



September 2, 2020

JOHN KLOSTERMANN
DUBUQUE METROPOLITAN AREA SOLID WASTE AGENCY
925 KERPER COURT
DUBUQUE IA 52001-2405

RE: Dubuque Metropolitan Area Sanitary Landfill
Permit No. 31-SDP-02-75P
Permit Revision #7

Dear Mr. Klostermann:

Enclosed is a revised permit for the Dubuque Metropolitan Area Sanitary Landfill. The permit was revised to incorporate in special provision #4p the well abandonment documentation for MW-124A, MW-124B, and MW-138A that was submitted on August 12, 2020.

The permit and the approved plans must be kept at the sanitary disposal project in accordance with solid waste rule 567 IAC 113.11(1). Please review the permit with your operators, as they must become familiar with it. Note that the permit contains special provisions that may require a response or action by you that, if not properly complied with, may prompt enforcement action.

If you have any questions, please contact me at (515) 725-8345.

Sincerely,

A handwritten signature in blue ink, reading "Michael B. 'Mick' Leat". The signature is fluid and cursive, with the first name "Michael" and last name "Leat" clearly visible, and a middle initial "B." and nickname "'Mick'" in between.

Michael B. "Mick" Leat
Land Quality Bureau

cc: Chris Oelkers, P.E.
AECOM
501 Sycamore Street, Suite 222
Waterloo, IA 50704-1497

DNR Field Office #1

Megan Seymour, P.E.
HDR
1917 S. 67th Street
Omaha, NE 68106

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

- I. Permit Number:** 31-SDP-02-75P
- II. Permitted Agency:** Dubuque Metropolitan Area Solid Waste Agency
- III. Project Location:** N 1/2 of the SE 1/4, SW 1/4 of the SE 1/4 and most of the S 1/2 of the NE 1/4, all in Section 1, T88N, R1E; and most of the NW 1/4, most of the N 1/2 of the SW 1/4, the NW 1/4 of the NE 1/4, and part of the NE 1/4 of the NE 1/4, all in Section 6, T88N, R2E; Dubuque County
- IV. Responsible Official**
Name: John Klosterman
Address: 925 Kerper Court
Dubuque, Iowa 52001
Phone: 563-589-4348
FAX: 563-589-4252
- V. Licensed Design Engineer**
Name: Christopher G. Oelkers, P.E.
Address: AECOM
501 Sycamore Street, Suite 222
P.O. Box 1497
Waterloo, Iowa 50703-1497
Phone: 319-232-6531
FAX: 319-232-0271
Iowa License Number: 22053
- VI. Date Permit Issued:** **October 23, 2017**
Date 7th Permit Revision: **September 2, 2020**
- VII. Permit Expiration Date:** **October 23, 2022**

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

e 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 Dubuque Metropolitan Area Solid Waste Agency Comprehensive Plan. The Comprehensive Plan as approved by the Department on October 13, 2014; any approved amendments to the plan; and the latest plan update, are hereby incorporated into the permit.

The permitted service area includes: all cities and the unincorporated area in Delaware County; all cities and the unincorporated area in Dubuque County; the cities of Edgewood, Guttenberg, North Beau Vista, and Strawberry Point in Clayton County; the city of Zwingle in Jackson County; Grant County, Wisconsin; and Jo Davies County, Illinois.

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

2. The permit holder shall develop and operate the site in accordance with the hereby approved Development and Operation Plan, as contained in Section 5 of the Development and Operations Plan (doc#89820), dated June 27, 2017 as submitted by AECOM; and the following:
 - a. Waste disposal is limited to Cells 4-8 and Cell 9, Phases I through IV where the permit holder has submitted documentation that the leachate drainage layer has been emplaced. The site vertical height shall not exceed a maximum waste elevation of 1000 feet in these three phases. Any further expansion beyond these phases shall require prior DNR approval.

By December 31, 2020, the permit holder shall submit certification that the frost protection layer has been placed over Cell 9, Phase IV.

- 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 City of Dubuque 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 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).

- c. 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.
 - e. In accordance with the Federal Aviation Administration (FAA) correspondence (doc #48727), dated October 14, 2009, the permit holder shall operate the site in a manner compatible with the Dubuque Regional Airport as follows:
 - 1) The landfill must be properly supervised to assure that bird populations are not increasing and that appropriate control procedures are being followed.
 - 2) Any increases in bird activity that might be hazardous to safe aircraft operations will result in prompt mitigation actions and/or closure of the landfill.
 - f. The review comments (doc #49400), dated April 12, 2000 from the DNR’s Conservation and Recreation Division relative to the comprehensive listing of plant and animal species for the development and soil borrow areas in the review, are incorporated into the permit.
 - g. The review comments (doc #49399), dated May 17, 2000 from the State Historical Society relative to the determination of the presence of and assessment of the impact on any archaeological, historical, or architecturally significant properties for the development and soil borrow areas included in the review, are incorporated into the permit.
3. The liner and leachate collection system shall be constructed in accordance with the Landfill Expansion, Cell 9, Phases II-IV plans and specifications, dated July 3, 2014, as submitted by AECOM (doc#80660), and approved on September 26, 2014; the GCL Equivalency Calculation

submittal for the sideslope/abutment expansion (doc #95367) dated June 11, 2019 as submitted by AECOM and approved on June 13, 2019; and the following:

- a. The permit holder shall submit supplemental construction certification reports until the Phase IV leachate drainage layer has been constructed as depicted in the plans and specifications included in documents #80660 and #95367.
- b. The permit holder is authorized to construct the Cell 9 sideslope expansion/abutment liner over the southern one-third of closed Cells 1 and 2, as depicted in the plans and specifications included in documents #80660 and #95367.

Any further expansion beyond these cells shall require DNR approval. No waste disposal shall commence in the Cell 9 sideslope expansion/abutment 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 Cell 9 sideslope expansion/abutment, the permit holder shall submit a notice to construct the cell, including tentative construction schedule and Final QC&A submittal date.

The permit holder shall submit a Final QC&A Report for the construction of the Cell 9 sideslope expansion/abutment, prepared in accordance with paragraph 113.7(6)"d" documenting compliance with the approved plans.

- c. The permit holder is authorized to construct the Landfill Gas Collection and Control System Expansion Project, as depicted in the construction drawings (doc #97967), Construction Quality Control and Assurance Plan (doc #97968), and the Contract Documents Manual (doc #97969). You are required to submit a construction observation report upon completion of the construction activities.
- d. The permit holder shall notify the DNR and have the site inspected when the construction of a new Municipal Solid Waste Landfill Unit (MSWLF) unit or significant components thereof has been completed, in accordance with subrule 113.4(6). Prior to the inspection, the Quality Control & Assurance 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.
- e. The Cell 3A Construction Report (doc #34391), received by the DNR on June 28, 1994, as submitted by Rust Environment & Infrastructure, is incorporated into the permit.
- f. The Cell 3B construction Report (doc #40914), dated June 27, 1994, as submitted by Rust Environment & Infrastructure, is incorporated into the permit.

- g. The Cell 4 Construction Report (doc #49423), dated April 14, 1997, as submitted by Rust Environment & Infrastructure and approved on May 13, 1997, is incorporated into the permit.
 - h. The Construction Certification Report for the Cell 5 and Cell 6 Expansion (doc #49392), dated November 1, 2000, as submitted by Fox Engineering and approved on November 2, 2000, is incorporated into the permit.
 - i. The As-Built Drawings for the Cell 5 and Cell 6 Expansion (docs #49080 through #49085), dated November 1, 2001, as submitted by Fox Engineering and approved on December 12, 2001, are incorporated into the permit.
 - j. The Construction Documentation Report for Cells #7 and #8 (doc #48992), dated July 28, 2004, as submitted by Earth Tech and approved on August 3, 2004, is incorporated into the permit.
 - k. The Cell 9, Phase I Quality Assurance/Quality Control Report (doc #75345), dated December 14, 2012, as submitted by AECOM and approved on January 4, 2013, is incorporated into the permit.
 - l. The Cell 9, Phase II Quality Assurance/Quality Control Report (doc #84776), dated November 25, 2015 as submitted by AECOM and approved on December 8, 2015, is incorporated into the permit.
 - m. The Cell 9, Phase III Quality Assurance/Quality Control Report (doc #91037), dated November 27, 2017 as submitted by AECOM and approved on October 23, 2017 is incorporated into the permit.
 - n. The Cell 9, Phase IV Quality Assurance/Quality Control Report (doc #96407), dated November 20, 2019 as submitted by AECOM and approved on November 21, 2019 is incorporated into the permit.
4. Hydrologic monitoring at the site shall be conducted in accordance with the hereby-approved Hydrologic Monitoring System Plan (HMSP) contained in Section 6 of the Development and Operations Plan dated June 27, 2017 as submitted by AECOM; and the following:
- a. The HMSP shall include:
 - Water Table** monitoring points, consisting of upgradient groundwater monitoring points MW-120AR, MW-124A, and MW-138A; and downgradient groundwater monitoring points MW-102A, MW-103A, MW-104A, MW-105A, MW-108AR, MW-109ARR, MW-114AR, MW-137A, MW-201A, MW-202A, MW-203A, MW-204A, OW-301A, OW-306AR, MW-401A, MW-402A, MW-403A, MW-404A, MW-501A, and MW-502A.
 - Deep** monitoring points, consisting of upgradient groundwater monitoring points P-120B, MW-124B, and P-503B; and downgradient groundwater monitoring points P-102BR and P-105B, P-108B, P-114BR, and P-403B.

Groundwater Underdrain/Drainage Tile Line monitoring points, consisting of GU-1, GU-2 and GU-3.

- b. Corrective Action Monitoring shall be conducted in accordance with the Corrective Action/Monitoring Plan (doc #97057), dated February 24, 2020, as submitted by HDR. Included in this plan is sampling of delineation wells MW-601 through MW-605, and surface water monitoring points SW-1 through SW-4, which are not part of the HMSP.

Once the permit holder demonstrates that the concentrations of all Appendix II constituents have not exceeded the groundwater protection standards in accordance with 567 IAC 113.10(9)"e"(2) at MW-104A, MW-105A, and MW-203A, monitoring at these points shall revert to the appropriate detection or assessment monitoring program. Additionally, corrective action monitoring at MW-601 through MW-605 and SW-1 through SW-4 may be discontinued once that rule has been met.

- c. Groundwater monitoring points not used for water quality analysis may be retained as water level measuring points.
- d. DNR construction documentation form 542-1277 and boring logs for all monitoring wells and piezometers shall be submitted within 30 days of installation. DNR documentation form 542-1323 shall be submitted within 30 days of establishing surface water monitoring points.

In accordance with the variance granted on March 25, 2010, the permit holder is authorized to construct shallow monitoring wells at the facility with bentonite granules/chips from the filter pack to the ground surface rather than with bentonite grout and a concrete surface seal. The variance was granted based on the November 24, 2009, December 16, 2009 and January 6, 2010 requests from AECOM which demonstrated that bentonite granules/chips placed from the filter pack to the ground surface would be acceptable for use in place of the required bentonite grout and concrete surface seal.

- 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 Appendix 1 in accordance with rule 113.10(455B). Groundwater samples shall **not** be field-filtered prior to laboratory analysis.
- e. 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.
- f. The permit holder shall collect semiannual groundwater elevation measurements from GU-1, GU-2, GW-Cell 9A, GW-Cell 9B and GW-Cell 9C 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 facilities' AWQR.

- g. 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.
- h. 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.
- i. An Annual Water Quality Report (AWQR) summarizing the effects the facility is having on groundwater quality shall be submitted to the DNR's Solid Waste Section by March 30 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 Annual Water Quality Report Format.
- j. The Monitoring Well Installation Technical Memorandum containing documentation of the installation of monitoring points MW-401A, MW-402A, MW-403A, MW-403B, MW-403C and MW-404A (doc #75607); received via email from AECOM on December 21, 2012 and approved on January 4, 2013, is incorporated into the permit.
- k. The Abandoned Water Well Plugging Records for monitoring points MW-131A, MW-132A, MW-133A, MW-134A, MW-135A and MW-139A (doc #74056); dated September 5, 2012 as submitted by AECOM and approved on January 4, 2013; are incorporated into the permit.
- l. The installation documentation for monitoring points MW-501A, MW-502A, P-503B, MW-504A, P-504B and MW-505A; included as Appendix L of the Cell 9, Phase 2 Quality Assurance/Quality Control Report (doc #84776), dated November 25, 2015; as submitted by AECOM; is incorporated into the permit.
- m. The Abandoned Water Well Plugging Record for the former farmstead water supply well; included as Appendix L-3 of the Cell 9, Phase 2 Quality Assurance/Quality Control Report (doc #84776), dated November 25, 2015 as submitted by AECOM; is incorporated into the permit.

The farmstead water supply well was abandoned in accordance with 567 IAC Chapter 39, without removal of the well casing. This well shall instead be abandoned in accordance with subparagraph 113.10(2)"d", including removal of all well materials, prior to construction of any waste disposal units or leachate storage structures east of Cell 9.

- n. The construction documentation (docs #90997 and #91054) for monitoring points MW-601, MW-602, MW-603, MW-604, and MW-605; and well abandonment documentation for MW-101A and MW-101D; dated December 1 and 6, 2017, as submitted by HDR, are incorporated into the permit.
 - o. The well abandonment documentation for OW-306A (doc #93491), submitted electronically on October 12, 2018 by HDR; and the well construction documentation for OW-306AR (doc #93491), submitted electronically on October 31, 2018 by HDR; are incorporated into the permit.
 - p. The well abandonment documentation for MW-124A, MW-124B, and MW-138A, submitted on August 12, 2020 by HDR is incorporated into the permit.
5. The permit holder shall conduct subsurface gas monitoring in accordance with the 2015 Methane Monitoring Program Plan, received via email May 15, 2015, as submitted by AECOM and approved on May 22, 2015, and the following:
- e. 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.
 - f. The permit holder shall annually submit a report by March 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).
 - g. The Gas Test Well Construction Documentation (doc #33201), dated August 19, 2008, as submitted by Cornerstone Environmental Group, LLC; and approved on November 12, 2008; is incorporated into the permit.
 - h. The Landfill Construction Quality Control and Assurance Report – Phase I Landfill Gas Collection and Control System (doc #62344, #62354 through #62361), dated December 12, 2010; the GCCS Phase I Construction Documentation Drawings, dated December 15, 2010; and the Amended CQC&A Report (doc #63823) and Amended Sheet 4 of the Documentation Drawings (doc #63936), dated February 11, 2011; all as submitted by Cornerstone Environmental Group, LLC.; and approved on February 22, 2011; are incorporated into the permit.
 - i. The Landfill Construction Quality Control and Assurance Report – Phase 2 Landfill Gas Collection and Control System (doc #83467 through #83474), dated May 21, 2015; and the Landfill CQC&A Report – Phase 2 Landfill Gas Collection and Control System Addendum No. 1 (docs #83845 and #83852), dated July 6, 2015; both as submitted by Cornerstone Environmental Group, LLC and approved on July 9, 2015, are incorporated into the permit.

- j. The construction documentation for monitoring point GP-02 (doc #90998), dated December 1, 2017; as submitted by HDR; is incorporated into the permit.
 - k. Gas monitoring points MW-114, MW-109ARR, MW-108AR, MW-204A, P-105B, MW-203A, MW-202A, MW-201A, P-102B, P-201BR, MW-401A, MW-402A, MW-137A, MW-403A, MW-403C, and MW-404A are removed from the methane monitoring program as explained in the DNR letter dated July 26, 2018 (doc #92839).
6. Based on a completed and certified site risk assessment meeting the requirements outlined in Iowa Code section 455B.305(6), the permit holder was conditionally exempted under the Department letter dated September 22, 1995 from providing and implementing a leachate control plan for Cells 1 and 2 that received wastes prior to July 1, 1992.

Continued exemption is subject to control of leachate at the site and compliance with the groundwater requirements pursuant to subrule 113.10(4). In the event that these conditions are violated, the permit holder shall be required to comply with the environmental corrective action requirements pursuant to rule 113.10(455B).

7. In accordance with the disposal of untreated petroleum contaminated soils (PCS) variance request to 567.109.11(2) dated May 7, 2019, as submitted by the permit holder and approved on June 3, 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 which expires October 23, 2022; 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).
8. The permit holder is authorized to compost yard waste in an area designated for composting activities. All composting activities shall be in accordance with IAC 567 Chapter-105.
9. The permit holder is authorized to use a geotextile system by the trade name Tarpomatic 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.
10. In accordance with the Alternative Cover Material Request (doc #88070), dated December 21, 2016, as submitted by Foth Infrastructure and Environment, LLC, and approved on January 9, 2017, the permit holder is authorized to accept Automobile Shredder Residue (ASR) from Clayton County Recycling in Monona, Iowa. The permit holder is authorized to use an ASR/soil combination as an alternative cover material, subject to the following:
- a. The permit holder shall remove all materials exceeding 1.5 inches in size before mixing with soil on a 50% by volume basis and using as an alternative daily cover material. The ratio of ASR to soil shall not exceed 50% ASR by volume. Quantities exceeding 1-week usage shall be disposed in the workface area. Only ASR placed at a ratio of 6:1 (6 tons of waste to 1 ton

- of approved ASR) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
- b. The ASR/soil may be used in lieu of the 6-inch daily cover requirement. ASR/soil shall not be used as a substitute for intermediate or final soil cover.
 - c. The waste must be compacted, before the ASR/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
 - d. ASR/soil 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, 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 the ASR/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.
 - g. The permit holder shall maintain in the landfill files appropriate quarterly laboratory analytical documentation that demonstrates that the ASR is not hazardous by TCLP metals test, contains no PCBs that equal or exceed 50 ppm, is not ignitable, and has certification from the generator that the material was processed according to the above noted specifications. Documentation reporting of such testing shall be submitted to both the DNR's Main and local Field office.
 - h. The use of ASR/soil for daily cover usage by any other generator than the one approved above shall be subject to specifications approval by the DNR.
 - i. If the ASR/soil is found by the DNR not to be performing satisfactorily, its use shall be discontinued and the remaining materials shall be disposed in the working face.
11. The permit holder is authorized to accept Foundry Sand from Morrison Brothers and A.Y. McDonald Mfg., both located in Dubuque, Iowa. The permit holder is authorized to use a foundry sand/soil combination as an alternative cover material, subject to the following:
- a. The ratio of foundry sand to soil shall not exceed 50% foundry sand by volume. Quantities exceeding 1-week usage shall be disposed in the workface area. Only foundry sand placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved foundry sand) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste. Pursuant to Iowa Code section 455B.310(9), foundry sand used by a sanitary landfill as daily cover is exempt from imposition of the tonnage fee if the foundry sand is generated by a foundry located within the state and if the foundry sand is provided to the permit holder at no cost to the permit holder.

- b. The foundry sand/soil may be used in lieu of the 6-inch daily cover requirement. Foundry sand/soil shall not be used as a substitute for intermediate or final soil cover.
 - c. The waste must be compacted, before the foundry sand/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage
 - d. Foundry sand/soil 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 the foundry sand/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.
 - g. The permit holder shall maintain in the landfill files appropriate quarterly laboratory analytical documentation that demonstrates that the foundry sand 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.
 - h. The use of foundry sand/soil for daily cover usage by any other generator than the one approved above shall be subject to specifications approval by the DNR.
 - i. If the foundry sand/soil is found by the DNR not to be performing satisfactorily, its use shall be discontinued and the remaining materials shall be disposed in the working face.
12. The permit holder is authorized to accept, temporarily store, process, reuse or dispose of roofing shingles 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 DNR Air Quality Bureau. Sampling and testing for ACM shall be in accordance with DNR Air Quality Bureau.
 - 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.

- d. Pursuant to IAC 567-108.4(2), roadway reuse of ground shingles at the facility is authorized on the condition that only shingles with asbestos content of 1% or less shall be used for roadway dust control, roadway subbase, and pavement admixture applications. Such uses are considered a “universally approved” beneficial use in accordance with IAC 567-Chapter 108 and not disposal. Excessive or overuse of shingles for these purposes as determined by the department may constitute disposal and be subject to the statewide tonnage fee.
13. The permit holder is authorized to accept, store, and beneficially reuse glass for interior road base within the permitted waste boundaries in accordance with IAC 567-Chapter 108 and the following conditions:
- a. Glass containing hazardous waste or fluorescent light bulbs cannot be accepted.
 - b. Glass shall not be stored for a period exceeding twelve (12) months.
 - c. If dust from the crushing operation becomes a concern, the operator shall utilize dust control.
 - d. A separate vehicle drop off area (i.e. dumpster or recycling container) shall be provided for glass being collected at the landfill.
 - e. The pulverized glass may only be used for interior roadway base within permitted MSWLF units. Other uses shall receive prior department approval.
 - f. Excessive or overuse of crushed glass for interior roadway base, as determined by the department, may constitute disposal and be subject to the statewide tonnage fee.
14. The permit holder shall close the landfill site in accordance with the hereby approved Closure/Post-Closure Plan, contained in Section 9 of the Development and Operations Plan dated June 27, 2017 as submitted by AECOM; and the following:
- a. Effective control of leachate in unlined units shall be evaluated on a case-by-case basis to determine how to achieve the lowest possible leachate head; and by complying with the environmental monitoring and corrective action requirements for groundwater and surface water.
 - b. The review comments, dated July 19, 1996 from the Dubuque County Soil & Water Conservation District relative to compliance with wind and soil loss limit regulations, are incorporated into the permit.
 - c. The Cells 1 and 2 Closure construction report (doc #76784); dated April 30, 2013 as submitted by AECOM and approved on July 11, 2013, is incorporated into the permit. The final cover was constructed over all of Cell 1 and half of Cell 2.

- d. The Quality Assurance/Quality Control Report (doc #63473), dated February 4, 2011; and the supplemental soil permeability data (doc #75682), dated January 9, 2013 relative to the closure of Cell 2 and Cell 3; both as submitted by AECOM and approved on March 29, 2013, are incorporated into the permit. The final cover was constructed over half of Cell 2 and most of Cell 3.
- e. The Plans and Specifications for the Closure of Cells 4-8 (doc #80215), dated May 9, 2014; and the Slope Stability Revisions and revised Closure Details plan sheet 14 (doc #80459), received via email June 2, 2014 as submitted by AECOM and approved on June 6, 2014 are incorporated into the permit.

As noted in the June 2, 2014 slope stability calculations (doc #80460), additional evaluation of the materials selected for cover construction is required. The hydraulic conductivity of the overlying erosion layer soils, the transmissivity of the selected geocomposite drainage layer and the length of the various slopes shall all be reviewed. Based upon review and evaluation of the site specific materials, the drainage layer shall be daylighted as necessary to prevent slope failure due to seepage.

- f. The permit holder shall report on the status of Cell 4-8 closure activities in accordance with 567 IAC 113.12(6) annually as part of the AWQR.