



**PERMIT TO OPERATE
A SOLID WASTE FACILITY**
ISSUED BY THE STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES

The State of South Dakota, Department of Agriculture and Natural Resources hereby issues

Solid Waste Permit Number 21-18

to the city of Sioux Falls for the operation of a Type I Municipal Solid Waste Landfill facility located in portions of Sections 34 and 35, T101N, R51W, Minnehaha County, a portion of Section 7, T100N, R51W, Lincoln County, and a portion of Section 12, T100N, R52W, Turner County, South Dakota.

This permit is granted under the authority of South Dakota Codified Laws Chapter 34A-6, and is subject to the operator's compliance with the stated permit conditions and the Administrative Rules of South Dakota, Article 74:27.

This permit is granted on August 4, 2021 and expires on August 4, 2026.

Secretary, Department of Agriculture and Natural Resources



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

August 4, 2021

Don Kuper
Landfill Manager
City of Sioux Falls
224 West Ninth Street
Sioux Falls, SD 57104-6407

Dear Mr. Kuper:

The 30-day public notice period required before a solid waste permit renewal can be issued has now passed. Therefore, the Department of Agriculture and Natural Resources is issuing the permit for a Type I municipal solid waste landfill to the city of Sioux Falls. The permit is valid for a period from August 4, 2021, until August 4, 2026. The total permitted area includes 789 acres located in portions of Section 34 and 35, T101N, R51W, Minnehaha County, a portion of Section 7, T100N, R51W, Lincoln County and a portion of Section 12, T100N, R52W, Turner County, South Dakota. Your permit number is 21-18.

Department personnel will conduct periodic inspections of this landfill to ensure compliance with permit conditions. If you have any questions, please contact this department at (605) 773-3153.

Sincerely,

Steven Kropp, P.E.
Waste Management Program

Enclosures

**STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES**

**PERMIT TO OPERATE A SOLID WASTE DISPOSAL
FACILITY UNDER THE SOUTH DAKOTA SOLID WASTE PROGRAM**

OPERATOR: City of Sioux Falls
224 West 9th Street
Sioux Falls, South Dakota 57104

PERMIT NUMBER: 21-18
ISSUE DATE: August 4, 2021
EXPIRATION DATE: August 4, 2026

GENERAL FACILITY DESCRIPTION: Municipal Solid Waste Landfill.

**FACILITY
CLASSIFICATION:** Type I – The facility may accept more than 150,000 tons of solid waste per year. The operator has received legislative approval to accept more than 200,000 tons of solid waste for disposal per year (SDCL 34A-6-106).

LEGAL LOCATION: Portions of Section 34 and 35, T101N, R51W, Minnehaha County. A portion of Section 7, T100N, R51W, Lincoln County. A portion of Section 12, T100N, R52W, Turner County.

ACREAGE: Total permitted area is approximately 789 acres.

In consideration of information contained in the application and supplements, the Secretary of the South Dakota Department of Agriculture and Natural Resources hereby renews this permit for the city of Sioux Falls to operate a municipal solid waste landfill. The renewal of this permit is pursuant to SDCL 34A-6-1.13 and ARSD 74:27. In addition to any provisions included herein by operation under state or federal law, rule or regulation, this permit and all rights under it are subject to, defined by and limited by the conditions set forth herein. This permit shall be valid for a period of five years from the issuance date.



Hunter Roberts, Secretary
Department of Agriculture and Natural Resources

1.0 GENERAL REQUIREMENTS

1.01 Operator Representations Incorporated

This permit incorporates by reference those representations made by the city of Sioux Falls (hereinafter called operator) and its agents regarding plans, control measures, design, operations, and environmental impacts as contained in the permit application and supplemental documents.

1.02 DANR Limitation of Liability

This permit and all rights under it are expressly conditioned on the truth and accuracy of the representations made by the operator in the application and documents cited above. The Department of Agriculture and Natural Resources - Waste Management Program (DANR-WMP) assumes no liability for the accuracy and truth of such representations made by the operator.

1.03 Related Laws, Regulations and Permits

No provision of this permit exempts the operator from the requirements of any local, state, or federal laws, regulations, or rules in existence or promulgated after this permit becomes effective. It is the responsibility of the operator to obtain any other required permits and licenses.

1.04 Duty to Comply

The operator shall construct, operate and maintain this facility in accordance with South Dakota Codified Laws and the Administrative Rules of South Dakota: SDCL 34A-6 and ARSD 74:27. If the provisions of the laws, rules, or of any conditions of this permit are violated, DANR-WMP may take action to suspend or revoke this permit as provided for by SDCL 34A-6-1.21; may assess a civil penalty pursuant to SDCL 34A-6-1.4 and 34A-6-1.31; or issue a notice of violation with penalties pursuant to SDCL 34A-6-1.22.

1.05 Procedure for Requesting Amendments

The operator must contact DANR-WMP to request a permit amendment prior to any significant deviation in the design or operation of the facility, and before any expansion beyond the permitted site boundaries. This permit may be reopened and amended, following proper administrative procedures, to include the appropriate requirements of ARSD 74:27, SDCL 34A-6, and promulgated federal or state rules, laws or regulations. Any permit modification shall be in compliance with ARSD 74:27, SDCL 34A-6, and applicable federal regulations.

1.06 Severability

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

1.07 Duty to Provide Access

The operator shall allow DANR-WMP unrestricted entry during regular business hours for site inspections, waste sampling, and reviewing facility records.

1.08 Duty to Provide Information

The operator shall furnish to DANR-WMP within 10 business days, any information which DANR-WMP may request to determine compliance with this permit.

1.09 Administrative Changes Authorized

DANR-WMP reserves the right to incorporate administrative changes and/or modifications to this permit at any time. When an administrative change is made to this permit, DANR-WMP shall notify the operator, in writing, within 10 business days of instituting the change. Administrative changes are authorized for the purposes of changing or correcting:

- a. Typographical errors;
- b. Regulatory references;
- c. Titles of organizations or regulatory agencies; or
- d. Items which do not substantially change the requirements of this permit.

1.10 Variances Approved

DANR-WMP specifically recognizes and approves the variances listed in Attachments A, B, C, D, E, F, G, H, I, K, and L of this permit, based upon the reasons and documentation stated therein.

1.11 Site Characterization Requirement

This permit includes adding a portion of the W ½ NE ¼ of Section 34, T101N, R51W to the permitted area of the landfill as a buffer area. DANR-WMP has determined that an adequate site characterization for municipal solid waste disposal has not been performed on this area. Before municipal solid waste can be disposed of in this area or leachate storage ponds constructed, a site characterization complying with ARSD 74:27:12:03 must be completed. Even though this area is included in the permitted area of the landfill, the following landfill activities are not allowed in this area: municipal solid waste disposal, construction and demolition debris disposal, petroleum-contaminated soil land farming, yard waste composting, and leachate storage. Other landfill activities, including the storage and beneficial use of mature compost product, is allowed in this area.

2.0 DESIGN AND CONSTRUCTION REQUIREMENTS

2.01 Facility Design

The entire permitted area must be maintained in compliance with the facility design and construction requirements in ARSD 74:27:12.

2.02 Liner System

The operator may use in-situ clay soils as an alternative clay liner system, provided that:

- a. a qualified third-party Professional Geologist or equivalent, experienced in the hydrogeology of glacial till, is present on-site during cell excavation to ensure that the in-situ clay soils are of the characteristics stated in the permit application;
- b. any discontinuities in the in-situ soil, or any soil material which is more permeable than 1×10^{-7} cm/sec, are over excavated as necessary and an engineered soil liner with a permeability of no more than 1×10^{-7} cm/sec be constructed in that area; and
- c. the outside sidewalls of the cell(s) are lined with a synthetic liner no more permeable than 1×10^{-7} cm/sec.

2.03 Plans and Specifications

The operator shall submit plans and specifications (P&S) and secure approval in writing from DANR-WMP before the construction of:

- a. A waste disposal area;
- b. Any lateral expansion of a waste disposal area;
- c. Any liner and/or leachate collection and removal system;
- d. Any leachate containment system, pond or tank;
- e. A final cap over any closed waste disposal unit;
- f. Any building or structure where solid waste will be handled or processed; and
- g. Any other project that could release or is intended to prevent the release of any deleterious materials to the environment.

2.04 Plans and Specifications Revisions

The operator shall notify DANR-WMP, in writing, of all revisions to the P&S or constructed facility before implementation. Approval of modifications determined by DANR-WMP to be insignificant to the design, construction, or operation of the facility such as fencing, auxiliary operations, or gate locations will be acknowledged by DANR-WMP as appropriate. Modifications determined to be significant such as the liner, leachate collection system, or other design components specific to this facility shall require submittal of revisions to the P&S to DANR-WMP. These revisions must be approved by DANR-WMP, in writing, before implementation. All change orders associated with a P&S approval and DANR-WMP approved construction project shall be submitted to DANR-WMP for approval in writing.

2.05 Quality Assurance and Quality Control

The operator shall ensure that quality assurance and quality control practices are in place for all approved construction activities at the facility. The operator shall maintain documentation for all quality assurance and quality control activities.

2.06 Access Control

The operator shall prevent unauthorized access to the facility and to restricted portions of the facility with fences, locked gates/doors, and other appropriate means.

3.0 OPERATIONAL REQUIREMENTS

3.01 Facility Operation

Operation of this facility shall be as described in the facility operation section of the solid waste permit application. At a minimum, operational procedures at the facility shall be in accordance with ARSD 74:27:13.

3.02 Secured Loads

The operator shall require all incoming loads to be secured or covered.

3.03 Litter Control

The operator shall provide daily litter cleanup at and around the facility in accordance with ARSD 74:27:13:06 and the Sioux Falls Sanitary Landfill Litter Management standard operating procedure. The operator shall implement procedures to prevent litter from leaving the permitted landfill property. Litter that does escape the permitted landfill property shall be collected as soon as possible.

3.04 Municipal Solid Waste Daily Cover

All exposed municipal solid waste disposed in the landfill must be covered at the end of each working day. The operator shall apply any approved alternative daily cover material at a sufficient thickness to control disease vectors, fires, odors, blowing litter, and scavenging. Soil must be used as daily cover at least once per week. When soil is used, the operator shall compact a minimum of six inches of soil over all exposed solid waste at the end of the working day (see Attachment A).

3.05 Open Burning

The operator shall prohibit open burning of solid waste except as provided by ARSD 74:27:13:11 and the following. The operator may only accept trees, tree branches, and untreated (not painted or stained) wood debris for periodic open burning, subject to existing state, federal, and local laws, rules, and regulations. The operator shall notify the local fire department, local law enforcement, and DNR-WMP prior to open burning. The operator may open burn:

- a. Only when prevailing winds are away from adjacent residences;
- b. Only when smoke will not obscure visibility or create a traffic hazard on any public road; and
- c. Only when personnel are present during the open burning process.

3.06 Vector Control

The operator shall prevent or control disease vectors in all areas of the facility through safe and appropriate means.

3.07 Authorized Wastes

The operator shall only accept solid waste, as defined in SDCL 34A-6-1.3, for handling, composting, or disposal. The operator may accept special wastes, as defined in ARSD 74:27:13:17, in accordance with the requirements of that section. However, in accordance with SDCL 34A-6-67, lead acid batteries, waste oil, and white good appliances may only be accepted for temporary storage and future recycling. Yard waste may be accepted for composting, but not for disposal.

3.08 Yard Waste Composting

Yard waste (leaves, grass clippings and similar wastes) may be accepted for composting. The operator shall place compost material in piles or windrows. The piles or windrows shall be turned or aerated to prevent the generation of odors and to promote the composting process. Moisture shall be added as necessary to promote the composting process. The composting area shall be bermed to limit surface water run-on and prohibit runoff. Any runoff from a compost pile is considered leachate and may be used as a moisture additive for the pile or windrow or must be managed as leachate in accordance with ARSD 74:27:13:24 or Section 3.19 of this permit

3.09 Construction and Demolition Debris

Construction and demolition debris may be landfilled in a disposal area separate from the municipal solid waste disposal area. Construction and demolition debris is defined as concrete, brick, stonework, asphaltic concrete, concrete block, asphaltic or fiberglass shingles painted or stained wood, attached insulation, and similar wastes. This type of debris cannot be open burned. Construction and demolition debris disposal areas must be bermed to limit surface water run-on and prohibit runoff.

3.10 Soil Cover Required – Construction and Demolition Debris

Construction and demolition debris, furniture, and other inert wastes intended for burial must be covered with six inches of soil cover at least monthly. Monthly placement of six inches of soil cover is necessary to prevent blowing debris and minimize fire potential.

3.11 Construction and Demolition Debris Containing Packaging Materials

The operator may accept construction and demolition debris that contains packaging materials (cardboard, plastic, and similar wastes **only** generated by construction and demolition projects **excluding** paint, sealant, and adhesive containers) for disposal. Disposal areas containing packaging materials are capable of generating windblown litter and must be covered with six inches of soil

on or before the end of the working day. Alternative daily cover materials sufficient to prevent windblown litter may be approved by DANR-WMP. All approvals shall be requested and approved in writing.

3.12 Fill Progression

The operator shall perform a fill progression survey at the landfill every year to ensure that the operator is not exceeding the approved closure elevations as set forth in the permit application and in the approved closure plan.

3.13 Petroleum-Contaminated Soil (PCS) Acceptance

As outlined by the variance in Attachment F of this permit, the operator may accept petroleum-contaminated soil (contaminated by diesel fuel, fuel oil, kerosene, jet fuel, or gasoline) for disposal. PCS may be buried or used as daily cover in the West MSW Area or Emergency MSW Cell of the landfill.

3.14 Contaminated Soil (Non-PCS) Acceptance

The operator may accept soil contaminated with pesticides, solvents, transformer oil, motor oil, lubricants, grease, tar, or similar materials for use as daily cover or disposal in the West MSW Area or Emergency MSW Cell of the landfill provided that the contaminated soils are not a hazardous waste or regulated polychlorinated biphenyls (PCBs) contaminated soil.

3.15 Asbestos Disposal

The operator shall handle regulated asbestos-containing waste materials in accordance with ARSD 74:27:13:17 and ARSD 74:36:08:02. The operator must cover asbestos-containing waste materials with six inches of compacted soil or non-asbestos-containing material at the end of each working day or at least every 24 hours when the disposal site is in operation. For all asbestos-containing waste material received at the landfill for disposal, the operator needs to maintain waste shipment records that include the following information:

- a. Name, address, and telephone number of the waste generator;
- b. Name, address, and telephone number of the transporter(s);
- c. Quantity of the asbestos-containing waste material in cubic meters (cubic yards);
- d. The presence of improperly enclosed or uncovered wastes or any asbestos-containing waste material not sealed in leak-tight containers and report in writing to DANR-WMP by the following working day the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report; and
- e. The date of receipt.

As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator. If there is a discrepancy between the quantity of waste designated on the waste shipment logs and the quantity actually received, the operator shall attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15

days after receiving the waste, immediately report it in writing to DANR-WMP. Describe the discrepancy and attempts to reconcile it and submit a copy of the waste shipment record along with the report. The operator is also required to keep a copy of all records and reports for at least two years. The operator is also required to maintain, until closure, records of the location, depth, area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. Asbestos is considered a special waste and is subject to the recordkeeping requirements found in Section 4.01(a) of this permit.

3.16 Waste Tires

Waste tires may be accepted for temporary storage and recycling. Waste tires accepted for burial in a designated disposal area shall first be shredded or quartered. If waste tires are stored or processed, the operator shall adhere to the following requirements as described in ARSD 74:27:13:17.01:

- a. A waste tire pile may not have an area greater than 5,000 square feet or vertical height greater than 10 feet;
- b. Each waste tire pile must be surrounded by a 50-foot fire lane;
- c. Operations involving the use of open flames, blow torches, or highly flammable substances may not be conducted within 300 feet of a waste tire pile;
- d. Waste tire piles must be maintained free of mosquitoes and rodents; and
- e. Storage of waste tires may not exceed one year.

As an alternative to the waste tire handling requirements identified herein, the operator may use quartered or shredded tires in accordance with the conditions outlined in Attachment K of this permit.

3.17 Waste Screening

The operator shall conduct random load inspections to detect and prevent the disposal of regulated hazardous wastes, regulated PCBs and other unauthorized waste as required by ARSD 74:27:13:19. The operator shall contact DANR-WMP if unauthorized wastes described in this section are detected during waste screening efforts.

3.18 Contingency Plan

The operator shall develop and update as necessary a contingency plan outlining procedures to be used during emergencies. The plan should include emergency situations that could arise at the facility, notification procedures to be used during an emergency, procedures to be used during emergency situations, procedures for cleanup and other items as required by ARSD 74:27:13:20.

3.19 Leachate Management – Entire Facility

The operator shall handle and treat any water that has been in contact with municipal solid waste or yard waste/compost as leachate. The operator may dispose of any leachate at a municipal wastewater treatment plant. The operator

may use any leachate as makeup water for an alternative daily cover material. Runoff water (leachate) from the compost pile may be used as a moisture additive for the pile or for the other beneficial reuses outlined in the Sioux Falls Sanitary Landfill Compost Leachate Beneficial Reuse standard operating procedure. In addition, the landfill may land apply municipal solid waste leachate in accordance with a DANR-WMP approved standard operating procedure within the permitted boundary of the landfill (see Attachment L). Any other method for the disposal or use of any leachate must comply with ARSD 74:27:13:24 and shall be approved by DANR-WMP, in writing, prior to implementation.

3.20 Leachate Management – West MSW Area

In addition to the leachate management options listed in Section 3.19, the operator may surface apply leachate generated and collected from the West MSW Area over daily or interim covered areas of the West MSW Area. In addition, the operator may recirculate leachate generated and collected from the West MSW Area through the use of recirculation laterals and permeable beds into compositely lined areas of the West MSW Area (see Attachment G). The operator may not allow leachate to accumulate to a depth greater than 12 inches above the final liner grade at any point in the leachate collection system.

3.21 Leachate Management – East MSW Area

In addition to the leachate management options listed in Section 3.19, the operator may surface apply leachate generated and collected from the East MSW Area over daily or interim covered areas of future Cell 10.

3.22 Methane Gas Monitoring

The operator shall measure methane gas concentrations quarterly in all buildings and at the property boundaries in accordance with ARSD 74:27:13:26. Methane gas may not exceed 25 percent of the lower explosive limit (LEL) of the gas in facility structures, excluding methane gas system components and may not exceed the LEL of the gas in soils or air at the property boundary. Facilities which exceed these methane gas concentration levels shall take the following actions:

- a. Immediately take all necessary steps to ensure protection of human health and notify the DANR-WMP;
- b. Within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and
- c. Within 60 days of detection, implement a methane gas system which conforms to the requirements of ARSD 74:27:12:20.

4.0 RECORDKEEPING AND REPORTING REQUIREMENTS

4.01 Required Records

In accordance with ARSD 74:27:13:22, the operator shall maintain records at the facility which are available to DANR-WMP for review during normal operating hours. The records shall include, but are not limited to, the following:

- a. sources, types, and amounts of solid waste received both monthly and annually, including special wastes;
- b. recycling or source reduction efforts;
- c. monitoring, testing, or analytical data required for air, ground water, surface water, methane gas, leachate, soils, remediation of special wastes, and any other aspects of the facility design;
- d. frequency of waste screening, including test methods and results;
- e. filling progression, completion dates, and closure methods for each landfill unit;
- f. records of all inspections by landfill personnel and DANR-WMP;
- g. DANR-WMP approved P&S and as-built drawings for all completed construction;
- h. data for any leachate land applied, discharged or transported to a sanitary sewer system or a municipal wastewater treatment plant (if applicable), including date, approximate volume and test results;
- i. documentation of personnel training;
- j. documentation of complaints received and resolution of the complaints;
- k. solid waste permit application and permit, including the operational plan, contingency plan, closure plan, postclosure care plan, financial assurance information and other applicable permits or licenses;
- l. records of emergency conditions, including the implementation of the contingency plan; and
- m. closure certification and postclosure certification as necessary.

4.02 Contingency Plan Implementation – Notification Requirement

The operator shall notify DANR-WMP within one business day of any implementation of the contingency plan.

4.03 Ground Water Monitoring Annual Report

The operator shall submit an annual report for each calendar year summarizing and interpreting the ground water monitoring data. In addition, the ground water monitoring data needs to be statistically analyzed according to methods outlined in the Code of Federal Regulations, 40 CFR Part 258.53. This report shall be submitted to DANR-WMP by April 1 of the following year. If an annual report is used to request changes to a DANR-WMP approved ground water monitoring plan, then the report should be submitted to DANR-WMP by February 1.

5.0 MONITORING REQUIREMENTS

5.01 Monitoring

The operator shall monitor soil, leachate, ground water, surface water, methane gas, and perform any other testing and/or monitoring required by ARSD 74:27:12, ARSD 74:27:13, ARSD 74:27:15 and this permit.

5.02 Ground Water Monitoring Plan

The operator shall monitor ground water quality and ground water levels throughout the active, closure, and postclosure phases of the facility. This shall be in accordance with ARSD 74:27:19 and the DANR-WMP approved ground water monitoring plan. The results of the required measurements, sampling and analysis shall be maintained in the facility's operating record and included in the annual ground water monitoring report.

5.03 Ground Water Monitoring – Qualified Ground Water Scientist Required

The DANR-WMP approved ground water monitoring plan and all associated ground water monitoring and reporting requirements must be developed and implemented by a qualified ground water scientist. As per the Code of Federal Regulations, 40 CFR Part 258.50, a qualified ground water scientist is defined as a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in ground water hydrology and related fields as may be demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding ground water monitoring, contaminant fate and transport, and corrective action.

5.04 Ground Water Monitoring Change Procedure

The ground water monitoring system and monitoring program are considered adjustable and subject to revision as construction and operation of the facility progresses, as site conditions change, or as test results from the ground water monitoring dictate. In a timely manner, the operator shall submit to and receive written approval from DANR-WMP, for any proposed changes in the monitoring system prior to implementation. DANR-WMP reserves the right to require

changes in the monitoring systems and programs as needed without public notice.

5.05 Methane Gas Monitoring

The operator shall measure methane gas concentrations quarterly in accordance with permit condition 3.22 and ARSD 74:27:13:26.

5.06 Monitoring Recordkeeping

All monitoring and sampling data, results, and measurements referenced in this section are subject to the recordkeeping requirements of Section 4.0 of this permit.

6.0 CLOSURE AND POSTCLOSURE REQUIREMENTS

6.01 Closure Requirements and Certification

Upon reaching the design capacity represented in the permit application, the operator shall close the landfill or landfill unit in accordance with the closure requirements found in ARSD 74:27:15:03, the submitted closure plan and Attachment H (applicable to the West MSW Area only). In addition, the operator may install an alternative final cover system over the East MSW Area, Emergency Cell Area and West MSW Area of the landfill (see Attachment I). Once the landfill or landfill unit has been closed, the operator shall provide DANR-WMP with a certification that the provisions of the closure plan have been carried out and that the landfill has been closed in accordance with the performance standard found in ARSD 74:27:15:02.

6.02 Postclosure Care

Once the landfill has been closed, the operator must provide postclosure care for 30 years. The postclosure care must conform to the postclosure plan as required in ARSD 74:27:15:09.

6.03 Notation on Deed Required

Following final closure of the landfill, the owner or operator shall record a notation on the deed to the property or on some other instrument that is normally examined during a title search. The notation on the deed shall notify any potential purchaser of the property that the land has been used as a solid waste facility and its use is restricted under ARSD 74:27:15:02. The notation on the deed shall identify all lands or acreage used for solid waste disposal.

7.0 FINANCIAL ASSURANCE REQUIREMENTS

7.01 Financial Assurance Account

The operator shall develop and maintain a financial assurance account in accordance with Statement No. 18 of the Governmental Accounting Standards

Board, entitled Accounting for Municipal Solid Waste Landfill Closure and Postclosure Care Costs or other appropriate methodologies. The financial assurance shall also comply with the requirements of SDCL 34A-6-1.12 and ARSD 74:27:16.

7.02 Financial Assurance Annual Report

The operator shall annually submit to DANR-WMP a report regarding the status and amount of money in the Closure and Postclosure Accounts (F/A Accounts).

7.03 Access to Financial Assurance Account

DANR-WMP shall have access to the financial assurance accounts for the purposes stated in ARSD 74:27:16.

ATTACHMENT A

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Alternative Daily Cover –

Regulatory Reference ARSD 74:27:13:09.

The Administrative Rules of South Dakota specify that a facility shall stockpile and protect for use during inclement weather sufficient cover material to ensure its availability for daily cover. A facility shall place a minimum of six inches of compacted cover material on all exposed solid waste at the end of each working day. Alternative daily cover materials may be approved by the secretary case by case.

Regulatory Reference ARSD 74:27:13:27

The board or secretary may grant a variance to the provisions of this chapter case by case. All demonstrations for variances for the facility must meet the requirements of 40 CFR Part 258, as published on 56 Fed. Reg. 51,016 to 51,039, inclusive (October 9, 1991).

The operator shall place a minimum of six inches of compacted cover material all over the exposed solid waste at the end of each day. The secretary of the Department of Agriculture and Natural Resources hereby grants a variance to the operator to use alternative daily cover in lieu of six inches of compacted cover material. This variance is contingent upon the operator's demonstration that the alternative daily cover has the ability to control disease vectors, fires, odors, blowing litter, and scavenging. The secretary must approve the use of any alternative daily cover on a case-by-case basis. Any approved alternative daily cover must be applied in a sufficient thickness to control disease vectors, fires, odors, blowing litter, and scavenging. Soil must be used as cover at least once per week in conjunction with any approved alternative daily cover material.

ATTACHMENT B

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Floodplains:

Regulatory Reference ARSD 74:27:11:03

The Administrative Rules of South Dakota specify that facilities shall not be located within the boundaries of a 100-year floodplain.

Regulatory Reference ARSD 74:27:11:09

The board or secretary may grant variances subject to the terms of this section. The owner or operator of a facility shall make any demonstrations necessary to the board or secretary for the purpose of obtaining variances. Demonstrations for variances to location standards for Municipal Solid Waste Landfills (MSWLF) must meet the requirements of 40 CFR Part 258, as published in 56 Fed. Reg. 50,978 to 51,119 inclusive (October 9, 1991) subject to the following:

- a) The board or secretary may grant a variance to a new MSWLF or lateral expansion of an existing MSWLF to the requirements of 74:27:11:02 to 74:27:11:07, inclusive, providing that the owner or operator demonstrates that the location will not pose a hazard to human health or degrade the environment.

The operator has determined that a 100-year floodplain exists in the southwestern part of Section 34, T101N, R51W, Minnehaha County. This delineated floodplain is a drainage channel (also known as Cherry Creek) from Wall Lake that was channeled prior to the operator taking ownership of the land.

Federal and state regulations and rules allow a lateral expansion of an existing MSWLF landfill within a floodplain. The operator must demonstrate that the MSWLF will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The operator has placed the demonstration in the operating record. This was done as part of a permit amendment request dated August 4, 2004. The operator must complete construction-related work related to the demonstration prior to any landfill activities within the floodplain.

Furthermore, the operational and design requirements of this permit are specifically designed to ensure that the operation of the landfill will not pose a hazard to human health or degrade the environment. The operator shall comply with the conditions of this permit.

ATTACHMENT C

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Distance to residences, other buildings, roads, and parks:

Regulatory Reference ARSD 74:27:11:05

The Administrative Rules of South Dakota specify that facilities may not be located within 1,000 feet of an occupied dwelling, school, hospital, interstate or primary highway right-of-way, or public park or recreation area. The location may not pose a potential safety hazard to the public.

Regulatory Reference ARSD 74:27:11:09

The board or secretary may grant variances subject to the terms of this section. The owner or operator of a facility shall make any demonstrations necessary to the board or secretary for the purpose of obtaining variances. Demonstrations for variances to location standards for Municipal Solid Waste Landfills (MSWLF) must meet the requirements of 40 CFR Part 258, as published in 56 Fed. Reg. 50,978 to 51,119 inclusive (October 9, 1991) subject to the following:

- a) The board or secretary may grant a variance to a MSWLF to the requirements of 74:27:11:02 and 74:27:11:05 to 74:27:11:07, inclusive, if the owner or operator demonstrates that the location will not pose a hazard to human health or degrade the environment; and
- b) The board or secretary may grant a variance to a new MSWLF or lateral expansion of an existing MSWLF to the requirements of 74:27:11:02 to 74:27:11:07, inclusive, providing that the owner or operator demonstrates that the location will not pose a hazard to human health or degrade the environment.

The Sioux Falls landfill is located within 1,000 feet of occupied dwellings. The operator has demonstrated an ability to operate the landfill in a manner that is acceptable. Further, the operational and design requirements of this permit are specifically designed to ensure that operation of the landfill will not pose a hazard to human health or degrade the environment. The operator shall comply with the conditions of this permit.

ATTACHMENT D

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Wetlands:

Regulatory Reference ARSD 74:27:11:07

The Administrative Rules of South Dakota specify that facilities shall not be located in wetlands.

Regulatory Reference ARSD 74:27:11:09

The board or secretary may grant variances subject to the terms of this section. The owner or operator of a facility shall make any demonstrations necessary to the board or secretary for the purpose of obtaining variances. Demonstrations for variances to location standards for Municipal Solid Waste Landfills (MSWLF) must meet the requirements of 40 CFR Part 258, as published on 56 Fed. Reg. 50,978 to 51,119 inclusive (October 9, 1991) subject to the following:

- a) The board or secretary may grant a variance to a new MSWLF or lateral expansion of an existing MSWLF to the requirements of 74:27:11:02 to 74:27:11:07, inclusive, providing that the owner or operator demonstrates that the location will not pose a hazard to human health or degrade the environment.

It has been determined that delineated wetlands exist within the permitted area of the landfill. Federal and state regulations and rules allow disturbance of wetlands, provided the disturbance is minimal and/or the impact is mitigated by construction of new wetlands or renovation of existing wetlands of equivalent value and use. The operator submitted a wetland mitigation plan to the US Army Corps of Engineers. The operator was issued a 404 permit by the US Army Corps of Engineers for the wetland mitigation project. The operator implemented the mitigation plan in 2009. The mitigation project was certified complete on February 9, 2010.

ATTACHMENT E

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Liner Systems:

Regulatory Reference ARSD 74:27:12:17

The Administrative Rules of South Dakota state an applicant shall incorporate a composite liner system into the design of the MSWLFs unless the facility meets the small-town exemption criteria specified in 74:27:12:25. An alternative liner system may be approved by the secretary if the applicant can demonstrate compliance with the design criteria specified in 74:27:12:02. Liner systems must be constructed of materials that have the strength, thickness, and chemical properties needed to prevent failure due to pressure gradients, stress of installation, and stress of daily operation. The board or secretary shall determine liner configuration and components case by case.

Regulatory Reference ARSD 74:27:12:24

The board or secretary may grant a variance to the provision of 74:27:12:17 case by case. All demonstrations for variances for MSWLFs must meet the requirements of 40 CFR Part 258 as published on 56 Fed. Reg. 50,978 to 51,119, inclusive (October 9, 1991).

The operator has determined and demonstrated that the in-situ clay soils at the landfill exhibit characteristics at least as equivalent to the liner requirements of a constructed clay liner. The operator must meet the specific requirements stated in Section 2.0 of the permit.

ATTACHMENT F

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Special Wastes:

Regulatory Reference ARSD 74:27:13:17(3)

The Administrative Rules of South Dakota state petroleum-contaminated soils accepted for disposal at a MSWLF must be applied to land in a separate area and remediated to less than or equal to 100 parts per million as total petroleum hydrocarbons using techniques approved by the secretary.

Regulatory Reference ARSD 74:27:13:27

The board or secretary may grant variances for provisions of 74:27:13:02 to 74:27:13:26, inclusive, case by case. All demonstrations for variances for MSWLFs must meet the requirement of 40 CFR Part 258, as published in 56 Fed. Reg. 51,016 to 51,039, inclusive (October 9, 1991).

Current federal regulations do not specify the requirements for the disposal of petroleum-contaminated soil. The operator has proposed to accept petroleum-contaminated soil (soil contaminated by diesel fuel, fuel oil, kerosene, jet fuel or gasoline) for direct disposal into the West MSW Area or Emergency MSW Cell. The West MSW Area has been constructed with a liner and leachate collection system and has ground water monitoring wells around the West MSW Area. In addition, the landfill has a wastewater discharge permit with the city of Sioux Falls. The city of Sioux Falls has determined from leachate sampling data that the leachate can be accepted at the wastewater treatment plant for treatment and disposal. The wastewater discharge permit is contingent upon the landfill complying with permit conditions that include quarterly and yearly sampling of the leachate for a number of constituents.

Based on the above information, environmental protection features at the landfill and wastewater discharge permit requirements, the DANR-WMP hereby grants a variance to the provisions in ARSD 74:27:13:17(3). Petroleum-contaminated soil can be directly disposed in the West MSW Area or Emergency MSW Cell without prior treatment or remediation.

ATTACHMENT G

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Leachate Management – West MSW Area Recirculation:

Regulatory Reference ARSD 74:27:13:24

The Administrative Rules of South Dakota state that leachate may be disposed of through surface application of leachate over daily or interim covered areas that are underlain by both a liner and a leachate collection system. Leachate may also be discharged to a wastewater treatment facility with the owner of the facility's permission.

Regulatory Reference ARSD 74:27:13:27

The board or secretary may grant variances for provisions of 74:27:13:02 to 74:27:13:26, inclusive, case by case. All demonstrations for variances for MSWLFs must meet the requirement of 40 CFR Part 258, as published in 56 Fed. Reg. 51,016 to 51,039, inclusive (October 9, 1991).

Current federal regulations (40 CFR Part 258.28 – Liquids Restrictions) state that bulk or non-containerized liquid waste may not be placed in MSWLF units unless the waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit is designed with a composite liner and leachate collection system as described in 40 CFR Part 258.40(a)(2). The operator has proposed that all future cells (cells 2-9) in the West MSW Area will be constructed with a 60-mil HDPE liner overlying the in-situ clay soils. As per Attachment E, the operator has already demonstrated that the in-situ clay soils at the landfill exhibit characteristics at least as equivalent to the liner requirements of a constructed clay liner.

The operator proposes to recirculate leachate collected from the West MSW Area back into cells 2-9 through the use of recirculation laterals and permeable beds. The operator may not allow leachate to accumulate to a depth greater than 12 inches above the final liner grade at any point in the leachate collection system. Furthermore, the operational and design requirements of this permit are specifically designed to ensure that the operation of the landfill will not pose a hazard to human health or degrade the environment. The operator shall comply with the conditions of this permit.

ATTACHMENT H

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Closure Requirements:

Regulatory Reference ARSD 74:27:15:03

The Administrative Rules of South Dakota state that the owner or operator of a MSWLF shall commence closure activities within 30 days of the last receipt of wastes and shall complete closure activities within 180 days of the last receipt of wastes.

Regulatory Reference ARSD 74:27:15:11

The board or secretary may grant variances to the provisions of this chapter case by case. Demonstrations for variances for MSWLFs must meet the requirement of 40 CFR Part 258, as published in 56 Fed. Reg. 50,978 to 51,119, inclusive (October 9, 1991).

Current federal regulations (40 CFR Part 258.60 – Closure Criteria) state that if a MSWLF unit has remaining capacity and there is a reasonable likelihood that the MSWLF unit will receive additional wastes that closure activities could commence no later than one year after the most recent receipt of wastes. The regulations go on to say that a Director of an approved state may grant extensions beyond the one year deadline if the owner or operator demonstrate that the MSWLF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed MSWLF unit.

The operator in its application has proposed leachate recirculation in Cells 2-9 in the West MSW Area (see Attachment G). With leachate recirculation, it is expected that the wastes will degrade faster and will increase the rate of waste settlement in these areas. The operator has requested that once a cell reaches final grade that an interim cover be placed over the wastes and that the amount of settlement be measured for at least two years. During these two years, the operator will take all steps necessary to protect human health and the environment. These steps will include continued management of landfill gas, leachate and surface water. The interim cover will have temporary vegetation on it to minimize erosion of the interim cover. Once the observed settlement is less than 1% of the waste thickness per year for two consecutive years, a final cover will be installed over the area.

Based on the above information and the environmental protection features at the landfill the DANR-WMP hereby grants a variance to the final closure provisions in ARSD 74:27:15:03 for the West MSW Area of the municipal solid waste landfill.

ATTACHMENT I

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Final Cover:

Regulatory Reference ARSD 74:27:12:21 & 74:27:15:03

The Administrative Rules of South Dakota specify that an owner or operator of a municipal solid waste landfill shall install a final cover system that is designed to minimize infiltration and erosion. The final cover system shall include a topsoil layer underlain by an infiltration layer that shall consist of a minimum of 18 inches of earthen material that has a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present or a permeability corresponding to ARSD 74:27:12:21, whichever is less. The topsoil layer shall consist of a minimum of 6 inches of earthen material that is capable of sustaining perennial plant growth.

Regulatory Reference ARSD 74:27:12:24 & 40 CFR Part 258.60

The board or secretary may grant a variance to ARSD 74:27:12:21 on a case by case basis. All demonstrations for a variance for municipal solid waste landfills must meet the requirements of 40 CFR Part 258, as published on 56 Fed. Reg. 50,978 to 51,119 inclusive (October 9, 1991). The Director of an approved State may approve an alternative final cover design that includes an infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in 40 CFR Part 258.60.

The operator has made a demonstration through the use of computer modeling and a site specific pilot study for an alternative final cover design for the East MSW Area that achieves a greater reduction in the amount of infiltration that would pass through it than the infiltration layer of a prescriptive final cover design. In addition, the operator demonstrated through computer modeling an alternative final cover design for the West MSW Area that achieves a greater reduction in the amount of infiltration that would pass through it than the infiltration layer of a geomembrane final cover design. For the reasoning stated herein, the secretary of the Department of Agriculture and Natural Resources hereby grants a variance to the operator for an alternative final cover design. The operational and design requirements of this permit are specifically designed to ensure the landfill will not pose a hazard to human health or degrade the environment. The operator shall comply with the conditions of this permit.

ATTACHMENT J

Leachate Extraction System Acknowledgement

The Sioux Falls MSWLF opened in the late 1970s and disposed of municipal solid waste (MSW) in the SW¼ of Sec. 35, T101N, R51W (referred to hereafter as the East MSW Area). Regulations at that time did not require that the landfill have a liner and leachate collection system. Since the East MSW Area did not originally have a leachate collection system, leachate accumulated within the MSW disposal area in the East MSW Area. The operator has installed vertical wells to extract the leachate in the East MSW Area where MSW has been historically disposed. The leachate extraction system is the approved method for corrective action to address ground water impacts near the southeast corner of the East MSW Area. The leachate extraction system was designed to alleviate the leachate head within the East MSW Area, reduce the potential impacts of leachate to the local ground water, and to minimize the potential for seeps. Leachate collected by the extraction system will be collected and stored on-site or hauled to the wastewater treatment plant for treatment and disposal. Once Cell 10 is constructed, the operator will be allowed to surface apply leachate collected from the East MSW Area over daily and interim covered areas of Cell 10 which will have a liner and leachate collection system.

ATTACHMENT K

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Special Wastes:

Regulatory Reference ARSD 74:27:13:17.01

The Administrative Rules of South Dakota state waste tires may not be disposed of in a MSWLF unless the tire is shredded or quartered, prior to disposal. The dedicated storage and disposal area must be separate from the garbage disposal area.

Regulatory Reference ARSD 74:27:13:27

The board or secretary may grant variances for provisions of 74:27:13:02 to 74:27:13:26, inclusive, case by case. All demonstrations for variances for MSWLFs must meet the requirement of 40 CFR Part 258, as published in 56 Fed. Reg. 51,016 to 51,039, inclusive (October 9, 1991).

Current federal regulations do not specify the requirements for the disposal of waste tires. The disposal of whole waste tires is problematic for landfill operators. Whole waste tires are not efficiently compacted under normal landfill operations. The hollow space within a waste tire can allow gases that are generated by the decomposition of waste in the landfill to build up within the interior of the tire making the tire gradually "float" to the surface of the landfill. This compromises the design of the landfill, landfill operations and creates more costs for the landfill.

The operator is approved to use shredded waste tires as backfill material in the construction of the horizontal landfill gas collection lateral trenches in the lined MSW disposal area in the West MSW Area. This variance will also allow the operator to use shredded waste tires as an aggregate replacement in the leachate collection trenches and recirculation laterals. In addition the operator may use shredded waste tires for traction material and as a road base. The shredded tires may only be used within the lined MSW disposal area. With the waste tires being shredded prior to placement in the lined MSW disposal area, this should eliminate the operational issues that are associated with disposing of whole waste tires. Further, the operational and design requirements of this permit are specifically designed to ensure that operation of the landfill will not pose a hazard to human health or degrade the environment. The operator shall comply with the conditions of this permit.

Based on the above information and the environmental protection features at the landfill; the DANR-WMP hereby grants a variance to the provisions in ARSD 74:27:13:17.01. Quartered or shredded tires can be disposed or used for construction related activities in the West MSW Area at the landfill.

ATTACHMENT L

Variance Approved for the City of Sioux Falls Municipal Solid Waste Landfill

DANR-WMP specifically recognizes and approves the following variance with the conditions as listed below:

Leachate Management – West MSW Area Land Application:

Regulatory Reference ARSD 74:27:13:24

The Administrative Rules of South Dakota state that a landfill operator may dispose of leachate through:

- (a) Surface application of leachate over daily or interim covered areas that are underlain by both a liner and a leachate collection system;
- (b) Discharge to a wastewater treatment facility if the leachate quality meets the pretreatment requirements of 40 CFR Part 403 and with the owner or operator of the treatment facility's permission;
- (c) Discharge from a leachate storage lagoon if the leachate quality meets the requirements of 40 CFR Part 133; or
- (d) Other methods approved by the secretary based on the constituents of the leachate, the volume of leachate and the proposed handling methods.

Regulatory Reference ARSD 74:27:13:27

The board or secretary may grant variances for provisions of 74:27:13:02 to 74:27:13:26, inclusive, case by case. All demonstrations for variances for MSWLFs must meet the requirement of 40 CFR Part 258, as published in 56 Fed. Reg. 51,016 to 51,039, inclusive (October 9, 1991).

The operator has proposed to use a 14 acre area in the West MSW Area for land application of MSW leachate. The area will be developed in the future for MSW disposal. Prior to land application of MSW leachate, the operator shall develop and submit a standard operating procedure (SOP) to DANR-WMP for review and approval.

The SOP shall address the following:

- 1. Land application method;
- 2. Proposed timeframe, frequency, and volume of leachate to be land applied;
- 3. Leachate analysis and soil testing to justify an application rate;
- 4. Surface water runoff control;
- 5. Proposed ground water monitoring and soil testing to be conducted annually;
- 6. Proposed vegetation management (mowing, harvesting, etc.); and
- 7. An annual report that summarizes the dates and amounts of leachate applied, soil testing, and ground water monitoring with statistical analysis.

An approved SOP will become part of this permit by reference. DANR-WMP reserves the right to require changes to an approved SOP as needed without public notice.

Based on the above information and the environmental protection features at the landfill, the DANR-WMP hereby grants a variance to the provisions in ARSD 74:27:13:24 pending an approved SOP for the land application of MSW leachate.

ATTACHMENT M

Phytoremediation Cap Acknowledgement

The operator has proposed a pilot study to evaluate a phytoremediation process involving leachate irrigation over an area planted to poplar trees. The conceptual pilot study would be conducted on a 12-20 acre area on the crown of the East MSW Area where a final cover has already been placed. This acknowledgement serves to document DANR-WMP's willingness to consider such a pilot study. If an initial site evaluation reveals favorable conditions for the proposed pilot study, then DANR-WMP will require the operator to submit a formal written proposal to conduct the pilot study. The operator shall not initiate or conduct the pilot study unless the DANR-WMP first provides written approval. DANR-WMP reserves the right to approve the pilot study without further amendment to this permit.