, shall be taken in the event of methane gas level limit exceedances.

- b. The permit holder shall annually submit the Gas Monitoring Report by January 31 summarizing the methane gas monitoring results and any action taken resulting from gas levels exceeding the specified limits during the previous 12 months.
 - c. Construction documentation for methane monitoring points MMP-1, MMP-2, MMP-3, MMP-W1, MMP-N1, and MMP-N2, dated December 31, 2008, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
 - d. Methane Monitoring Probe Installation Documentation for MMP-N3, MMP-W2, and MMP-W3, dated January 28, 2009, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
 - e. The Methane Migration Remediation Plan consisting of the installation of leachate extraction pumps in and increased gas extraction from four gas extraction wells located on the east side of the Phase 1 MSWLF Unit, dated January 13, 2010, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
 - f. Methane monitoring probes MMP-4, MMP-5, MMP-6, MMP-7, MMP-8, MMP-9, MMP-10, MMP-11, MMP-12, and MMP-13, were incorporated into the Methane Migration Monitoring Plan on June 25, 2015, as documented in the Monitoring Well Installation/Methane Migration Monitoring Plan, dated May 29, 2015, as submitted by Barker Lemar Engineering Consultants.
 - g. Methane Monitoring Probe Installation Documentation for MMP-14, dated June 21, 2016, as submitted by Barker Lemar Engineering Consultants, is hereby incorporated into the permit. Methane monitoring probes MMP-2 is deleted from and MMW-14 is added to the Methane Migration Monitoring Plan.
12. The permit holder shall construct and operate the landfill gas collection system in accordance with the Landfill Gas Collection System Concept Plans contained in Appendix 8B of the 2020 Permit Renewal Documentation, dated September 3, 2020, as submitted by HDR and the following:
- a. The permit holder shall submit documentation of the construction of future landfill gas extraction system components within 60 days of construction.
 - b. The Cell A perimeter gas collection system as-constructed diagrams, contained in Appendix 8B, Attachment A, of the 2009 Permit Renewal Documentation, dated August 28, 2009, as submitted by Barker Lemar Engineering Consultants, are incorporated into the permit.
 - c. It is recognized that three horizontal methane collection lines have been installed in Cell A, as shown on Figure 1-2 in the 2009 Gas Collection System Evaluation and Gas Monitoring Report, dated November 30, 2009, as submitted by Barker Lemar Engineering Consultants.

- d. The DNR approved the as-constructed information provided in the FYE 2013 Gas Collection System Evaluation and Gas Monitoring Report, dated November 13, 2013, and supplemental information provided in Response to Report Comment Letter, dated February 28, 2014, all as prepared and submitted by Barker Lemar Engineering Consultants. The DNR approved the as-constructed information of the replacement wells (DEW-5R, DEW-29R, and DEW-40R) and final cap repair for the pipe installation between gas/dual extraction wells TEW-6 and DEW-8R, TEW-7 and DEW-101, TEW-8 and DEW-38R; for the pipe installation for the replacement wells DEW-5R, DEW-29R, and DEW-40R; and the LFG header repair near dual extraction well DEW-6.
13. The permit holder is authorized to collect, process, grind, or chip trees, limbs, brush, and clean wood wastes free of coatings and preservatives, for the purposes of reuse as bedding material, mulch, compost bulking material, or for other beneficial reuses, subject to the following:
 - a. Trees, limbs, brush, and clean wood wastes shall not be stored for a period exceeding twelve (12) months before processing.
 - b. Ground or chipped materials shall not be allowed to accumulate such that the stockpiles are not completely reused within twelve (12) months of initial stockpiling.
 - c. The processed materials may be used as mulch for off-site purposes and on landfill areas with intermediate and final cover and on soil borrow areas.
 - d. Mulch applied to existing vegetated landfill areas shall be applied at a rate such that established vegetation is not adversely impacted by its use.
 14. The permit holder is authorized to use alternative daily covers by the trade names ProGuard, ConCover, Posi-Shell, TopCoat, and/or Finn, as a substitute for the six-inch daily soil cover requirement. Use of this material is subject to the following:
 - a. These products shall not be used as a substitute for intermediate or final soil cover.
 - b. All landfill operations personnel shall be trained by the alternative cover material manufacturer, or by an operator that has been trained by the manufacturer. The operator shall ensure that the product slurry is prepared according to the manufacturer's nominal slurry mix specifications.
 - c. The waste shall be compacted, before these products are applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
 - d. These products shall be applied to the active waste face at the end of each day of operations and more frequently if necessary to control fire or fire hazards, blowing litter, scavenging, odors, insects, rodents, birds and other vectors. These products shall be cross applied when necessary to provide effective cover.

- e. If these products do not set within **one hour** of application, the workface shall be covered with six inches of compacted soil or a fresh application of these products. The term set means form a cohesive barrier layer that adheres to the waste and resists washing off by precipitation. These products shall not be exposed for more than **five (5) days**. After five days, any area exposed with these products shall be either covered with a new lift of waste, a fresh application of these products, or six inches of compacted soil.
 - f. The operator shall inspect each application of these products for thorough coverage and cover integrity. If operational problems arise from the use of these products or its method of application, the use of these products shall be suspended until proper corrections are made by the operator, with six inches of compacted daily cover being utilized during this interim period.
 - g. If, at any time, the DNR or permit holder deems these products to be ineffective or otherwise unsatisfactory, the permit holder shall immediately revert to soil or another previously approved alternative daily cover. The permit holder shall immediately notify the DNR's Main and local Field office through both written and verbal notification of this action. This notification is not necessary if use of these products ceases only on a temporary basis, such as during adverse operational or weather conditions.
 - h. Nothing in this provision shall be construed to authorize any waiver from the requirements of any other applicable state solid waste laws or regulations, or any deviations from permit provisions.
 - i. This provision shall not be interpreted to release the permit holder from responsibility under the Groundwater Protection Act for remedying conditions resulting from any release of contaminants to the environment.
15. The permit holder is authorized to use geotextile(s) by the trade name Tytar or *Woven Polyolefin Fabric™ (L257)*, manufactured by FABRENE®, as an alternative cover material for the active MSWLF unit, subject to the following:
- a. The use and installation of this product shall be in conformance with the manufacturer's recommendations.
 - b. This product shall only be used as a daily alternative cover material and shall not be utilized as a replacement for soil cover if application performance in terms of litter, vector, odor, and precipitation entry control is not provided.
 - c. This product shall be applied so as not to promote water ponding, or drainage run-on from adjacent upper and side MSWLF unit areas beneath the installed geotextile.
 - d. This product shall be weighted at the close of each working day to prevent displacement by wind through the use of soil or tires.

- e. This product shall not be exposed for longer than **thirty (30)** consecutive days. For any waste covered with this product beyond the stipulated timeframe, the product shall be removed and the underlying waste shall be immediately covered with soil in accordance with the applicable rules.
 - f. This product shall not be used if it becomes damaged or worn, or if the intended performance is breached. In such instances, this product shall be disposed of as waste.
 - g. The operator shall inspect each application of this product for thorough coverage and cover integrity. If operational problems arise from the use of this product or its method of application, the use of this product shall be suspended until proper corrections are made by the operator, with six inches of compacted daily cover being utilized during this interim period.
 - h. If, at any time, the DNR or permit holder deems this product to be ineffective or otherwise unsatisfactory, the permit holder shall immediately revert to soil or another previously approved alternative daily cover. The permit holder shall immediately notify the DNR's Main and local Field office through both written and verbal notification of this action. This notification is not necessary if use of this product ceases only on a temporary basis, such as during adverse operational or weather conditions.
16. The permit holder is authorized to use a homogeneous blended mixture of soil and compost rejects from the Metro Park East Sanitary Landfill composting operation as an alternative daily cover. The maximum percentage of compost rejects in the daily cover blend shall not exceed 50% by volume. The compost rejects/soil blend shall be stockpiled in an area close to the working face that will not interfere with disposal operations, as directed by the landfill manager. The compost rejects/soil blend may not be utilized for the placement of intermediate or final cover.
17. The permit holder is authorized to use a homogeneous blended mixture of soil and sandblast abrasive as an alternative daily cover, subject to the following:
- a. Within 14 days of acceptance of material from each differing source, the permit holder shall provide the DNR generator source documentation and current TCLP test results confirming compliance with nonhazardous criteria.
 - b. The ratio of sandblast residue to soil shall not exceed 50% sandblast residue by volume. Quantities exceeding 1-week usage shall be disposed in the workspace area. Only sandblast residue placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved sandblast residue) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
 - c. The alternative cover material may be used in lieu of the 6-inch daily cover requirement but it shall not be used as a substitute for intermediate or final soil cover.

- d. The waste must be compacted before the alternative cover material is applied to provide an even surface to minimize ponding and maximize uniform surface drainage.
 - e. The alternative cover material shall be applied to the active waste face at the end of each day of operations and more frequently if necessary to control fire or fire hazards, blowing litter, scavenging, odors, insects, and rodents.
 - f. The soil ratio shall be increased, if necessary, to optimize cover performance relative to the criteria stated in items “d” and “e” above.
 - g. The permit holder shall scarify any alternative cover material prior to each day’s use of that area as a working face.
 - h. The permit holder shall maintain in the landfill files appropriate quarterly laboratory analytical documentation that demonstrates that the sandblast residue is not hazardous by TCLP testing. Documentation reporting of such testing shall be submitted to both the DNR’s Main and local Field Office.
18. The permit holder is authorized to use an alternative intermediate cover, by the trade name *ConCover SW*, as a substitute for the one-foot intermediate soil cover requirement. Use of this material is subject to the following:
- a. All landfill operations personnel shall be trained by the cover material manufacturer, or by an operator that has been trained by the manufacturer. The operator shall ensure that the product slurry is prepared according to the manufacturer’s nominal slurry mix specifications, or demonstrated component blends that provide superior performance.
 - b. The waste shall be compacted, before this product is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
 - c. This product shall be applied and cross applied in a manner to control fire or fire hazards, blowing litter, odors, insects, rodents, birds and other vectors. Additional product shall be applied whenever necessary to provide effective cover.
 - d. If this product does not set within **90 minutes** of application, it shall be covered with one foot of compacted soil or a fresh application of this product. The term set means to form a cohesive barrier layer that adheres to the waste and resists washing off by precipitation. This product shall not be exposed for more than **60 days**. After 60 days, any area with this product exposed shall be either covered with a new lift of waste, a fresh application of this product, or one foot of compacted soil.
 - e. The operator shall inspect each application of this product for thorough coverage and cover integrity. If operational problems arise from the use of this product or its method of application, the use of the material must be suspended until proper corrections are made by the operator, with one foot of compacted intermediate cover being utilized during this interim period.

- f. The operator shall ensure that the product is prepared according to the manufacturer's nominal slurry mix specifications, or demonstrated component blends that provide superior performance.
 - g. If, at any time, the DNR or permit holder deems this product to be ineffective or otherwise unsatisfactory, the permit holder shall immediately revert to the requirements of numbered subparagraph 113.8(2)"f"(2). The permit holder shall immediately notify the DNR's Main and local Field offices through both written and verbal notification of this action. This notification is not necessary if use of this product ceases only on a temporary basis, such as during adverse operational or weather conditions.
 - h. Nothing in this provision shall be construed to authorize any waiver from the requirements of any other applicable state solid waste laws or regulations, or any deviations from permit provisions.
 - i. This provision shall not be interpreted to release the permit holder from responsibility under the Groundwater Protection Act for remediating conditions resulting from any release of contaminants to the environment.
 - j. The permit holder is authorized to use leachate as the solution mix for the product subject to the following conditions:
 - 1) The quantity of leachate used in the solution mix shall be recorded each time the product is utilized as a daily cover alternative and reported in the LCSPER.
 - 2) Runoff of leachate or the leachate solution mix shall be prohibited.
 - 3) The permit holder shall revert to clean water as the solution mix if the DNR or the permit holder deems the leachate solution mix to be ineffective.
19. The permit holder is authorized to accept, store, process, reuse or dispose of roofing shingles within the permitted facility boundaries in accordance with the following conditions:
- a. All temporary storage, grinding and disposal operations shall be conducted within the permitted facility boundaries in the area designated for such activities. Shingle loads which are determined to be Asbestos Containing Material (ACM) shall be managed and disposed of in accordance with 567-Chapter 109 and Polk County Air Construction Permit. Sampling and testing for ACM shall be in accordance with Polk County Air Construction Permit.
 - b. Alternative daily cover reuse of ground shingles is authorized on the condition that only shingles with asbestos content of 1% or less shall be reused as an admixture for alternative cover material. The shingles shall be ground to an average size of 3 inches or less and the ground material shall be blended on a 50% by volume basis with soil and be used only for daily cover operations. Only shingles placed at a ratio of 6:1 (6 tons of

waste to 1 ton of approved shingles) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.

- c. The permit holder shall scarify the shingles/soil cover material over the working face area on which it is applied prior to each day's use of that area as a working face.
20. The permit holder is authorized to accept and temporarily store a maximum of 1500 waste tire equivalents for the purpose of reclamation processing or disposal. Tire storage and processing shall be conducted at approved plan locations. The tires shall be removed at least once every 120 days and transported to the appropriate reclaimer/processor, or disposed of at the site. All operations shall be in accordance with subrule 109.10(3), IAC 567 Chapter 117 and the current local fire code.
 21. The permit holder is authorized to accept and temporarily store LP tanks for reuse purposes in an area designated by the operator. The storage area for the tanks shall be kept in an orderly fashion. The maximum length of time for storage is twelve (12) months.
 22. The permit holder is authorized to temporarily store white goods and scrap metal in an area designated by the operator. No discarded appliance may be stored for more than 270 days without being demanufactured. No scrap metal or discarded appliance may be stored for more than a total of twelve (12) months, including demanufacturing processing, prior to being recycled/salvaged. The operator and salvaging contractor shall comply with applicable provisions of 567 - Chapter 118 and the General Provisions of this permit. No scavenging shall be allowed.
 23. The permit holder is authorized to accept and temporarily store lead acid batteries for recycling purposes. Lead acid batteries must be stored in a designated area which will curtail movement of acids and provide proper ventilation of gases from the batteries. The maximum length of time for storage is twelve (12) months.
 24. The permit holder is authorized to collect and temporarily store rigid recyclable wastes (e.g., metal cans, glass bottles and plastic bottles) and fiber recyclable wastes (e.g., magazines, catalogs, books, envelopes and paper) in segregated recycling boxes located near the landfill entrance. The permit holder will also process, temporarily store and recycle construction and demolition waste. The following conditions and procedures shall apply:
 - a. The recyclables shall not be stored in violation of State Code 455D.4A.
 - b. The recycle boxes shall be fitted with lids to prevent precipitation entry and control litter.
 - c. Separate boxes should be provided to segregate metals and plastics to facilitate recycling recovery.
 - d. Recycling boxes shall be labeled to facilitate public use.

- e. Records shall be maintained to document amounts of waste recycled for quarterly Solid Waste Fee reporting and the dates that each box content is removed from the site for recycling to confirm storage time limitations.
 - f. Recycling activities shall be monitored to insure that no other disposable wastes are stored in recycle boxes.
 - g. Farm chemical containers shall not be stored in recycling boxes. Separate authorization for this purpose shall be secured by permit amendment.
25. The permit holder is authorized to accept and temporarily store wood pallets and clean wood wastes free of coatings and preservatives for reuse purposes. The maximum length of time for storage is twelve (12) months.
26. The permit holder is authorized to temporarily store materials collected from waste screening activities prior to transfer to the Metro Hazardous Waste Drop-off (Permit #77-SDP-46-94P) in Bondurant. These materials shall be stored in a building or containers fitted with lids to prevent precipitation entry. The maximum length of time for storage is one month.
27. The permit holder is authorized to land apply bio-solids in accordance with the plans and specifications dated March 22, 1999, as submitted by Barker, Lemar & Associates Consulting Engineers and approved on June 28, 1999, subject to the following conditions:
- a. Class B (Class II) bio-solids shall not be applied on slopes greater than 9%.
 - b. Class A (Class I) lime treated bio-solids may be applied on slopes up to 25%.
 - c. The proposed bio-solids/compost mixture may be used for soil conditioning in the application areas without slope restriction.
 - d. Land application shall be conducted in accordance with 567 - Chapter 67 and in compliance with the NPDES permit requirements of the generator cities of Des Moines and Altoona.
 - e. Land application shall not be conducted during inclement weather conditions.
 - f. The bio-solids shall immediately be incorporated into the soil and Metro Park East Sanitary Landfill personnel shall seed the application area.
 - g. Metro Park East Sanitary Landfill shall deploy necessary measures to prevent erosion of soil and washing off the bio-solids from the application areas.
28. Closure of the Phase II MSWLF Unit shall be implemented in accordance with the Closure/Post-Closure Plan contained in Appendix 9 of the 2020 Permit Renewal Documentation, dated September 3, 2020, as submitted by HDR.

- a. The Stage 1 Capping Construction Quality Assurance Report, dated January 15, 2019, as prepared by HDR, was approved and incorporated into the permit on January 16, 2019.

XI. Special Provisions- Closed Phase I Units

1. The thirty-year post closure period for the Phase I MSWLF unit began on June 4, 2008.
2. The Phase I MSWLF unit is closed and shall be maintained in accordance with the Appendix 26 - Phase I Permit Renewal Documentation, dated July 17, 2006, and the Phase I Area Final Cap Modifications, dated August 11, 2006; both submitted by Barker Lemar Engineering Consultants.
3. The permit holder is prohibited from any additional waste disposal, recycling, composting, and related landfill activities in the Phase I MSWLF unit unless they are specifically approved through an amendment to this permit.
4. The following reports document that the Phase I MSWLF Unit closure has been implemented in compliance with the rules, the Closure and Post Closure Plan, and the permit:
 - a. The Construction Certification Report regarding the final cover installation on the Phase I "north disposal" area, dated January 2000, submitted by HDR Engineering, Inc. and approved on February 2, 2000, is incorporated into the permit.
 - b. The Construction Quality Assurance Report, Phase I Cap, regarding the final cover installation on the Phase IA and Wet Weather disposal areas, dated October 1, 2007, submitted by Foth and approved on October 10, 2007, is incorporated into the permit.
 - c. Documentation of compliant final cover over the majority of the Phase 1 Area referred to as the "West Closed Area", as described in the November 17, 2008 letter from the permit holder and approved on February 5, 2009, is incorporated into the permit.
 - d. The P-27 Phase I Final Cover System Landfill Construction Observation Report, regarding construction of final cover on the remainder of the Phase I Area, dated February 19, 2010 and submitted by Foth, is incorporated into the permit.
 - e. The Phase I Final Cover System HDPE Geomembrane and Geotextile Repair documentation, dated February 24, 2012, as submitted by Barker Lemar Engineering Consultants is incorporated into the permit documents.
 - f. The Gas Collection System Repairs Construction Documentation Report in the Phase I MSWLF Unit, dated February 7, 2017, as submitted by Barker Lemar Engineering Consultants, is approved and incorporated into the permit.
 - g. The Cell E CQA Report #2 – Reaminging Documentation , dated February 3, 2023, as submitted by HDR, documenting the new construction of drainage terraces inletting to a

new tied-concrete block matting letdown structure, and additional drainage terrace construction in Phase I, is hereby approved and incorporated into the permit.

5. The Phase I area shall be monitored for water quality in accordance with the Revised Phase I MSWLF Unit HMSP, dated October 11, 2011, the Corrective Action Monitoring Program, and the Groundwater Monitoring Optimization Report, dated September 4, 2014, all submitted by Barker Lemar Engineering Consultants and the following:
 - a. The HMSP for the Phase I MSWLF Unit shall include upgradient groundwater monitoring points MW-23 and MW-24R; downgradient groundwater monitoring points MW-14R, MW-18, MW-19, MW-28, MW-29, MW-30R, MW-31R, MW-32R, MW-33R, MW-39, MW-55, MW-56, MW-57R, and MW-58, and groundwater seep trench discharge point GU-3A. Monitoring wells MW-50, MW-51, MW-52, MW-53, and MW-54 shall be monitored for water levels.
 - b. Routine annual water quality sampling from approved monitoring points shall consist of the following:
 1. Chloride.
 2. Specific conductance (field measurement).
 3. pH (field measurement).
 4. Ammonia nitrogen.
 5. Iron, dissolved.
 6. Chemical oxygen demand.
 7. Any additional parameters deemed necessary by the DNR.
 - c. Routine annual water quality sampling from approved monitoring points shall consist of the following:
 1. Total organic halogen.
 2. Phenols.
 3. Any additional parameters deemed necessary by the DNR.
 - d. Samples collected for dissolved metals analysis shall be **field filtered, preserved**, and promptly transferred to a certified laboratory.
 - e. If laboratory test results exceed the upgradient mean plus two standard deviations or the Maximum Contaminant Level (MCL) for any parameter, the DNR shall be notified within 30 days of receipt of the analytical results.
 - f. If the analytical results for a downgradient groundwater monitoring point do not fall within the control limits of two standard deviations above (or below for pH) the mean parameters, listed in (c) above for a corresponding upgradient groundwater monitoring point and it cannot be demonstrated that a source other than an MSWLF unit caused the control limit exceedance, then the owner or operator shall comply with the groundwater assessment monitoring program requirements in subrule 113.10(6) and

corrective action requirements in subrules 113.10(7), 113.10(8) and 113.10(9), if necessary. Monitoring wells in detection and assessment monitoring shall be sampled annually using a schedule that captures all of the four seasons of the year every four years. Groundwater samples, collected for assessment and corrective action, shall **not** be field-filtered prior to laboratory analysis and total suspended solids shall be analyzed using Method 1376585, with a reporting limit goal of ≤ 2 mg/l). Turbidity measurement may be approved by the DNR in lieu of TSS, provided a correlation between the two is established.

- g. Monitoring points that are in assessment monitoring and that have completed two full annual sets of Appendix II parameters are not required to have the complete Appendix II parameters measured for five (5) years. If a monitoring point returns to detection and subsequently back to assessment monitoring another two full annual sets of Appendix II measurements are required before returning to the five (5) year full Appendix II frequency.
- h. In accordance with variance approved on January 17, 2012, the permit holder is required to perform maintenance and performance reevaluation of the Phase 1 MSWLF Unit monitoring well network in accordance with paragraph 113.10(2)"f".
- i. The groundwater seep tie-in trench sampled at GU-3A was connected to the leachate collection system in 2009 and all discharge from this trench shall continue to be treated as leachate until otherwise approved by the DNR.
- j. MW-22 was abandoned in 1996.
- k. Abandonment documentation for monitoring well MW-14 and piezometers PZ-1, PZ-2, and PA-10, dated June 12, 2003 and submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
- l. Abandonment documentation for monitoring well MW-42 and piezometers PZ-4, PZ-5, and PZ-6, dated September 26, 2005 and submitted by Barker Lemar Engineering Consultants is incorporated into the permit.
- m. Abandonment documentation for monitoring wells MW-27, MW-40, MW-41, and piezometer PB-4, dated July 11, 2006 and submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
- n. Construction documentation for monitoring wells MW-24R, MW-50, MW-56, MW-57, and MW-58, and well abandonment documentation for MW-24, dated December 31, 2008 and submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
- o. Construction documentation for monitoring wells MW-30R, MW-31R, MW-32R, MW-33R, MW-51, MW-52, MW-53, MW-54, and MW-55, and abandonment documentation

for wells MW-30, MW-31, MW-32, and MW-33, dated September 22, 2009 and submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

- p. The AWQR summarizing the effects the facility is having on groundwater quality shall be submitted to the DNR by March 1 of each year. This report shall be prepared by a professional engineer licensed in the state of Iowa and shall include the results of groundwater level measurements conducted in the monitoring wells.
 - q. The DNR approved the 2012 Annual Water Quality Report, Cover Letter only, dated November 30, 2012, for the Phase I area, prepared and submitted by Barker Lemar Engineering Consultants, which includes the proposed schedule and recommendations for continued Assessment of Corrective Measures activities with the following conditions:
 - 1. The DNR requires the permit holder to annually review the accuracy of the proposed remedy end date of June 3, 2038 and will annually evaluate the need for additional or modified remedies to be implemented in order to meet the June 3, 2038, completion date, in accordance with 567 Iowa Administrative Code (IAC) 113.10(9)"b", and
 - 2. The DNR intends to tie ending of post closure with, among other yet to be specified conditions, either completion of the corrective action in accordance with IAC 113.10, or use of an environmental covenant to delineate care and protection to be implemented after the end of post closure period.
 - r. The DNR approved the Selection of Remedy, dated May 20, 2013, for the Phase I area, prepared and submitted by Barker Lemar Engineering Consultants.
 - s. The DNR approves the Corrective Action Groundwater Monitoring Program (CAMP), dated July 1, 2014, with modifications to the CAMP as listed in document entitled CAMP Reductions – Initial Proposal for Discussion, dated May 19, 2016 and also listed in document entitled Response to “CAMP Reductions – Initial Proposal” Comment Letter, dated July 11, 2016, all submitted by Barker Lemar Engineering Consultants.
 - t. The Groundwater Monitoring Well Abandonment Plan, dated June 4, 2018, submitted by Barker Lemar Engineering Consultants, is approved on June 8, 2018, and incorporated into the permit.
 - u. The installation documentation of monitoring wells MW-57R and MW-73 as provided in the Monitoring Well Installation, dated July 19, 2020, prepared by EcoSource is incorporated into the permit.
6. The permit holder shall quarterly monitor and annually report site methane concentrations for this MSWLF unit pursuant to paragraph 113.26(15)"b". Specific actions, as defined in the rules, shall be taken in the event of methane gas level limit exceedance.

The annual report summarizing the methane gas monitoring results and any action taken resulting from gas levels exceeding the specified limits during the previous 12 months shall be submitted to the DNR's Main and local Field offices by November 30 of each year.

7. The permit holder shall construct and operate the Phases III and IV Gas Extraction System in accordance with the Phase III Technical Specifications and Construction Plans, both prepared by Waste Energy Technology, Inc. and dated August 1997, and approved on August 26, 1997, and the following:
 - a. The Phase III Construction Certification Report and included Record Construction Drawings, dated October 22, 1997, as prepared by Waste Energy Technology, Inc. and approved on November 3, 1997, are incorporated into the permit.
 - b. The Phase IV Landfill Gas Management System Expansion Technical Specifications, dated June 1998, and the Phase IV Landfill Gas Extraction System Expansion Permit Design Drawings, dated August 12, 1998, both prepared by Waste Energy Technology, Inc. and approved on September 16, 1998, are incorporated into the permit.
 - c. The Phase IV Landfill Gas Extraction System Expansion Record Documentation Report and included record drawings, dated December 15, 1998, as prepared by Waste Energy Technology, Inc. and approved on January 14, 1999, are incorporated into the permit.
 - d. The Record Documentation Report Phase IV Landfill Gas Extraction System Expansion and included record drawings Nos. 1 and 2, dated March 18, 1999, as prepared by Waste Energy Technology, Inc. and approved on June 2, 1999, are incorporated into the permit.
 - e. The Construction Documentation Report Condensate Sump Installation contained in Appendix D of the 2015 Gas Collection System Evaluation and Gas Monitoring Report, dated November 25, 2015, submitted by Magnolia Environmental Consultants, is incorporated into the permit and approved December 8, 2015.
8. Phase I MSWLF Unit leachate collection, storage, treatment, and disposal shall be in accordance with the approved plans and documents, and the following:

The permit holder shall collect leachate from the leachate control system and properly dispose of the leachate by treatment at an on-site facility, by discharge with an NPDES permit; or by discharge to the Des Moines Metropolitan Wastewater Reclamation Authority's Wastewater Reclamation Facility or the City of Runnels publicly owned treatment works (POTW). If the discharge is to a POTW with a pretreatment program approved by the DNR, the discharge must comply with the terms and conditions of a local permit issued for the discharge by the POTW. If the discharge is to a POTW without an approved pretreatment program a completed treatment agreement form shall be submitted to the DNR's Wastewater Section. Copies of the local permit or treatment agreement shall be provided to the DNR's Solid Waste Section and the local Field office. The treatment agreement must be on DNR Form 31 (542-3221) and must comply with the requirements of subrule 64.3(5).

The leachate control system shall be operated and maintained in accordance with the approved permit documents. After implementation of the leachate control system, the permit holder shall routinely collect the necessary information and evaluate the effectiveness of the system in controlling the leachate. All documentation shall be summarized in the LCSPER. Effective control shall be considered as maintaining compliance with maximum leachate head as defined in 567 IAC 113.26(11)"a"(1), achieving the lowest possible leachate head as required in 567 IAC 113.26(12)"b"(2), and maintaining surface and groundwater quality standards at compliance monitoring points.

Leachate head levels and elevations shall be measured quarterly at Phase I MSWLF Unit piezometers (DEW-4R, DEW-8R, DEW-18, DEW-21, DEW-23, DEW-36, DEW-44, DEW-57, DEW-65R, DEW-72, DEW-89, DEW-91, DEW-113, and DEW-125R) and the volume of leachate collected and transported to the treatment works recorded. Records of leachate contaminants testing required by the treatment works and any NPDES permit for on-site treated leachate discharges shall be maintained.

Phase I MSWLF Unit LCSPE reporting shall be included in the LCSPER described in Special Provision 2c of **Section X. Special Provision- Operating Units**. The evaluation shall include a discussion on the effectiveness of the collection system to provide a remedy for any corrective action underway, if applicable, proposed additional leachate control measures and an implementation schedule in the event that the constructed system is not performing effectively.

The Manhole #3 Re-Piping System As-Built Report dated February 9, 2005, as submitted by Barker Lemar Engineering Consultants regarding the abandonment and replacement of leachate collection lines from MH#3 to the southwest sump, is incorporated into the permit.

Phase I North West Side Slope Seep Mitigation by a Toe Drain Construction report, dated August 16, 2023, as submitted by Metro Waste Authority, is approved on August 17, 2023 and hereby incorporated into the permit.

9. The Phase I MSWLF unit shall be inspected monthly for the first year after final cover construction by a professional engineer licensed in the State of Iowa and reported on a semiannual basis. After the first year, this MSWLF unit shall be inspected on a semiannual basis by a professional engineer licensed in the State of Iowa. The engineer shall prepare a brief report describing the unit's conformance and nonconformance with the permit and the approved plans and specifications during the inspections. These reports shall be submitted by May 1 and November 1 each year to the DNR's Main and local Field offices.
10. All diversion and drainage systems must be maintained to the approved specifications to prevent run-on and runoff erosion, or other damage to the final cover. These diversion and drainage structures must be designed to meet a 25-year, 24 hour rainfall event.
11. The vegetative cover shall be reseeded as necessary to maintain good vegetative growth. Any invading vegetation whose root system could damage the compacted soil layer shall be removed or destroyed immediately.

12. The integrity and effectiveness of the final cover must be maintained by making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events. If damage to the final cover compacted soil layer occurs, repairs shall be made to correct the damage and return it to original specifications. Repairs associated with small and or linear non-composite final cover disturbances do not require prior DNR approval before proceeding provided the repair steps outlined in approved correspondence dated October 16, 2017, from Barker Lemar Engineering Consultants are followed.
13. The permit holder shall follow the approved Emergency Response and Remedial Action Plan (ERRAP) procedures during all emergencies. An updated ERRAP shall be submitted at the time of any significant changes in facility closure operations that require modification of the currently approved ERRAP.

XII. Permit Renewal and Revision History

Date	Comment
7/1/2021	Amendment #1 - X.5.b. was revised to allow for a pilot recirculation study.
12/3/2021	Amendment #2 - X.5 was revised to allow for leachate recirculation over vegetated intermediate cover.
4/1/2022	Amendment #3 – XI.5.p was revised to change the annual date for submittal of the Phase I Annual Quality Report to March 1 of each year. Also, XI.8. was revised to specify the leachate level sampling points.
10/11/2022	Amendment #4 – X.8.b and g. were revised to allow for the use of automobile shredder residue for solidification of non-hazardous liquid waste.
11/2/2022	Amendment #5 – X.2.a was modified to allow filling in the norther third of Cell E. X.3.p was added to approve the construction documentation for the northern third of Cell E.
1/31/2023	Amendment #6 – X.11.b. approved report date change for gas monitoring report. X.14. Deletes compost language from landfill permit.
2/6/2023	Amendment #7 – X.3.q. approved the construction quality assurance report and the commencement of filling for the southern 2/3 of Cell E. XI.4.g. approved Phase I cover improvements.
8/21/2023	XI.8. Approves a toe drain construction and seep repair in the Phase I area.
11/20/2023	X.10. Expanded source of Class II Biosolids.
12/8/2023	X.4.a. Includes monitoring well MW-E into the monitoring network. X.4.q. Approves Monitoring Well Documentation Form for MW-E.
5/31/2024	XI.5.a. Monitoring wells MW-50, MW-51, MW-52, MW-53, and MW-54 are monitored for water levels.
10/31/24	X.8.b. Added sawdust as an approved material for liquid waste solidification.