May 11, 2023

ZACH SIMONSON
OTTUMWA WAPELLO SOLID WASTE COMMISSION
105 EAST THIRD STREET
OTTUMWA IA 52501-8252

RE: Ottumwa-Wapello County Sanitary Landfill
Permit No. 90-SDP-01-75P
Permit Revision #5

Dear Mr. Simonson:

Enclosed is a revised permit for the Ottumwa-Wapello County Sanitary Landfill.

The permit was revised to remove a reference to Chamness Technologies in special provision #10, and to incorporate DNR approval of your request to store tires at the landfill (special provision #16).

The permit and the approved plans must be kept at the sanitary disposal project in accordance with subparagraph 567 IAC 113.11(1)"a". Please review the permit with your operators, as they must become familiar with it.

If you have any questions, please contact me at (515) 689-6548 or at mick.leat@dnr.iowa.gov.

Sincerely,

Michael B. "Mick" Leat

Digitally signed by Michael B. "Mick" Leat
Date: 2023.05.11 09:53:17 -05'00'

Michael B. "Mick" Leat
Land Quality Bureau

Attachment

copy: Nathan Ohrt
SCS Engineers
1690 All State Court, Suite 100
West Des Moines, IA 50265

DNR Field Office #6

IOWA DEPARTMENT OF NATURAL RESOURCES
SANITARY DISPOSAL PROJECT PERMIT

I.	**Permit Number:**	90-SDP-01-75 Ottumwa-Wapello County Sanitary Landfill
II.	**Permitted Agency:**	Ottumwa-Wapello Solid Waste Commission
III.	**Project Location:**	The SE¼; the E 30 acres of the S½, S½, NE¼; and a portion of the W 10 acres of the S½, S½, NE¼; all in Section 33, T73N, R14W, Wapello County, Iowa. Also approximately 30 acres in the W½ of the NE Fractional Quarter of Section 4, T72N, R14W, Wapello County.
IV.	**Responsible Official**	
	Name:	Zach Simonson, Ottumwa Wapello Solid Waste Commission
	Address:	City of Ottumwa 105 East Third Street Ottumwa, IA 52501
	Phone:	(641) 683-0694
	email:	simonsonz@ottumwa.us
V.	**Licensed Design Engineer**	
	Name:	Matthew Corry, P.E.
	Address:	SCS Engineers 1690 All State Court, Suite 100 Des Moines, IA 50265
	Phone:	(515) 256-8814
	email:	mcorry@scsengineers.com
	Iowa License Number:	P25067
VI.	**Date Permit Issued:** **Date 5th Permit Revision:**	**January 25, 2021** **May 11, 2023**
VII.	**Permit Expiration Date:**	**January 25, 2026**

VIII. **Issued by:** Michael B. "Mick" Leat

Digitally signed by Michael B. "Mick" Leat
Date: 2023.05.11 09:51:43 -05'00'

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 Ottumwa-Wapello Comprehensive Plan. The Comprehensive Plan as approved by the DNR on October 3, 2019; any approved amendments to the plan; and the latest plan update, are hereby incorporated as permit plan documents.

   The permitted service area includes: The unincorporated area in Wapello County and all cities except Eddyville; and all cities and the unincorporated area in Davis County.

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

2. The permit holder shall operate the site in accordance with the Development and Operations Plan contained in Appendix 5 of the approved 2020 Permit Renewal Documentation (doc #98622), dated October 7, 2020, as submitted by Evora Consulting, and the following:

   a. Waste disposal is limited to the North Cell, the Phase 1A and 1B Cells, the Phase 2 Cell, and the Phase 3 Cell in the West MSWLF unit.

   b. The Development Drawings and Site Maps (Appendix 2) and the Hydrogeological Investigation Plan and Report (Appendix 3) contained in the Site Development and Operational Plan for the East Horizontal Expansion (doc #16848), dated February 15, 2008, as amended by response letter (doc #19846) dated April 18, 2008, as submitted by Barker Lemar Engineering Consultants and approved on May 12, 2009, are incorporated into the permit. The East Horizontal Expansion is also referred to as the East MSWLF Unit. The permit holder is not currently authorized to construct any cells within this unit.

   c. 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 City of Ottumwa 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.

The following must be recorded by the permit holder and reported in the LCSPER for each leachate thickness measurement that equals or exceeds 12 inches at LPZ-13R, LPZ-14, LPZ-15, LPZ-16, or LPZ-17:

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.

The permit holder shall annually submit a Leachate Control System Performance Evaluation (LCSPE) Report 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).

d. The permit holder shall operate and inspect the 3-inch diameter, above-ground leachate recirculation piping that runs from the south end of the West MSWLF Unit to the North Cell and whose construction is referenced in Special Provision #3k as follows:
    1) The pipe shall only be used during March through November (non-winter months) during non-freezing conditions.
    2) The permit holder shall conduct monthly inspections along the entire length of the recirculation pipe during the March through November operational period. Completed inspection forms shall be included in the annual LCSPE report.

e. The permit holder must maintain effective control of leachate in the unlined portion of the West MSWLF unit as determined through maintenance of the lowest feasible leachate head in this area and by complying with the environmental monitoring and corrective action requirements for groundwater. This shall be re-evaluated annually and presented in the LCSPE report.

f. 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.

g. Litter control at the site shall be conducted in accordance with the Litter Control Policy adopted by the permit holder, as contained in Attachment C of the April 29, 2013 submittal from Barker Lemar Engineering Consultants (doc #76776) and approved on December 1, 2010.

h. The permit holder shall operate and maintain the perimeter landfill gas control system in accordance with the Operations Plan contained in Attachment C of the Southwest Perimeter Gas Control System Expansion Design (doc #86047), dated April 15, 2016 and approved on May 16, 2016, as submitted by Barker Lemar Engineering Consultants. Copies of the completed gas control system operation inspection checklist described in this document shall be included in the annual report described in special provision #6c.

3. Future liner and leachate collection system construction shall take place in accordance with the plans and specifications contained in Appendix 3 of the 2015 Permit Renewal Documentation (doc #84185), dated August 31, 2015; the Request for Approval to Construct the 2017 West Horizontal Expansion, dated April 12, 2018 (doc #92083) as amended by the Revised Phase 3 Groundwater Separation System design document (doc #94088), dated January 7, 2019; and the Request for Permit Amendment for the East Horizontal Expansion, dated April 10, 2012 (doc #92082), as amended by the June 20, 2018 Response Letter (doc #92671), July 12, 2018 Base Flood Elevation Addendum (doc #92774); as submitted by Barker Lemar Engineering Consultants; and the following:

   a. The permit holder is authorized to construct the Area A1 Cell, as depicted in documents #92083 and #92671. The permit holder shall submit a Final QC&A Report regarding the construction of this cell prepared in accordance with paragraph 113.7(6)"d" documenting compliance with the approved plans. No waste disposal shall commence in the Area A1 Cell until the final construction certification has been submitted in accordance with paragraph 113.7(6)"d", and the cell has been inspected and approved by the DNR.

      Thirty days prior to commencement of construction activities for the Area A2 cell, as depicted in the documents listed in Item #3 above, the permit holder shall submit a notice to construct the cell, including tentative construction schedule and Final QC&A submittal date.

   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 Leachate Piezometer Abandonment and Installation Documentation (doc #1523) dated May 8, 2007, as submitted by Barker Lemar Engineering Consultants, which

included the abandonment forms for LPZ-6, LPZ-7, and LPZ-8 and installation documentation for LPZ-6R, LPZ-7R, and LPZ-8R; is incorporated into the permit.

d. The Construction Certification Report, North Cell Construction (doc #9381), dated November 28, 2006, as submitted by Barker Lemar Engineering Consultants and approved on September 27, 2007, is incorporated into the permit.

e. The Construction Certification Report for the Methane Interceptor Trench (doc #5434), dated July 10, 2007, submitted by Barker Lemar Engineering Consultants, is incorporated into the permit. The remediation system is required due to methane gas detections within the scale house at the site.

f. The Construction Certification Report, North Cell Abutment Construction (doc #8867), dated September 18, 2007, as submitted by Barker Lemar Engineering Consultants and approved on September 27, 2007, is incorporated into the permit.

g. The Construction Certification Report, Phase 1A and 1B Cell Construction (doc #47833), dated September 22, 2009, as submitted by Barker Lemar Engineering Consultants and approved on September 28, 2009, is incorporated into the permit.

h. The construction documentation for replacement leachate piezometers LPZ-6R2, LPZ-7R2, LPZ-9R, LPZ-10R, and LPZ-13R (doc #62378), dated December 17, 2010, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

i. The Construction Observation Report for the Southwest Perimeter Gas Control System (doc #64833), dated April 29, 2011, as submitted by Barker Lemar Engineering Consultants and approved on August 1, 2011, is incorporated into the permit. This remediation system was constructed in response to 100% LEL detections at perimeter gas monitoring point 93-MW-31.

j. The Construction Observation Report, Phase 2 Cell Construction (doc #78424), dated October 29, 2013, as submitted by Barker Lemar Engineering Consultants and approved on October 30, 2013, is incorporated into the permit.

k. The Construction Observation Report, Direct Leachate Recirculation Piping (doc #80398), dated May 29, 2014, as submitted by Barker Lemar Engineering Consultants and approved on September 11, 2014 is incorporated into the permit. Use of the pipe is subject to the operating conditions described in special provision #2d.

l. The construction documentation for replacement leachate piezometer LPZ-13R2 (doc #87888), dated December 6, 2016, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

m. The Construction Observation Report for the Subsurface Gas System Expansion (doc #88058), dated December 29, 2016, as submitted by Barker Lemar Engineering Consultants, is approved and incorporated into the permit. Three gas collection wells were added to the remediation system described in special provision #3i.

n. The Construction Observation Report – Leachate Collection System Improvements (doc #90125), dated August 11, 2017, as submitted by Barker Lemar Engineering Consultants and pertaining to installation of a leachate extraction well and cleanout riser extensions as a response to the 12-inch leachate head exceedances at leachate piezometer LPZ-13R2, is approved and incorporated into the permit.

o. The Construction Observation Report – Leachate Extraction Pump Installation (doc #94117), dated January 8, 2018, as submitted by Barker Lemar Engineering Consultants and pertaining to the installation of a leachate extraction pump in the well located near LPZ-13R2, is approved and incorporated into the permit.

p. The Construction Observation Report, Phase 3 Cell Construction (doc #96798), dated January 22, 2020, as submitted by Barker Lemar Engineering Consultants and approved on January 23, 2020 is incorporated into the permit.

4. Hydrologic monitoring of the West MSWLF Unit shall be conducted in accordance with the Hydrologic Monitoring System Plan (HMSP) contained in Appendix 9A of the Request for Approval to Construct the 2017 West Expansion (doc #92083), dated April 12, 2018, as submitted by Barker Lemar Engineering Consultants; and the following:

   a. The HMSP for the West MSWLF Unit shall include the following:
      (1) Background groundwater monitoring well MW-53;
      (2) Downgradient compliance wells 91-MW-14, 93-MW-32, MW-39R, MW-40, 04-MW-56, MW-58, MW-59, MW-62, MW-63R, MW-64, and MW-65;
      (3) Downgradient attenuation zone compliance well AZPOC-81;
      (4) Supplemental attenuation zone source wells 93-MW-31R, MW-61R, MW-73, and MW-79[1];
      (5) Groundwater underdrain monitoring points GU-6 and GU-7, and
      (6) Corrective action monitoring program (CAMP) points[2].

      [1] Samples from the supplemental attenuation zone source wells shall be analyzed semiannually for the Appendix 1 parameters and annually for total organic carbon, nitrate, iron, manganese, and sulfate until the DNR approves otherwise. Since these wells are not compliance points, they are not subject to the requirements of 567 IAC 113.10(5)"c" and 113.10(6).

      [2] The Selection of Remedy and CAMP letter (doc #99216), dated December 30, 2020, as submitted by Evora Consulting, was approved on January 25, 2021. Accordingly, AZPOC-81 and five (5) gas vent wells, as described in the ACM addendum dated June 11, 2020 (doc #97902) shall be initially sampled by May 1, 2021. Monitoring shall be conducted at the following CAMP points as follows until remedy completion is demonstrated at AZPOC-81 in accordance with 567 IAC 113.10(9)"e":
      - Delineation wells MW-66, MW-67, MW-68, MW-71, MW-74, MW-75, MW-78, and MW-80 – Semiannually for the analytes listed in Table A of doc #99216; and
      - Gas vents – Annually for the gas parameters listed in Table A of doc #99216.

   In accordance with the request contained in the ACM addendum dated June 11, 2020 (doc #97902), an alternative Appendix I Metals analytical list consisting of arsenic, barium,

cadmium, copper, cobalt, lead, nickel, and zinc is approved for monitoring wells MW-14, 93-MW-32, 04-MW-56, MW-59, MW-62, MW-64, and MW-65.

The permit holder shall analyze samples from monitoring wells MW-39R, MW-40, 04-MW-56, MW-58, MW-59, MW-63R, MW-64, and MW-65 on an annual basis for alkalinity, aluminum, iron, manganese, pH, and sulfate.

Groundwater monitoring is not required for the unconstructed East MSWLF Unit.

b. Groundwater elevations shall be collected semiannually from 91-MW-6, 91-MW-7, 91-MW-8, MW-37, and MW-25 and included on groundwater contour maps submitted as part of the Annual Water Quality Report (AWQR).

c. 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.

d. 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 constituents 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 (TSS) 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.

e. The permit holder shall include in each 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.

f. 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.

g. The permit holder shall semiannually measure groundwater elevations within 1/100 of a foot in each well and immediately prior to purging, each time groundwater is sampled.

h. The permit holder shall collect semiannual groundwater elevation measurements from groundwater piezometers GWP-1 and GWP-2 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 facilities' Annual Water Quality Report (AWQR).

i. An AWQR summarizing the effects the facility is having on groundwater quality shall be submitted to the DNR's Solid Waste Section 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" using the DNR AWQR Format.

   The AWQR shall also include a discussion of AMD impacts at all wells with SSIs or statistically significant exceedances of groundwater protection standards, as well as any other compliance-point wells that exhibit evidence of AMD but may not currently be SSIs. The evaluation shall include time-series graphs and trend evaluations, and shall determine if AMD conditions are stable, expanding, or retracting at each point, and, if necessary, demonstrate if AMD is the likely primary alternative source of contamination identified at the site in accordance with 567 IAC 113.10(5)"c"(3) or 113.10(6)"g"(2).

   Analytical data from the supplemental attenuation zone source wells shall be evaluated in each AWQR to track source area changes that could be an indication of a new contaminant release or degradation of a known one.

j. The construction documentation for 96MW-30R (doc #59126) dated March 13, 1996, as attached to the March 29, 1996, Landfill Permit Renewal from Foth & Van Dyke, Inc., is incorporated into the permit.

k. The construction documentation for monitoring point MW-37, dated August 16, 1996, as provided by the landfill operator, is incorporated into the permit.

l. The abandonment documentation for 91MW-9 dated July 21, 2000, as attached to the September 26, 2000, correspondence (doc #59051) from Barker, Lemar & Associates, is incorporated into the permit.

m. The construction documentation for MW-40 (doc #59049), dated November 20, 2000, as attached to the December 1, 2000 correspondence from Barker, Lemar & Associates, is incorporated into the permit.

n. The abandonment documentation for MW-34, MW-35, MW-38, and MW-39 (doc #59044), dated February 8, 2001, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

o. The Monitoring Well Installation & Abandonment Documentation report (doc #58956) dated June 15, 2004, which contained the construction or abandonment forms for 04-MW-56, 04-MW-57, 91-MW-15, 91-MW-16, 89-MW-3, and 96-MW-30R; as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

p. The documentation for replacement well MW-39R (doc #6787), dated August 2, 2007, submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

q. The construction documentation for MW-58, MW-59, MW-60, MW-61, MW-62, MW-63, piezometers PZ-1, PZ-2, PZ-3, and PZ-4, and landfill gas wells LFGW-W1, LFG-W2, and LFG-W3 (doc #34828), dated December 22, 2008, as submitted by Barker Lemar Engineering Consultants; is incorporated into the permit.

r. The abandonment documentation for PZ-1 and PZ-2 (doc #47865), dated September 23, 2009, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

s. The construction documentation for MW-64 and MW-65, and the abandonment documentation for 91-MW-11, PZ-3 and PZ-4 (doc #67476), dated October 31, 2011, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

t. The construction documentation for MW-63R, MW-66, MW-67, and MW-68, and abandonment documentation for MW-63 (doc #74172), dated September 17, 2012, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

u. The construction documentation for MW-69 and MW-70 (doc #77449), dated June 26, 2013, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

v. The construction documentation for MW-71 and MW-72, and the abandonment documentation for the previously unknown water supply well discovered during the Phase 2 cell construction (doc #78384), dated October 22, 2013, as submitted by Barker Lemar Engineering Consultants, are incorporated into the permit.

w. The construction documentation for MW-73, MW-74, and MW-75 (doc #80913), dated July 31, 2014, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

x. The construction documentation for MW-76 and MW-77, and leachate piezometers LPZ-18 and LPZ-19 (doc #83104), dated April 16, 2015, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

y. The construction documentation for MW-78 and MW-79, and gas monitoring probe LFGW-W5 (doc #84221), dated September 8, 2015, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

z. The construction documentation for MW-80 (doc #87888), dated December 6, 2016, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

aa. The abandonment documentation for 93-MW-31 and construction documentation for 93-MW-31R and MW-61R (doc #93638), dated October 29, 2018, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.

bb. The construction documentation for attenuation zone point of compliance well MW-81 (doc #99977) and gas vent wells GV-1 through GV-5, dated March 17, 2021, as submitted by Evora Consulting, is incorporated into the permit.

5. The permit holder is authorized to recirculate leachate in the North Cell and 2008 North Lateral Expansion through surface application and recirculation trenches in accordance with the request (doc #11581) dated November 1, 2007, and subject to the following requirements:

   a. Leachate application is restricted to only those MSWLF units with a composite liner constructed in accordance with paragraph 113.7(5)“a”.

   b. The leachate recirculation system shall not contaminate waters of the state, contribute to erosion, damage cover material, harm vegetation, or spray persons at the MSWLF facility, pursuant to paragraph 113.8(2)“h”.

   c. Leachate shall not be applied on user vehicle access areas.

   d. Leachate shall not be applied to vegetated areas or frozen waste cover. A means of frost protection must be provided for all leachate control elements.

   e. Leachate shall be applied evenly on the working area.

   f. Leachate recirculation shall be conducted only during hours of operation and when an operator is on duty.

   g. Leachate shall be applied in a manner such that ponding or runoff will not occur.

   h. 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.

   i. Records shall be maintained as to the time and quantities of leachate application and be submitted with the facility Annual LCSPER.

   j. 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 permit holder is authorized to apply leachate over disposal areas with intermediate cover in accordance with the following:

   a. Leachate application is restricted between May 1 and November 1 of each year and shall not be made within 24 hours of measurable rainfall or a previous application event, or when rain is forecasted within 24 hours.

b. Leachate application is restricted to only those MSWLF units with a composite liner constructed in accordance with paragraph 113.7(5)"a".

c. Leachate shall be applied evenly at a rate determined by the operator but not exceeding 1 inch per application.

d. Leachate shall be applied in a manner such that ponding or runoff will not occur.

e. Leachate applications shall not be made to areas with alternative daily cover.

f. Leachate application shall not contaminate waters of the state, contribute to erosion, damage cover material, harm vegetation, or spray persons at the MSWLF facility, pursuant to paragraph 113.8(2)”h".

g. Leachate shall not be applied on user vehicle access areas.

h. Leachate application shall be conducted only when an operator is on duty.

i. Leachate application shall be immediately terminated if it causes ponding, runoff, excessive odor, vector control problems, vapor drift, ice formation, or operational problems. The Department's local Field office shall be immediately notified if any of the above events occur.

j. The permit holder shall retain in the operating record, daily logs containing the following documentation for each land application event:

   1) Date of application and weather conditions,
   2) Cover soil conditions before application,
   3) Leachate application rate and total volume applied,
   4) A description of the application process and application area, including equipment used,
   5) Rainfall data for previous 24 hours and rainfall forecast for the next 24 hours,
   6) Descriptions of any permit or rule noncompliance regarding ponding, runoff, odors, vectors, or vapor drift, resulting from leachate application and actions taken to return to compliance.

k. The permit holder shall report the effectiveness of the application process, including leachate volumes applied, and any noncompliance with this perm it amendment within the LCSPER required in subparagraph 113.7(5)”b”(14).

7. The permit holder shall conduct subsurface gas monitoring of the West MSWLF Unit in accordance with the Landfill Gas Monitoring Plan contained in Appendix 8 of the 2015 Permit Renewal Documentation (doc #84185), dated August 31, 2015, as updated in Appendix 9B of the April 12, 2018 Request to Construct the 2017 West Expansion (doc #92083); as submitted by Barker Lemar Engineering Consultants, and the following:

a. Landfill gas concentrations must be measured at methane monitoring points #1-5, #12-27, #31, and #36-38, as shown on Figure 1-1 in Appendix 9B within doc #92083.

   Gas monitoring is not required for the unconstructed East MSWLF Unit.

b. 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.

c. The permit holder shall annually submit a 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 as a supplement to the facility Annual Water Quality Report, as defined in subrule 113.10(10). Copies of the completed inspection checklists, as described in the Gas Control System Operations and Maintenance Plan in special provision #2h, shall be included in the annual report.

8. In accordance with the disposal of untreated petroleum contaminated soils (PCS) variance request to 567.109.11(2) dated November 13, 2019, as submitted by Barker Lemar Engineering Consultants, and approved on November 25, 2019, the permit holder is authorized to directly dispose of untreated PCS at the working face for a period to coincide with the solid waste permit expiration date; and the following:

   a. The PCS must be immediately buried at the working face pursuant to 567.113.8(1)"b"(3).

   b. The untreated PCS must not contain free liquids pursuant to 567.113.8(1)"b"(1).

   c. PCS resulting from the cleanup of petroleum underground storage tanks are exempt from RCRA hazardous waste management if the soil 1) exhibits 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 above ground storage tanks, other surface spills, or if the PCS becomes 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).

9. The permit holder is authorized to solidify liquid wastes in accordance with the Liquid Waste Permit Modification Request, dated July 1, 2021 (doc#100777) and the email request dated October 6, 2022 (doc#104244), as submitted by Evora Consulting, and the following:

   a. The only liquid wastes approved for solidification are filter materials from a water clarifier and rendering wastes from the JBS facility in Ottumwa, Iowa. Acceptance of any other

liquid wastes is subject to likely pilot demonstration from the permit holder and subsequent DNR approval.

b. All liquid waste solidification processes shall be conducted over a composite liner.

c. Liquid wastes shall be unloaded in a pit constructed with absorbent materials, consisting of adsorptive soils stockpiled elsewhere on site.

d. Documentation and reporting requirements include remission of the appropriate tonnage fees for all solidified liquid wastes.

e. 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.

f. The solidified liquids shall be disposed at the working face.

g. Liquid waste solidification processes shall not be conducted during significant rain events, high wind conditions, or extremely cold temperatures.

h. Documentation of the following must be retained and made available for DNR review upon request:
   1) Waste description and quantities,
   2) Documentation that the accepted materials are nonhazardous, and
   3) EPA Method 9095B paint filter test results as required.

i. The permit holder shall remit quarterly, the appropriate tonnage fees for all solidified liquid wastes on the appropriate reporting forms. Provided native soils are the only adsorptive materials used, tonnage fee remission are not required for the absorbents utilized in the solidification process.

10. The permit holder is authorized to collect and temporarily store trees, limbs and brush, and clean wood wastes free of coatings and preservatives. The maximum length of time for storage at the landfill is six (6) months.

11. The permit holder is authorized to use an alternative daily cover by the trade name *Finn Waste Cover*, as a substitute for the six-inch daily soil cover requirement. Use of this material is subject to the following:

    a. This product 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 this product is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.

d. This product 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. This product shall be cross applied when necessary to provide effective cover.

e. If this product does not set within one hour of application, the workface shall be covered with six inches of compacted soil or a fresh application of this product. The term set means 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 five (5) days. After five days, any area exposed with this product shall be either covered with a new lift of waste, a fresh application of this product, or six inches of compacted soil.

f. 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.

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 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.

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.

12. The permit holder is authorized to use geotextiles by the trade name Fabrisoil by Phillips, Typar™ by Exxon Chemical Company, Airspace Saver™ and woven polyolefin fabric L257™ by Fabrene, and 315-ST woven geotextile by Brawler Industrial Fabrics or equivalent, 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 seven (7) consecutive days. For any waste covered with this product beyond the stipulated time frame, the product shall be removed and the underlying waste shall be immediately covered with soil in accordance with the applicable IAC 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 a part of the waste fill.

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.

13. The permit holder is authorized to accept street sweeping sand from the City of Ottumwa, Iowa. The permit holder is authorized to use a sand/soil combination as an alternative cover material, subject to the following:

a. The ratio of street sweeping sand to soil shall not exceed 50% sweepings by volume. Quantities exceeding 1-week usage shall be disposed in the workface area. Only sweepings placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved street sweeping sand) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.

b. 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.

c. 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.

d. 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.

e. The soil ratio shall be increased, if necessary, to optimize cover performance relative to the criteria stated in items “c” and “d” above.

f. The permit holder shall scarify any alternative cover material prior to each day’s use of that area as a working face.

g. The permit holder shall maintain in the landfill files appropriate annual laboratory analytical documentation that demonstrates that the street sweeping sand is not hazardous by TCLP testing. Documentation reporting of such testing shall be submitted to both the DNR’s Main and local Field Office.

14. The permit holder is authorized to accept composted material from the Chamness Technology composting site in Eddyville, Iowa for use as an alternative daily cover.

15. 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.

16. 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.

17. The permit holder shall close the landfill site in accordance with the Closure and Post Closure Plans contained in Appendices 7 and 8, respectively, of the Request for Approval to Construct the 2017 West Horizontal Expansion, dated April 12, 2018 (doc #92083), as submitted by Barker Lemar Engineering Consultants; and the following:

    a. The Construction Certification Report for South Cell Closure, regarding the construction of final cover on this portion of the West MSWLF Unit (doc #9740), dated September 28, 2007, as submitted by Barker Lemar Engineering Consultants and approved on October 17, 2007, is incorporated into the permit.

    b. The following submittals document that final cover has been constructed on the entirety of the unlined portion of the West MSWLF unit:

        1) The Final Cover Analysis and Construction Certification Report, documenting final cover construction on 6.8 of the 7.4 acres identified as the 1992 Slope Stabilization

Area (doc #24157), dated June 9, 2008, as submitted by Barker Lemar Engineering Consultants and approved on August 5, 2008; are incorporated into the permit.

2) The Petition for Variance, Alternative Final Cover for Municipal Solid Waste In Place (doc #47108), dated August 14, 2009, as submitted by Barker Lemar Engineering Consultants, and approved by DNR (doc #47110) on October 5, 2009, is incorporated into the permit. This submittal documents that the 5-foot-thick subsoil and overlying crushed rock road surface in existence over a 0.75-acre portion of the West MSWLF Unit is approved as final cover.

3) The Construction Observation Report - Landfill Closure (doc #60782), dated October 13, 2010, as submitted by Barker Lemar Engineering Consultants, is approved and incorporated into the permit. This submittal documents the construction of final cover on 23 acres of the West MSWLF unit, including the previously-noncompliant 0.6-acre portion of the 1992 Slope Stabilization Area described in Special provision 14b.

XI. Permit Renewal and Revision History

Date	Comment
May __, 2023	Permit Revision #5; removed reference to Chamness in special provision #10 and added waste tire storage provision #16 per their May 9, 2023 request.