

State Registration Number

N6008

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number

MI-ROP-N6008-2020a

Oakland Heights Development Inc. and WMRE Treatment System

State Registration Number (SRN): N6008

Located at

2350 Brown Road, Auburn Hills, Oakland County, Michigan 48326

Permit Number: MI-ROP-N6008-2020a

Staff Report Date: July 20, 2020

Amended Date: August 22, 2022

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) of the administrative rules promulgated under Act 451, requires that the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

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State Registration Number

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RENEWABLE OPERATING PERMIT

JULY 20, 2020 - STAFF REPORT

ROP Number

MI-ROP-N6008-2020

Purpose

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an ROP pursuant to Title V of the federal Clean Air Act; and Michigan's Administrative Rules for Air Pollution Control promulgated under Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source's applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

General Information

Stationary Source Mailing Address:	Section 1: Oakland Heights Development, Inc. 2350 Brown Road Auburn Hills, Michigan 48326 Section 2: WMRE of Michigan, LLC 2350 Brown Road Auburn Hills, Michigan 48326
Source Registration Number (SRN):	N6008
North American Industry Classification System (NAICS) Code:	562212
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900155
Responsible Official:	Section 1: Tom Castle, General Manager 810-768-2232 Section 2: Randy Beck, Vice President 713-265-1672
AQD Contact:	Robert Joseph, Environmental Engineer 586-506-9564
Date Application Received:	September 6, 2019
Date Application Was Administratively Complete:	October 1, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	July 20, 2020
Deadline for Public Comment:	August 19, 2020

Source Description

Oakland Heights Development, Inc. (subsidiary of Republic Services) is a municipal solid waste landfill located at 2350 Brown Road, Auburn Hills, Oakland County, Michigan. The landfill has a design capacity of approximately 18 million mega grams and is therefore subject to the National Standards of Performance for Municipal Solid Waste Landfills, 40 CFR Part 60 Subpart WWW and 40 CFR Part 70.

The hours of operation of the facility is 6 a.m. to 4:30 p.m. Monday through Friday. There are approximately eight employees at the facility which includes operators, the site manager, and grounds crew. The facility began operations in 1989 and operates roughly 365 days a year. The facility is a Type II Sanitary Landfill which is a discrete area of land or an excavation in which wastes are placed for permanent disposal. The facility accepts 1,500 to 2,000 tons of waste per day, which consists of approximately 85% MSW and 15% construction and debris. The facility accepts waste from counties in southeast Michigan and Canada. The facility no longer accepts asbestos waste and has not done so since 1998.

The site is approximately 110 acres with 106 acres dedicated to waste placement. The remaining acreage is used for roadways within the facility and for leasing space. The facility leases storage space for a water tower to the city of Auburn Hills. Approximately 60 acres are still in-use with 40 acres under final cover. The facility is located in an urbanized area just north of the Palace of Auburn Hills and to the west of a car dealership and several restaurants. The landfill has approximately five years of storage space remaining based on the current footprint.

Waste is placed in two phases, Phase I and II. Waste was placed in Phase I between 1989 to 2005. Phase I is the oldest section of the landfill and is lined with a ten-foot clay liner and capped with 24 inches of soil, a geosynthetic clay liner, a plastic layer, a drainage layer, a geo-composite layer, and 18 inches of soils. Phase I is still producing landfill gas.

The landfill was given a permit to expand in 1994 for Phase II (cells A-F) with waste placement occurring in cell A (1996-2010), cell B (1997-present), cell C (2000-present), cell D (2004-2010), cell E (2009-present), and cell F (2013-present). Cells E and F were the most recent permitted cells by EGLE's Materials Management Division in 2009. Cells A and B have a two-foot clay liner, cell C has a double geo-composite layer and a geo-synthetic clay liner, and cells D, E, and F have geo-composite liners. The landfill has another four to five years of space available.

Daily cover on new waste is typically six to 12 inches of soil and intermediate cover over uncapped portions of the landfill is 1.5 to 2 feet of soil. The landfill gas (LFG) is collected through an active landfill gas collection system, which consists of wells, headers, and gas mover equipment. Risers are also installed to tie-in the collectors. There are approximately 117 wells on site which are a combination of vertical and horizontal gas collectors. Some of these wells are constructed as caissons, and depending on location and depth, some wells have a dedicated pump to control leachate build-up within the waste. OHD does not have their own field technicians so the wells are monitored and maintained by Monitoring Control, an independent contractor, located in Livonia.

The landfill has drainage layers at the base of each cell to collect the leachate produced by the waste. The leachate from Phase I is processed through three tanks containing liquid activated carbon to remove polychlorinated biphenyls (PCBs) before being discharged to the municipality. Phase II leachate is not processed because the facility no longer takes specific commercial waste containing these compounds. The collected LFG is moved through the network by three blowers typically around 3,500 ft³/min. The facility houses a back-up blower located nearby within a shed. The collected LFG is then routed to the facility's 5,100 ft³/min open flare (model: ZEF 1645) or sent to both the flare and in a pipeline to the nearby General Motors plant.

Oakland Heights Development, Inc. verifies the Hydrogen Sulfide (H₂S) or the Total Reduced Sulfur Content (TRS) content of the landfill gas burned in EU-FLARE monthly and semi-annually by gas sampling.

If at any time, the Hydrogen Sulfide (H₂S) or the Total Reduced Sulfur Content (TRS) concentration exceeds 400 ppm (parts per million), sampling shall occur on a weekly basis and the facility shall review all maintenance and operating activities and corrective actions taken. Once the Hydrogen Sulfide (H₂S) or the Total Reduced Sulfur Content (TRS) concentration from the weekly samples is maintained below 400 ppm for one month after an exceedance, the facility may resume monthly sampling and monitoring.

The pipeline used to send gas to General Motors is owned, operated, and maintained by Waste Management Renewable Energy (WMRE). The pipeline is used to treat the landfill gas prior to subsequent use or sale off-site to General Motors. The treatment system removes particulate matter (PM) to at least 10 microns, compresses the gas, and removes enough moisture to ensure good combination of landfill gas when used as fuel off-site by the third party, guaranteeing the destruction of NMOC will be maintained.

WMRE’s process has no emission sources or atmospheric vents. The system consists of three vessels eight feet in diameter and eight feet tall. These vessels contain granular carbon and represent what WMRE refers to as the final “polishing” treatment of the gas. The vessels are downstream of the existing equipment used to compress, dewater, and filter the landfill gas WMRE recently installed a sulfur removal treatment in October 2018 and completed the construction process in February 2019. The installation of this process by WMRE was due to the high sulfur concentration within the landfill gas.

The landfill has probes installed around the boundary of the landfill to detect any landfill gas migration. In addition, to help control landfill gas odors the facility has an odor neutralizing system installed around the perimeter of the landfill which operates 24 hours a day.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2018**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	124.6
Nitrogen Oxides (NO _x)	27.3
Particulate Matter (PM)	20.5
Sulfur Dioxide (SO ₂)	50.4
Non-Methane Organic Compounds (NMOC)/Volatile Organic Compounds (VOCs)	21.3

See Parts C and D in the ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

The stationary source is in Oakland County, which is currently designated by the United States Environmental Protection Agency (USEPA) as non-attainment area with respect to the eight-hour ozone standard.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of carbon monoxide exceeds 100 tons per year, and a minor source of HAP emissions because the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

The stationary source is subject to New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills promulgated in 40 CFR Part 60, Subparts A and WWW which are applicable to MSW landfills that commenced construction, reconstruction or modification after May 30, 1991. Subpart WWW requires subject facilities with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters to submit an initial design capacity report and a NMOC emission rate report.

The stationary source is also subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills promulgated in 40 CFR Part 63, Subparts A and AAAA. This is primarily because the landfill meets the criterion of 40 CFR 63.1935(3) due to the landfill having NMOC emissions greater than 34 Megagrams per year. It is noted that the requirements under 40 CFR Part 60, Subpart WWW applies to the stationary source because 40 CFR Part 63, Subpart AAAA adopts Subpart WWW requirements by reference.

Furthermore, subject facilities are required to submit a design plan and install an LFG collection and control system (if NMOC emissions are greater than or equal to 50 megagrams/year) that meet the provisions of 40 CFR 60.752 through 60.759. A gas collection and control system are required to be installed after the NMOC emissions rate report is submitted to the regulatory agency which shows that the MSW Landfill produces 50 megagrams or greater per year NMOC.

No emission units at the stationary source are currently subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, because at the time of New Source Review permitting the potential to emit of carbon monoxide was less than 250 tons per year.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

No emission units have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because all emission units at the stationary source either do not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds.

Please refer to Parts B, C and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

Source-Wide Permit to Install (PTI)

Rule 214a requires the issuance of a Source-Wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-N6008-2015a are identified in Appendix 6 of the ROP.

PTI Number			
NA	NA	NA	NA

Streamlined/Subsumed Requirements

This ROP does not include any streamlined/subsumed requirements pursuant to Rules 213(2) and 213(6).

Non-applicable Requirements

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the ROP pursuant to Rule 213(6)(a)(ii).

Processes in Application Not Identified in Draft ROP

The following table lists processes that were included in the ROP Application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EU-HEATERS	Two natural gas heaters: Office/Maintenance 0.375 MMBtu/hr and Scale House 0.08MMBtu/hr.	R 336.1212(4)(b)	R 336.1282(b)(i)
EU-DIESEL	Three tanks: 1,000-gallon, 550-gallon, and 500-gallon for diesel fuel storage.	R 336.1212(4)(c)	R 336.1284(2)(d)
EU-GAS	500-gallon tank for gasoline storage.	R 336.1212(4)(c)	R 336.1284(2)(d)
EU-USEOIL	300-gallon tank for gasoline storage.	R 336.1212(4)(c)	R 336.1284(2)(d)
EU-DRUM	55-gallon drum for new oil, anti-freeze, and miscellaneous liquids storage.	R 336.1212(4)(c)	R 336.1284(2)(d)
EU-PROPANE	330-gallon tank for starting the EU- FLARE	R 336.1212(4)(d)	R 336.1284(2)(b)

Draft ROP Terms/Conditions Not Agreed to by Applicant

This draft ROP does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements as of the effective date of this ROP.

Action taken by EGLE, AQD

The AQD proposes to approve this ROP. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the USEPA is allowed up to 45 days to review the draft ROP and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Joyce Zhu, Warren District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP Application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

State Registration Number
N6008

RENEWABLE OPERATING PERMIT

ROP Number
MI-ROP-N6008-2020

SEPTEMBER 9, 2020 - STAFF REPORT ADDENDUM

Purpose

A Staff Report dated July 20, 2020, was developed in order to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by R 336.1214(1). The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30-day public comment period as described in R 336.1214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

General Information

Responsible Official:	Section 1: Richard Rolf, General Manager 248-333-8654 Section 2: Randy Beck, Vice President 713-265-1672
AQD Contact:	Robert Joseph, Environmental Engineer 586-506-9564

Summary of Pertinent Comments

No pertinent comments were received during the 30-day public comment period.

Changes to the July 20, 2020 Draft ROP

No changes were made to the draft ROP.

State Registration Number
N6008

RENEWABLE OPERATING PERMIT
AUGUST 22, 2022 - STAFF REPORT FOR RULE
217(2) REOPENING

ROP Number
MI-ROP-N6008-2020a

Purpose

On October 30, 2020, the Department of Environment, Great Lakes, and Energy, Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-N6008-2020 to Oakland Heights Development, Inc. pursuant to Rule 214 of the Michigan Air Pollution Control Rules. Once issued, the AQD is required to reopen the ROP if the criteria described in Rule 217 are met. Only those conditions to be added or changed in the ROP are to be considered during this public comment period. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 217.

General Information

Responsible Official- Section 1:	Richard Rolf, General Manager 248-333-8654
Responsible Official- Section 2:	Randy Beck, Vice President 713-265-1672
AQD Contact:	Robert Joseph, Environmental Engineer 586-506-9564
Date Public Comment Begins:	August 22, 2022
Deadline for Public Comment:	September 21, 2022

Regulatory Analysis

The AQD has determined that the ROP must be reopened in order to remove obsolete requirements related to 40 CFR Part 60, Subpart WWW and 40 CFR Part 63, Subpart AAAA, and to add new applicable requirements associated with 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA.

This ROP previously contained requirements to ensure compliance with 40 CFR Part 60, Subpart WWW for Municipal Solid Waste Landfills with NMOC emissions greater than 50 megagrams per year combined with 40 CFR Part 63, Subpart AAAA requirements. On June 21, 2021, the facility became subject to the "Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014" as specified in 40 CFR Part 62, Subpart OOO. The landfill is considered a legacy landfill under the Federal Plan. For 40 CFR Part 63, Subpart AAAA, new applicable provisions per 40 CFR 63.1930(b) apply after September 28, 2021. The permittee has opted to comply with the provisions for the operational standards in 40 CFR 63.1958 (as well as the provisions in 40 CFR 63.1960 and 40 CFR 63.1961) for a Municipal Solid Waste Landfill with a gas collection and control system used to comply with the provisions of the Federal Plan.

Description of Changes to the ROP

Section 1 Changes:

The Emission Unit Summary Table was updated to incorporate the Flexible Group ID's related to 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA. The special conditions for emission units EU-LANDFILL, EU-ACTIVECOLLECTION, and EU-FLARE1 were removed and replaced with the following respective flexible groups: FG-LANDFILL-OOO, FG-LANDFILL-AAAA,

FG-ACTIVECOLLECTION-OOO, FG-ACTIVECOLLECTION-AAAA, FG-FLARE1-OOO, FG-FLARE1-AAAA.

The Flexible Group Summary table and special conditions were updated to incorporate the aforementioned flexible groups.

EU-ASBESTOS underlying applicable requirements (UARS) were updated from 40 CFR Part 60, Subpart WWW to the functionally identical requirements from 40 CFR Part 62, Subpart OOO in Special Conditions IV.1 and VI.3.

Appendix 7-1 was updated to remove outdated 40 CFR Part 60, Subpart WWW and 40 CFR Part 63, Subpart AAAA requirements and to incorporate the appropriate emission calculations for 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA.

Section 2 Changes:

The Emission Unit Summary Table was updated to incorporate the Flexible Group ID's related to 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA for EU-TREATMENTSYSYSTEM. The emission unit EU-TREATMENTSYSYSTEM was removed and replaced with FG-TREATMENTSYSYSTEM-OOO and FG-TREATMENTSYSYSTEM-AAAA.

The Flexible Group Summary table was updated to incorporate FG-TREATMENTSYSYSTEM-OOO and FG-TREATMENTSYSYSTEM-AAAA, and special conditions for FG-TREATMENTSYSYSTEM-OOO and FG-TREATMENTSYSYSTEM-AAAA were added.

Action Taken by the Department

The AQD proposes to approve this change to ROP No. MI-ROP-N6008-2020a, which was reopened by the AQD to incorporate new applicable requirements associated with 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA. A final decision on the approval of the revised ROP will not be made until the public and any affected states have had an opportunity to comment on the proposed changes to the ROP and the USEPA has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is Joyce Zhu, Warren District Supervisor. The final determination for approval of the revised ROP will be based on a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by the public, any affected states or the USEPA.

State Registration Number
N6008

RENEWABLE OPERATING PERMIT
SEPTEMBER 23, 2022 - STAFF REPORT
ADDENDUM FOR RULE 217(2) REOPENING

ROP Number
MI-ROP-N6008-2020a

Purpose

A Staff Report dated August 22, 2022, was developed to set forth the applicable requirements and factual basis for the draft reopening to Renewable Operating Permit's (ROP) terms and conditions as required by Rule 214(3) of the administrative rules promulgated under Act 451. The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP reopening during the 30-day public and affected state(s) comment period as described in Rule 214(3) and (4). In addition, this addendum describes any changes to the proposed ROP reopening resulting from these pertinent comments.

General Information

Responsible Official- Section 1:	Richard Rolf, General Manager 248-333-8654
Responsible Official- Section 2:	Randy Beck, Vice President 713-265-1672
AQD Contact:	Robert Joseph, Environmental Engineer 586-506-9564

Summary of Pertinent Comments

No pertinent comments were received during the 30-day public comment period.

Changes to the August 22, 2022 Draft ROP Reopening

No changes were made to the draft ROP reopening.