

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
SOLID WASTE PERMIT**

**Jefferson City Landfill, LLC, Jefferson City Landfill, LLC, dba Jefferson City Landfill
Authority**

**Solid Waste Disposal Area Construction Permit Number 0105107
Cole County, Missouri**

Issue Date: DATE

FACILITY DESCRIPTION

This facility is a sanitary landfill located at 5605 Moreau River Access Road, approximately 0.75 miles east of Jefferson City at the intersection of US Highway 50/63 and Shamrock Road in the City of Jefferson, Cole County, Missouri. The general legal description is as follows: Section 23, Township 44 North, Range 11 West on the Osage City 2011 Quadrangle, Missouri Quadrangle Map in Cole County, Missouri. The Latitude is 38° 32' 49.2", and the Longitude is 92° 6'. This permit applies only to that tract of land consisting of approximately 410.3 acres as described by the engineering plans, specifications, and operating procedures submitted to the Missouri Department of Natural Resources' Waste Management Program (WMP). The horizontal expansion disposal area contains approximately 15.7 acres (15.2 acres of new landfill footprint, 0.5 acres of overliner on the Pre-Subtitle D section) divided into three (3) Phases (Phases 4-6) to be used for new waste disposal. The existing permitted disposal areas contain approximately 76.9 acres of which includes approximately 31-acres of a closed Pre-Subtitle D area (Permit Number 0105105) and 45.9-acres of an active Subtitle D area (Permit Number 0105106). Approximately 61.1 acres will be used for active waste disposal with the expansion. Approximately 92.1 acres in total will encompass the permitted waste boundary. The remaining approximately 318.2 acres are to be utilized for sanitary landfill-related design features such as borrow area, all-weather access roads, buffer zone, leachate collection and removal system, gas monitoring system, and stormwater diversion structures.

PERMIT DOCUMENTS

Jefferson City Landfill, LLC dba Jefferson City Landfill Authority, Permit Number 0105107, from herein supersedes the Jefferson City Landfill, L.L.C., d.b.a. Jefferson City Landfill Authority Horizontal Expansion Landfill, Permit Number 0105106.

These documents are incorporated by this reference into Permit Number 0105107:

1. "Horizontal Expansion Design Report", prepared by Weaver Consultants Group, first received December 12, 2025, last revised on September 2, 2026. The construction permit application form designates Jefferson City Landfill, LLC as the Owner and Operator of the landfill, and Weaver Consultants Group, as the engineering firm. Dustin Thoenen, P.E. is the certifying professional engineer registered in Missouri.
2. Detailed Geologic and Hydrologic Site Investigation Report for Jefferson City Landfill Proposed Horizontal Expansion, prepared by Weaver Consultants Group, and received on October 30, 2024. The Detailed Geologic and Hydrologic Site Investigation Report was approved by the Missouri Geologic Survey on December 9, 2024.

3. Engineering drawings numbers 1 through 36 titled, Application for Horizontal Expansion for Jefferson City Landfill, prepared by Weaver Consultants Group, and dated, June 2026, revised August 2026. Dustin Thoenen, P.E. is the certifying professional engineer registered in Missouri.

GENERAL CONDITIONS

The following general conditions are an integral part of Permit Number 0105107. Compliance with these general conditions shall, in part, determine compliance with the permit. All reports, plans, and data required to satisfy these general conditions shall be prepared or approved by a professional engineer registered in the State of Missouri.

1. Operation and Design

Any change in the operation and/or design of this facility other than that which has been described in the application and approved in this permit is a modification of the permit, and prior written approval shall be obtained in advance of the permittee making that change.

2. Easement, Notice and Covenant

The owner and the department shall execute:

- A. An easement to allow the department, its agents or its contractors, to enter the premises to complete work specified in the closure plan, monitor or maintain the site, or take remedial action during the post-closure period; and
- B. A notice and covenant indicating that the property has been permitted as a solid waste disposal area and prohibiting use of the land in any manner which interferes with the closure and post-closure plan filed with the department.

To satisfy these requirements, the department's Waste Management Program (WMP) has prepared a standard document titled Agreement for Easement, Notice and Covenant Running with the Land. A copy of the document is enclosed for your use. At least two copies of the original document shall be submitted to the department's WMP for approval and signature within 30 days of the date of this permit.

3. Borehole Abandonment

All exploratory boreholes, abandoned monitoring wells and abandoned piezometers shall be plugged in accordance with 10 CSR 23-3.110 "Plugging of Water Wells" and 10 CSR 23-4.080 "Plugging of Monitoring Wells," or an alternate method approved by the department. Proof of proper abandonment of boreholes and piezometers within each cell boundary shall be submitted to the department's WMP for approval prior to requesting an operating permit for each subsequent cell.

4. Groundwater Monitoring

- A. Groundwater monitoring shall be required per the following documents, which are

hereby incorporated by reference into solid waste Permit Number 0105107:

1. “Groundwater Monitoring and Statistical Analysis Plan” Appendix N of the “Horizontal Expansion Design Report”;
 2. Engineering drawing number 14, “Proposed Environmental Monitoring Plan” of the last revised set of drawings received September 2, 2026, titled, Application for Horizontal Expansion for Jefferson City Landfill, dated June 2026; and
 3. The enclosed document titled GROUNDWATER MONITORING PROGRAM, Jefferson City Landfill, LLC, Jefferson City Landfill, LLC dba Jefferson City Landfill Authority, Permit Number 0105107 dated, DATE, which is hereby incorporated by reference into solid waste Permit Number 0105107.
- B. Before an operating permit will be granted, the construction of all groundwater monitoring wells shall be approved by the department. One electronic and one hard copy of the geologist’s boring logs and as-built drawings showing the well construction for any new monitoring wells, as well as the plan sheets that show the as-built locations of these wells, shall be submitted to the department’s WMP.
5. Liner and Final Cover
- A. All borrow material used for liner and cover construction shall be from a previously sampled and approved borrow area.
 - B. The top surface of each lift of the compacted clay soil liner and final cover shall be scarified prior to placement of an over-lying lift of liner soil.
 - C. The top surface of the final lift of the compacted clay soil liner shall be smooth drum rolled prior to flexible membrane liner placement to ensure intimate contact between the compacted clay soil liner and the flexible membrane liner.
 - D. The soils to be used for liner and cover construction shall be periodically tested and analyzed to ensure they meet the requirements as described in the engineering report. The compaction of the soil liner and final cover shall be confirmed via the following Quality Assurance/Quality Control (QA/QC) procedures. All QA/QC data results shall be submitted to the department’s WMP:
 1. On every 5,000 cubic yards of soil to be applied, perform laboratory tests of grain size, soil classification, Atterberg limits, permeability, and density/moisture testing (Standard or Modified Proctor).
 2. Whenever soil conditions change, perform laboratory analysis on at least one representative sample for every 5,000 cubic yards of material used for construction.

3. All laboratory analysis on soil shall be performed prior to initial placement of soil.
 4. Nuclear gauge field density and moisture tests (ASTM D 6938-17) shall be performed on each lift of the soil liner and final cover. Testing shall be performed at a maximum horizontal spacing of 100 foot centers, offset 50 feet, for each lift of the liner. Any portion of the liner and final cover which fails to meet the minimum compaction specification shall be re-worked, recompact and retested. The department reserves the right to require removal of any portion of the liner and final cover which fails to continuously meet the minimum compaction specification.
 5. A moisture/density calibration adjustment shall be performed at the start of each construction phase, when the soil used for liner/cover construction changes, when you change instruments, or every 12 months; whichever occurs first. Calibration requirements shall be conducted in accordance with ASTM D 6938-17.
 6. Conduct laboratory hydraulic conductivity testing on undisturbed (as referenced in section 8.2 of ASTM D 5084) samples collected from the in-place compacted soil liner and final cover for every 5,000 cubic yards of soil placed and compacted, unless a zone of acceptability for soil placement has been approved by the department.
 7. Elevations of the bottom and top of the landfill compacted soil liner and final cover shall be checked at a maximum horizontal spacing of 100 foot centers.
- E. Installation of the flexible membrane liner and cover shall be performed in accordance with the QA/QC measures specified in the approved engineering report, and with the manufacturer's recommendations.
- F. Supply the department's WMP with QA/QC data and results on the composite liner's geosynthetic components for each phase and conduct both nondestructive and destructive testing on the geomembrane.
- G. The permittee shall provide seven days advance notice of the following activities to the department's WMP:
1. Subgrade excavation;
 2. Test pad construction;
 3. Placement of the soil component of the liner system, including final surface preparation;
 4. Placement of the geosynthetic components of the liner system; and
 5. Placement of the leachate collection system and its protective layer.

The department's WMP reserves the right to inspect, and approve or disapprove any of the above-mentioned activities during the construction of the landfill.

6. Test Pad

- A. Test pad construction and testing shall be required as per the following document, which is hereby incorporated by reference into solid waste Permit Number 0105107:

“Construction Quality Assurance (CQA) Plan” Appendix I of the Horizontal Expansion Design Report.

- B. The test pad shall only need to be constructed once for phased construction, as long as the same soil type, procedures and clay liner construction equipment are used.
- C. The compacted soil liner shall be constructed from the same soil type, design specifications, equipment, and procedures as are used for the test pad.

7. Construction Quality Assurance Plan

- A. The department may require you to revise the Construction Quality Assurance (CQA) Plan included in Appendix I of the approved engineering report following completion of the test pad. All construction and testing methods determined to be necessary during test pad construction shall be incorporated into the CQA plan at that time. The department must review and approve the revised CQA plan prior to construction of the liner system for the first landfill phase or cell.
- B. Determination of soil placement criteria and construction of a test pad are required for each soil type proposed for use in liner construction. The department reserves the right to require test pads for future phases.
- C. In addition to the testing outlined in the approved engineering report, a minimum of five uniformly spaced nuclear moisture/density tests, per ASTM D 6938-17, shall be performed on each lift of the test pad.
- D. At a minimum, the following information shall be included in each test pad report:
1. A detailed discussion explaining how each soil type was identified and characterized to determine the acceptable placement range. The discussion shall also take into account the soil testing performed during the detailed site investigation. This discussion shall include, at a minimum, a comparison of the following soil properties:
 - a) Grain Size
 - b) Atterbergs
 - c) USCS soil classification
 - d) Optimum moisture content
 - e) Maximum dry density
 - f) Color

g) Texture

2. For each soil type, one plot showing the Proctor curves using symbology indicating which Proctor points passed the hydraulic conductivity criteria and which failed.
3. For each soil type, one plot showing the field moisture/density test results compared with the Proctor curves and the moisture and density pass/fail criteria.
4. A map showing soil sample locations and depths. All laboratory test reports shall be clearly correlated to sample locations.
5. A detailed discussion of the successful and unsuccessful construction techniques used, including:
 - a) Methods of moisture conditioning
 - b) Methods of surface preparation for each lift
 - c) Depth of penetration of the compactor feet
6. A discussion of the amount of compactive effort applied to each lift of compacted soil based on the type and weight of equipment used, the number of passes, and the lift thicknesses.
7. A detailed discussion of how each soil type was identified in the field in order to correlate it to the proper soil placement range.
8. Documentation that all required calibration procedures specified by ASTM D 6938-17 (nuclear density and moisture testing) were performed before/during test pad construction.
9. A description of the methods used for subgrade preparation.
10. Copies of all field notes taken during test pad construction.

8. Operating Permit

When requesting the Operating Permit for the initial cell, one electronic and one hard copy of the report shall be submitted containing all QA/QC data/results, as-built drawings, drawing(s) showing details of inter-phase berms, and a certification by a professional engineer who is registered in the State of Missouri stating that the landfill cell was constructed as per the department-approved engineering design plans and specifications. The certification shall be signed, or sealed, and dated by both the permittee and a professional engineer registered in the State of Missouri. The post-closure Financial Assurance Instrument (FAI) shall be submitted along with the request for the Operating Permit. The report, certification, and FAI shall be approved by the department's WMP before the Operating Permit for the initial cell will be granted.

If an application for the Operating Permit for the initial cell of the solid waste disposal area is not received by the department within 60 months of issuance of the Construction Permit, the

applicant, prior to submittal of an Operating Permit Application, shall hold a public awareness and community involvement session, solicit comments, and respond to the comments; submit to the department for approval of any necessary changes to the design and operation of the facility so as to be in compliance with currently applicable law and rules; and submit to the department an updated violation history disclosure statement.

9. Authorization to Operate

When requesting Authorization to Operate (ATO) for all subsequent cells, one electronic and one hard copy of the written report shall be submitted containing all QA/QC data/results, as-built drawings, drawing(s) showing details of inter-phase berms and the tie-in of liner elements to previously constructed phases, and a Missouri registered professional engineer's certification that each was constructed as per the department-approved engineering design plans and specifications. The certification shall be signed, or sealed, and dated by both the permittee and the Missouri registered professional engineer. The report and certification must be approved by the department's WMP before an ATO for that cell will be issued. Additionally, the closure and post-closure FAIs for the subsequent cells must be submitted and approved.

10. Surface Water Control

Before an Operating Permit will be issued, the permittee shall provide correspondence to the department showing that all applicable permits and design approvals have been acquired from the Missouri Department of Natural Resources' Water Protection Program.

11. Air Pollution Control

Before an Operating Permit will be issued, the permittee shall provide correspondence to the department showing that all applicable permits and design approvals have been acquired from the Missouri Department of Natural Resources' Air Pollution Control Program.

12. Gas Monitoring Wells

- A. Gas monitoring shall be required as per the following documents, which are hereby incorporated by reference into solid waste Permit Number 0105107:
 - 1. "Landfill Gas Monitoring Plan" Appendix L of the Horizontal Expansion Design Report;
 - 2. "Operating Plan" Appendix O, Section 11.4, "Gas Monitoring," of the Horizontal Expansion Design Report;
 - 3. Engineering Drawing Number 14, "Proposed Environmental Monitoring Plan" of the last revised set of drawings received September 2, 2026, titled, Application for Horizontal Expansion for Jefferson City Landfill, dated June 2026; and

- B. One electronic and one hard copy of the boring log and installation record for each gas monitoring well shall be submitted to the department's WMP for approval within 30 days of the completion of the well installation.

13. Statistical Evaluation of Groundwater Data

- A. The department's WMP shall be notified and allowed to review any changes in the statistical evaluation as they occur.
- B. The permittee shall notify the department's WMP of any statistical deviations in the groundwater data as they occur.
- C. A minimum of four rounds of groundwater monitoring data must be collected prior to filling.

SITE SPECIFIC CONDITIONS

There are no site-specific conditions for Permit Number 0105107.

DISPOSAL AREA DESCRIPTION

The types of waste to be accepted shall consist of non-hazardous municipal, commercial, and industrial waste. Any non-hazardous special wastes as defined in 10 CSR 80-2.010 and which pass a paint filter test, may be accepted at the facility in accordance with 10 CSR 80-3.010(2)(A)3.B. Waste listed in 10 CSR 80-3.010(2)(B)2. shall not be disposed of at the landfill.

The area fill method of sanitary landfill operation shall be utilized. The excavation depths and solid waste fill locations shall be completed as shown on the approved engineering plans and specifications. Upon completion of the disposal area, the final cover shall be graded, limed, fertilized as necessary, and seeded with grasses to control erosion. Continued maintenance of the area shall be provided in accordance with the approved post-closure plan.

All fencing, gates, equipment maintenance buildings, all-weather access roads, signs, surface-water control devices, leachate treatment facilities, operating equipment, standby equipment, and other necessary appurtenances shall be provided as per the approved plans, specifications, and operating procedures. The plans, specifications, and operating procedures described above have been examined as to engineering features of design which might affect the operation of the solid waste disposal area as a sanitary landfill.

MODIFICATION AND TERMINATION OF PERMIT

The department reserves the right to revoke, suspend, or modify Permit Number 0105107 if the permit holder fails to maintain the facility in compliance with the Missouri Solid Waste Management Law and regulations, the terms and conditions of the permit, or the approved engineering plans and specifications.

Date of Permit

Erin Lepper, Director
WASTE MANAGEMENT PROGRAM

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