# OPERATIONS PLAN

## McGill Road Landfill

## Jackson, Michigan

**Prepared for:**

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# 1 Introduction

This Operations Plan (the Plan) has been prepared for the McGill Road Landfill (MRL) to provide methods which are to be used by MRL during the construction and operation of the Type II landfill facility. The Plan has been prepared in accordance with Rule 911(2) of the administrative rules promulgated under the provisions of Part 115 of the Michigan Environmental Protection Act, Act 451, Public Acts of 1994, as amended (Part 115).

Each of the operational practices required to be addressed by the Part 115 Rules is presented as a separate section of the Plan. The specific operational methods for the practice are outlined in each section.

# 2 Landfill Equipment

Landfill equipment requirements vary with the volume of waste disposal. Currently, MRL operates the following equipment on site:

- Bulldozer
- Excavator
- Off-road dump truck
- Wheel loader
- Water truck

The actual type, number, and size of equipment on site at any given time will be dependent upon the construction scope of work and schedule, the waste types, and volumes received for disposal and weather conditions. MRL will, at its discretion, provide needed equipment on an owner or contract basis.

Backup equipment will be available on site or arrangements will be made to provide such equipment from other sources for use during equipment breakdown or during peak waste receipt periods, as required. Backup equipment can be procured from other Waste Management affiliated companies or heavy equipment rental companies, such as Michigan Caterpillar Company.

# 3 Personnel Requirements

MRL will provide the necessary personnel to operate the facility in accordance with regulatory requirements. Facility personnel will continuously supervise the unloading of solid waste. The facility will provide an individual who will be responsible for the immediate direction of landfill operations. Other personnel requirements may include engineers, heavy equipment operators, laborers, and clerical persons. The actual number of personnel on site will be dependent upon waste volumes received for disposal.

## 3.1 Duties and Responsibilities

The duties and authority of landfill personnel are as follows:

<u>Landfill Manager</u>: Ensure landfill operations are conducted in accordance with applicable regulations, maintain an adequate number of operating personnel and equipment on-site at all times, and ensure that

landfill personnel receive the level of training commensurate with their duties and responsibilities. The Landfill Manager is responsible for the immediate direction of landfill operations and has the authority to implement procedures and policy to support these operations.

Site Engineer: Advising and assisting operations staff in identifying compliance issues, as well as operational issues. The engineer is responsible for design and planning, construction project management, licensing, and permitting issues. The engineer may also assist with training for environmental programs, operations record upkeep, and engineering file upkeep.

Heavy Equipment Operators: Operate equipment in a safe manner which minimizes hazards to human health and safety as well as damage to landfill components; perform duties outlined in the facility waste inspection procedure, specifically perform visual observations of waste during unloading procedures for the purpose of identifying potential regulated hazardous wastes and PCB wastes and other prohibited wastes that may be present within the incoming waste loads. Heavy Equipment Operators will be supervised by the Landfill Manager, Engineer, or other designated supervisory level personnel.

Clerical: Process customer invoices and billing, and other clerical functions such as weighmaster, customer service, etc. Facility Manager will be directly responsible for the supervision of clerical staff.

Laborers: Litter removal and other duties as assigned. Laborers will report to the Facility Manager.

## 3.2 Personnel Training

All landfill personnel involved in the receipt, inspection, and unloading of solid waste, will receive training which includes the review of regulatory requirements, including Part 115 and facility permits and licenses; their specific responsibilities pertaining to the operation of the landfill; the objectives and their specific responsibilities under the facility Load Inspection Program, as discussed in Section 13, and good engineering and operational practices. Training will specifically include the methods and procedures to exclude the disposal of prohibited wastes, including:

- Regulated hazardous waste
- Regulated polychlorinated biphenyl (PCB) waste
- Bulk or non-containerized liquid waste or waste that contains free liquids, unless the waste is household waste (other than septic waste) or leachate or gas condensate that is approved for recirculation, or liquid waste that has gone through the approved waste solidification process
- Containers that hold liquid waste, unless the container is household waste or is a small container similar in size to that normally found in household waste
- Sewage
- Materials which would adversely affect the liner or leachate collection and removal system
- Asbestos waste, unless the disposal area complies with regulatory requirements
- Empty drums, unless crushed or otherwise opened to verify that they are empty
- Lead acid batteries
- Yard clippings, as specified by regulation
- Whole tires
- Regulated beverage containers

Training will be provided at the time of initial assignment and annually thereafter. The facility may periodically review these training requirements in conjunction with other employee training and meetings.

# 4 Usage Rules

MRL is a Type II sanitary landfill, licensed according to the Part 115 solid waste rules. Its waste acceptance policies are in accordance with the current (2016 Amendment of the 1998 Update) Jackson County Solid Waste Plan.

The majority of waste that will be received by the facility will consist of municipal solid waste, construction and demolition debris, and special wastes. Industrial waste, sludge and contaminated soil will be considered special wastes and accepted on a case-by-case basis. All special waste will by accepted only after being approved internally through the special waste program.

Every effort is made to prevent any waste not meeting the requirements of a Type II landfill from entering the facility. Wastes that will not be accepted include regulated hazardous wastes and liquid wastes. Additionally, waste loads that have not been properly prepared for disposal or are deemed questionable will not be received. Certain physical access controls will be constructed, including signage, barriers and traffic control. Inspection and monitoring procedures at the gate and in the active area will be implemented to deter unauthorized disposal.

# 5 Access Control

Access control will be maintained at MRL through the use of signage, natural and constructed barriers, and traffic control routing. These controls are outlined below.

## 5.1 Signage and Traffic Control

A sign is currently posted near the facility entrance, which includes hours of operation. The facility's normal hours of operation are 7:30 a.m. to 3:30 p.m. Monday through Friday. The facility will normally be closed on weekends and six national holidays. However, the working hours may be adjusted to meet contract or project schedules. An additional sign or signs will be maintained along the entrance road or at the gate house, which posts the facility rules and regulations regarding disposal practices. All waste hauling vehicles are required to check in with the Gate House, where the drivers are instructed as to landfill traffic routes and the appropriate off-loading area. The landfill operators further instruct the drivers when they enter the active refuse fill area.

## 5.2 Barriers

Access to the facility for waste disposal purposes will be limited to the facility operation hours and those times when an attendant is on duty or when an alternative-monitoring device is used. Only those persons authorized to use the landfill for waste disposal will be allowed access. The methods to control access will include any of the following: perimeter fencing, berms and natural barriers which are constructed or maintained in accordance with regulatory requirements, and a gate at the facility entrance, which will be closed and locked during non-operating hours.

# 6 Drop-Off Station

MRL will provide a drop-off station for smaller vehicles to unload refuse. The drop-off station will include roll-off containers staged near the scale, maintenance or office facilities, to accept wastes hauled in cars, pickup trucks or small trailers. Alternatively, an area of the landfill away from the main working face may be designated for hand unloading of wastes, if necessary, to ensure safety and minimize congestion.

# 7 Nuisance Control

The facility will provide operational controls to minimize the impact of potential nuisance sources. Typical nuisance sources include blowing litter, dust, noise, and odors.

Blowing litter from the landfill may be controlled by several methods. These include any of but not limited to the following: application of an approved daily cover material, use of fencing, and hand picking.

Operations during high wind events which have the potential to significantly increase blowing litter situations may be addressed in several ways: move operations to a lower elevation or shielded area, if possible, continuously apply daily cover in such a way as to minimize the exposed active face, installation of wind shield or fencing.

Dust at the active fill area will be controlled by application of water or other environmentally safe dust suppressants. Dust from areas that are closed or under interim cover will be controlled through application of water or other environmentally safe dust suppressant, if possible.

The control of dust from on-site roads will be accomplished with the methods outlined in Section 9.

Dust from construction activities will be controlled by the methods outlined above. The construction contracting company will be required to provide dust control measures.

There are two predominant sources of potential odors at the landfill: odorous incoming loads and landfill gas. Additionally, if previously placed wastes must be disturbed for any reason, e.g. final grading or installation of gas wells or piping, general garbage odors can occur.

Odor control for incoming waste or general garbage odors will consist of the application of cover materials over the refuse at the end of each working day, as discussed in Section 12. Other methods may include the restriction of acceptance of odorous loads to specific times or locations or non-acceptance of such wastes. Use of various commercially available odor control agents may also be implemented.

Landfill gas odors may be controlled with odor control agents and with an active gas collection system. McGill plans to expand its active gas collection system as needed to control gas odors.

# 8 Large and Bulky Item Disposal

The facility may accept large and bulky items for disposal. Disposal of large and bulky items will be handled by one of the following methods:

1. The item(s) will be separated from other incoming waste and compacted by heavy equipment prior to placement of additional waste or daily cover.

2. A pit or trench of adequate size to contain the item(s) will be excavated in the fill area and backfilled with additional waste or covered with an approved daily cover material.

No large and bulky items will be placed in the initial 5 feet of refuse placed over the cell liner system.

# 9 Road Design and Dust Control

The site entrance road is designed as an all-weather two-lane paved road, as shown on the facility engineering plans. The road geometry will provide access for light and heavy vehicles to travel at posted speeds through the use of adequate drainage, curvature, and elevation.

Interior cell service roads will be sited as needed to allow waste transportation and landfill equipment access to the active work area. Lined portions of the landfill subject to traffic will be provided with adequate protection, in accordance with good engineering practice, to prevent synthetic liner system damage. Traffic within the cells will be routed away from sensitive system components when possible.

Fugitive dust on facility roads will be minimized through enforcement of speed limits. The facility will implement fugitive dust control measures, as necessary. These measures include, but are not limited to, sweeping of paved roads, application of dust suppressants, or other available means.

# 10 Salvaging

No salvaging of recyclable materials is currently performed on site.

# 11 White Goods and Recyclable Materials

White goods and recyclable materials may be accepted in designated containers at the drop-off station.

# 12 Cover Materials

MRL will apply approved cover materials over exposed refuse at the end of each workday, or more frequently if needed, to control odors, blowing litter, and other nuisance vectors. These cover materials will consist of 6 inches of earthen material or other alternative materials, including geotextile or tarp, which have been approved for use by the Michigan Department of Environmental Quality (MDEQ).

If clay or other low permeability soil is used as daily cover, the soil will be scraped back prior to the placement of overlying refuse to allow the movement of liquid and gases through the landfill. The active work area will be sloped and graded to prevent the collection of standing water.

The facility will apply interim cover materials over any lift of refuse which will be exposed for a period of 3 months or more before additional refuse is placed. Interim cover material may consist of either 1 foot of compacted low to moderate permeability soil, which meets regulatory requirements or a flexible membrane liner.

# 13 Load Inspection and Unloading Procedures

A comprehensive program to detect and prevent the disposal of regulated wastes that are prohibited from disposal at the facility has been developed and is in the facility Operating Record. The facility may amend or modify this program to meet the changes in regulatory or operational requirements.

Solid wastes that are transported to the landfill for disposal are continuously supervised by landfill personnel upon entering the facility. First the transporters of solid wastes are required to check in at the designated registration area or gatehouse. The loads are then initially screened through interviews with the driver, examination of paperwork (if applicable), visual inspection, etc. Accepted loads are then directed to the disposal area, where they are supervised by the heavy equipment operators. The gatehouse notifies the heavy equipment operators if any special handling of the load is required. If a load is rejected, the generator is notified and procedures for rejection of prohibited waste are observed.

# 14 Regulated Asbestos Containing Material (RACM) Management

MRL does not accept regulated asbestos containing materials.

# 15 Leachate Management

Leachate will be pumped from each collection sump through double-contained piping to an on-site storage tank. From the tank, the leachate is hauled to a wastewater treatment plant or recirculated into the landfill.

Also, a periodic inspection of the following will be completed to ensure proper leachate management:

1. Electric submersible pumps in leachate collection sumps for proper operation. Adjustments are made to the system as required.
2. Leachate transmission piping for leakage at existing valve vaults.

In addition, leachate quality and quantity will be tested and recorded as identified by the groundwater-monitoring plan.

## 15.1 Leachate Recirculation

Surface (active area) application, blanket, or trench method will be used for leachate recirculation.

### *15.1.1 Surface Application*

Leachate may be applied to the surface of the active area via a mobile tank truck or trailer equipped with spray nozzles, or with fixed spray equipment. Leachate will be applied in a manner that will minimize formation of puddles, e.g., spread evenly over the active surface, rather than concentrated in one area, and applied throughout the day and allowed to soak in between applications. Generally, leachate should not be applied to any area within 50 feet from an exterior landfill slope, unless soil berms are built at top of waste slopes to prevent surface runoff. Leachate should not be recirculated via surface application during any rain event or when the waste surface is frozen. Furthermore, leachate should not be recirculated via surface application in the area of a recirculation pad if the pad is in operation at that time.

The maximum leachate recirculation rate should not exceed 0.3 gallons/day/square foot, or 13,000 gallons/day/acre, of application area.

### *15.1.2 Leachate Recirculation Pads*

Leachate may be recirculated into pads of permeable material constructed within the waste. Typical materials include gravel, crushed glass, shredded tires, and geosynthetic drainage composite. Leachate may be introduced into the pads via perforated piping using a mobile pump truck or trailer, or fixed pumping equipment. Pads should not be located within 50 feet (horizontal) of an exterior landfill slope.

The leachate collection system for Phases III, IV, and V includes a drainage net under the entire cell area. However, the leachate collection system on the floor area of Phase V, extending 150 feet to either side of the leachate collection pipe, is designed to accommodate a much higher flow rate by incorporating a 12 inch layer of pea gravel in addition to the drainage net. If the leachate recirculation pad is within 150 feet (horizontally) of the underlying leachate collection pipe in Phase V, the maximum leachate recirculation rate should not exceed 1.5 gallons/day/square foot of application area. If the pad is located outside of this area, the maximum leachate recirculation rate should not exceed 0.3 gallons/day/square foot of application area.

The existing crushed glass pad in the Phase III / Phase IV area is approximately 18,000 square feet. Thus, recirculation into this pad should not exceed 5,400 gallons per day.

McGill plans to construct pads that are approximately 60 feet by 300 feet within the high flow capacity area of Phase V. The maximum recirculation rate for these pads would be 27,000 gallons per day.

### *15.1.3 Leachate Recirculation Trenches*

Leachate may be recirculated into trenches of permeable material excavated into the waste. Typical materials include gravel, crushed glass, shredded tires, and geosynthetic drainage composite. Leachate may be introduced into the trenches via perforated piping using a mobile pump truck or trailer, or fixed pumping equipment. Trenches should not be located within 50 feet (horizontal) of an exterior landfill slope.

The maximum leachate recirculation rate into a trench should not exceed 6 cubic feet, or 45 gallons, per linear foot of trench per day.

The existing trench in Phase III is approximately 525 feet long.  Thus, recirculation into this trench should not exceed 23,625 gallons per day.