

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
**ACTIVITY REPORT: On-site Inspection**

N600858950

<b>FACILITY:</b> Oakland Heights Development, Inc.	<b>SRN / ID:</b> N6008
<b>LOCATION:</b> 2350 Brown Road, AUBURN HILLS	<b>DISTRICT:</b> Warren
<b>CITY:</b> AUBURN HILLS	<b>COUNTY:</b> OAKLAND
<b>CONTACT:</b> Robb Moore , Environmental Manager	<b>ACTIVITY DATE:</b> 07/30/2021
<b>STAFF:</b> Robert Joseph	<b>COMPLIANCE STATUS:</b> Compliance
	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Scheduled inspection of the landfill facility owned by Republic Services and the gas pipeline managed by WMRE.	
<b>RESOLVED COMPLAINTS:</b>	

On July 1 and July 30, 2021, I, Michigan Department Environment, Great Lakes, and Energy-Air Quality Division staff Robert Joseph, conducted a scheduled inspection of Oakland Heights Development, Inc. (SRN: N6008) located at 2350 Brown Road, Auburn Hills, Michigan 48326. The purpose of the inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; the Michigan Department Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules, conditions of the facility's Renewable Operating Permit (ROP) MI-ROP-N6008-2020, and Consent Order 9-2017.

### **General Facility Information**

The ROP is a two sectioned ROP with section 1 belonging to Oakland Heights Development, Inc. (OHD) a Republic Services landfill entity, and section 2 belonging to Waste Management Renewable Energy (WMRE), the landfill gas treatment entity for the facility.

The facility's ROP was renewed last year and its most recent PTI, #117-16A, was rolled into the facility's ROP after being issued to the facility in March 2019 to address the landfill gas H<sub>2</sub>S material limit. The facility's old PTI, #117-16 contained a material limit concentration of 400 part per million (ppm) which the facility exceeded during its weekly gas sampling in 2018. This exceedance was subject to a permit violation, however, given that there is no regulation limiting the concentration of the gas emitted by the flare, the facility submitted an application for a permit modification to have this limit removed.

Consent Order 9-2017 was a result of a violation notice issued to the facility for having an unpermitted flare. The facility originally had two flares permitted in the facility's previous ROP, MI-ROP-N6008-2015. The facility applied for PTI #11-15 in 2015 requesting to replace the two flares with a single 3,000 ft<sup>3</sup>/min capacity flare. Upon inspection in 2016, the AQD observed this flare to have a capacity of 5,100 ft<sup>3</sup>/min, which resulted in a violation notice being issued. This prompted the initial PTI, #117-16, to be issued as previously mentioned and thus the creation of the Consent Order.

### **Section 1 - Oakland Heights Development, Inc.**

#### **Facility Introduction**

On July 1, 2021, I arrived at the facility at approximately 10:30 a.m. and met with Robb Moore, Environmental Manger, of the facility. I introduced myself and presented my identification and credentials and stated the purpose of my visit. I asked Robb to provide me some general information regarding the landfill. Robb indicated that Oakland Heights Development Inc. is a subsidiary of Republic Services. The facility's hours of

operation are 6:30 a.m.-4:30 p.m. Monday-Friday. There are 9 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 that accepts municipal solid waste (MSW). The facility accepts approximately 1,500 to 2,500 tons of waste per day, which consists of approximately 85% MSW and 15% construction and debris. The facility accepts waste primarily from Oakland and Macomb counties in southeast Michigan. The facility no longer accepts asbestos waste and has not done so since 1998.

The site has approximately 119 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 of waste placement are still in-use with 50 acres under final cover in Phase I. The remaining cells, A-F, have interim cover with primary waste placement occurring in Cell E. The facility no longer has land for horizontal expansion. The remaining space is vertically with approximately 800,000 yd<sup>3</sup> of air space available for waste placement. The facility is located in an urbanized area just north of the former site 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.

Oakland Heights Development, Inc. is subject to the National Standards of Performance for Municipal Solid Waste Landfills, 40 CFR Part 60 Subpart WWW, and the National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills, 40 CFR Part 63 Subpart AAAA. The provisions of this subpart apply to each municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991. Part 63 contains national emission standards for hazardous air pollutants (NESHAP) which regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act.

### **Facility Tour**

Robb then provided me a tour of the facility as he discussed some the facility's features.

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 soil. 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 are the most recently 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.

Daily cover on new waste is typically 6 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 119 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 employ 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 local 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 (two operate at a time) typically around 3,500 ft<sup>3</sup>/min. The collected LFG is then routed to the facility's 5,100 ft<sup>3</sup>/min open flare (model: ZEF 1645) or sent to both the flare and the nearby General Motors plant via the gas pipeline owned and operated by WMRE. The flow to the flare at the time of inspection was 1,980 ft<sup>3</sup>/min.

The facility installed the third blower (used as a back-up) in August 2019 as part of their attempt to resolve a violation notice issued by the AQD in February 2019 resulting from the gas collection control system (GCCS) being shut down for nearly three days from January 28-30, 2019. The facility reported the shutdown was due to the pilot of the flare freezing during low atmospheric temperatures. The facility was unable to obtain a manlift when the pilot froze for two days and required an additional day to defrost the pilot and bring it up to operational standards.

After the violation notice was issued, the facility indicated the manual actuator valve on the flare leaked hydraulic fluid, thus causing the flare components to freeze. The facility replaced the valve with a pneumatic valve on May 20, 2019. In addition, the facility installed an electrical signal on the flare to confirm that power is being supplied to the heat tracer wire, and the third blower was installed to ensure redundancy. Lastly, the facility relocated the pilot orifice of the flare from the top portion of the flare to near ground level. This will allow the facility to defrost the flare at ground level rather than waiting for a manlift to be delivered to the facility should it require service again in low atmospheric temperatures.

The facility has not had any malfunctions occur with the gas collection and control system since these infrastructure upgrades due to the violation notice issued.

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.

## **MI-ROP-N6008-2020**

### ***EULANDFILL***

#### **I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period/ Operating Scenario</b>	<b>Equipment</b>
1. Methane (CH <sub>4</sub> ) concentration	500 ppm above background level	Calendar quarter	Surface of Landfill

All locations which are scanned for methane must not show an exceedance three (3) times during each quarterly scan. Exceedances are re-monitored within 10 days of detecting the exceedance, and again 1 month from the initial exceedance. For any location where the monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance.

There were no locations that exceeded the above emission limit during the 3rd and 4th quarter surface scans of 2019 occurring on August 19th and December 4th. There were no surface scan exceedances during the 1<sup>st</sup>, 2<sup>nd</sup>, and 4<sup>th</sup> quarter surface scans in 2020 occurring on February 20th, May 1st, and November 3rd. There were seven exceedances during the 3<sup>rd</sup> quarter scan of 2020 occurring on August 31. All exceedances were successfully remediated with additional cover materials placed over the affected areas.

There were no surface scan exceedances during the 1st quarter scan in 2021 performed on March 19, and two exceedances occurred during the 2nd quarter scan on May 19. Both exceedances were successfully remediated with additional cover materials placed over the affected areas. All scan monitoring information is reported by the facility in semi-annual reports submitted by the facility on March 15 (for scans occurring from July through December) and September 15 (for scans occurring from January through June).

#### IV. DESIGN/EQUIPMENT PARAMETERS

The facility currently has a network of devices such as vertical and horizontal wells, piping, a three-blower system to capture the landfill gas, and a flare as a control device. The flare is an open flare and is designed in accordance with 40 CFR part 60. The facility's treatment and sulfur removal systems process the gas before it is routed to the General Motors facility for subsequent use.

#### V. TESTING/SAMPLING

The facility uses a TVA 2020 analyzer to perform the monitoring surface scan tests in a transverse pattern. The facility provided a map which shows the landfill locations tested. The facility does not test the active areas citing safety reasons per the NSPS. All exceedances are marked and recorded for retest and recording.

#### VI. MONITORING/RECORDKEEPING

The facility monitors the cover integrity of the gas well collection system on a monthly basis and intermittently each week.

The facility maintains on-site records of the design capacity for the current amount of solid waste in place and the year-by-year waste acceptance rate. The current waste in-place is approximately 11,822,256 tons. The facility accepted 172,622 tons in 2019 and 181,958

tons in 2020. The highest waste acceptance total was 913,000 tons in the year 2000 and smallest acceptance total was 141,356 tons occurring in 2016.

The facility has not converted design capacity from volume to mass or mass to volume. The facility' waste design capacity is 18,904,931 tons.

The facility does not add any liquids to the waste mass as described in the ROP. Leachate forms from the waste mass and is captured within a collection pipe that is constructed outside the waste area.

## ***EUALGCS***

### **III. PROCESS/OPERATIONAL RESTRICTIONS**

In the event the collection or control system is inoperable, the gas mover system shuts down and all valves in the collection and control system contributing to venting of the gas to the atmosphere are closed within one hour per the Startup, Shutdown, and Malfunction plan. There have not been any such events that were not consistent with the plan.

The facility operates the gas collection system for all waste that has been in-place for five years. There are approximately 119 gas collection wells onsite. Facility equipment includes blowers, vertical wells, horizontal wells, and risers.

There have not been any documented events of a fire and the wells are maintained to operate at negative pressure. The facility expanded/maintained their gas well collection system in 2019 with the addition of 11 replacement vertical wells with piping and installed 1,310 feet of compressed airlines and force-main lines. Five gas collection wells were also added. The facility replaced 13 vertical wells in 2020 with associated piping. The facility has requested an alternative operating scenario (AOS) or higher operating values (HOV) for 30 wells since the 3rd quarter of 2019 due to changes in pressure, oxygen, and/or temperature, and for decommissioning as follows:

2019 - 8 due to oxygen, 3 due to temperature, 4 due to pressure, and 1 decommission request.

2020: 3 due to oxygen, 6 due to temperature, 1 due to pressure, and 2 decommission request.

2021: 2 due to temperature.

All requests are either granted an HOV for a defined time period based on wellfield conditions or an AOS for a defined time period while the facility investigates and implements measures to bring the well(s) back into compliance.

### **IV. DESIGN/EQUIPMENT PARAMETERS**

The facility monitors the well collection field, and if necessary, adjustments are made to handle the gas flow rate by either adjusting the parameters of a specific well or installing additional wells or risers.

All collected gases are sent either to the facility's flare for combustion or sent to the General Motors plant for combustion in their boilers/engines.

The facility has installed a series of horizontal, vertical, and horizontal wells capable of controlling and extracting gas per landfill regulations (Subpart WWW). There are approximately 119 gas collection wells onsite. Each well is equipped with a sample port and thermometer to measure the subsurface temperature.

The facility expanded their well field in 2019 and 2020, and no longer accepts asbestos waste and has not done so since 1998. There is approximately 60 to 70 feet of cover material over the asbestos waste in cell A.

The facility's wells are constructed of PVC (polyvinyl chloride) and HDPE (high density polyethylene). The wells are perforated to allow for gas entry. Horizontal wells are placed in areas of shallow waste to allow for greater gas collection. Vertical wells are placed in areas where the waste is deep and in areas where the well can be adjusted vertically to allow for gas collection at varying heights.

The collected LFG is sent either to the open flare or routed off-site to the General Motors plant. Gas flow rates are approximately 3,500 ft<sup>3</sup>/min and the gas mover equipment was increased from two to three blowers.

## VI. MONITORING/RECORDKEEPING

The facility measures gauge pressure in the gas collection header at each individual well bi-weekly to monthly. The facility does not have technicians on site, so a third-party contractor (Monitoring Control) monitors the gas wells. All wells which exhibit positive pressure are resolved within 15-days through fine tuning, otherwise, the facility must submit an AOS to the AQD for approval or denial.

The facility also monitors each well monthly for temperature and oxygen exceedances. All wells which exhibit exceedances must either be corrected within 15-days, otherwise, the facility must submit an HOV or AOS to the AQD for approval or denial. There are currently some wells pending compliance given their approval date. The facility maintains on file the manufacture control equipment information.

The facility maintains an up-to-date plot showing each existing and planned collector in the system. The facility also maintains dates of the newly installed collectors. Records were reviewed for recent new collectors installed during the 3<sup>rd</sup> and 4<sup>th</sup> quarters of 2019 and all of 2020. None have been installed thus far in 2021.

The facility maintains a record of all exceedances within the gas control system. These exceedances were corrected either through well expansion or an approved HOV/AOS by the AQD.

The facility maintains a diagram of all vertical wells, horizontal wells and other gas extraction devices such as risers. The facility bases the density of the wells on waste acceptance rates and expected gas generation. All asbestos was placed and marked in locations within the landfill and documented. Dates of the landfill gas well installations are maintained within the facility's database, and the age of the waste in which the landfill gas wells were installed is also documented.

### ***EUFLARE1***

The facility's flare was previously permitted in PTI 117-16A and was rolled into the facility's ROP upon renewal. As previously indicated, the facility received a violation notice in 2016 for having an unpermitted 5,100 ft<sup>3</sup>/min flare on site. This led to Consent Order (9-2017) and PTI 117-16 to be issued in 2016. The facility applied for a permit modification in 2018 due to their exceedance of the H<sub>2</sub>S material limit which led to PTI 117-16A to be issued in 2019.

### I. EMISSION LIMIT(S)

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>
1. Visible Emissions	0 percent Opacity, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours	At all times, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours
2. SO <sub>2</sub>	89.4 tons per year	12-month rolling time period as determined at the end of each calendar month

There were no visible emissions being emitted from the flare at the time of inspection. According to facility SO<sub>2</sub> records, 66.10 tons was the highest rolling total in 2020, and 42.21 tons is the current 12-month rolling total through May 2021.

### II. MATERIAL LIMIT(S)

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>
1. Net heating value of landfill gas	≥ 200 Btu/scf for non-assisted flares	At all times
2. Landfill Gas	2,680 MMscf per year	12-month rolling time period as determined at the end of each calendar month

According to facility landfill gas flow records, 2048.58 MMcf was the highest rolling total in 2020, and 1682.61 MMcf is the current 12-month rolling total through May 2021. The lowest net heating value since 2020 is 501.97 BTU/cf.

### III. PROCESS/OPERATIONAL RESTRICTION(S)

The facility currently is operating the flare in accordance with all applicable federal and state rules. A thermocouple (similar to a pilot on a stove) is installed on the flare to indicate the presence of a flame. This thermocouple extends into the flame zone of the flare. It is equipped with test ports, a flow meter, and pressure control valve. The facility has maintained the proper net heating landfill gas value of 200 Btu/ft<sup>3</sup> and records indicate it is currently being calibrated by Thermal Instruments.

In their effort to resolve the 2019 violation notice issued to the facility for the flare being shut down in late January for nearly three days, the facility installed a pneumatic valve on the flare to prevent cracking of the seals. The previous valve was an actuator valve, which according to the facility, leaked hydraulic fluid onto the thermocouple thus causing it freeze. In addition, the facility installed an electric signal to the heat trace wire which indicates that power is being supplied to it, and the orifice plate was relocated to near ground level so a manlift will not be required to access it.

There were no visible emissions at the flare at the time of inspection. The flare performance test on February 6, 2018, provided an exit velocity of 44.1 ft/s, an inlet gas flow rate of 3,705 ft<sup>3</sup>/m, and a net heating value of 416.8 Btu/ft<sup>3</sup>. The exit velocity is less than the maximum velocity,  $V_{max}$  82.1 ft/s, as required per Special Condition III.6b since it is a non-assisted flare. The current flare is rated for a maximum flare velocity of 82.1 ft/s. According to facility records and reports, the flare has been shut down within one hour when the collection system is inoperable.

#### IV. DESIGN/EQUIPMENT PARAMETER(S)

The flare is a John Zink, ZEF-1645 model, rated at 5,100 ft<sup>3</sup>/min.

#### V. TESTING/SAMPLING

Test performance results indicate that the average methane concentration (%) and net heating value of the combusted landfill gas to be between 50-54% and 501-538 Btu/ft<sup>3</sup>, respectively. Visible emissions of the flare were determined to be 0%. In addition, the facility has been performing monthly and semi-annual H<sub>2</sub>S sampling.

If the H<sub>2</sub>S (TRS equivalent) concentration of the landfill gas sample exceeds 400 ppmv, then the facility must perform H<sub>2</sub>S (TRS equivalent) sampling on a weekly basis and review all operating and maintenance activities for the landfill gas collection and treatment system along with keeping records of corrective actions taken. Once the H<sub>2</sub>S (TRS equivalent) concentration of the landfill gas from the weekly samples are maintained below 400 ppmv, for one month after an exceedance, the facility may resume monthly monitoring and recordkeeping.

#### VI. MONITORING/RECORDKEEPING

The facility monitors and records on a monthly basis the average Btu content of the landfill gas burned in EUFLARE. The content has ranged between 501 and 538 Btu/cf the last two years.

The facility records the monthly and 12-month rolling heat input calculations for EUFLARE1. The monthly heat input has ranged between 60,000 MMBtu to 90,000 MMBtu the last two years, and the 12-month rolling heat input total is currently at 865,027 MMBtu.

The thermocouple is currently being calibrated. The flare operates as a non-assist air device and performance tests indicated the exit velocity to be 44.1 ft/s. The maximum permitted velocity,  $V_{max}$ , was determined to be 44.1 ft/s. The facility has documented when the flare flame is absent per the semi-annual reports.

The landfill gas usage and the flare's operating hours are also monitored and recorded by the facility. The landfill gas usage has ranged between 115-1183 MMcf since 2020, and the flare has operated between 714-744 hours the last 2 years.

The semi-annual H<sub>2</sub>S gas lab sampling has occurred on the following dates:

08/21/19: 443 ppm

02/19/20 and 08/12/20: 520 ppm and 220 ppm

03/09/21: 450 ppm

In addition, weekly/monthly sampling results indicate an H<sub>2</sub>S concentration between 300 ppm and 495 ppm the last two years. The 12-month rolling SO<sub>2</sub> emission rate from EUFLARE1 has ranged between 42.21 tons to 66.10 tons the last two years.

## VII. REPORTING

The facility has submitted the semi-annual reports for the gas collection system per special condition VII.1 and in the Start-up, Shutdown, and Malfunction reports. The facility is required to notify the AQD each time the H<sub>2</sub>S gas test frequency changes.

### ***EUASBESTOS***

The facility does not accept asbestos waste. It is listed in the permit because the facility had previously accepted it over 20 years ago. The asbestos is contained in cell A which had waste placement between 1996-2010. The asbestos is currently under 60 feet of final cover.

### ***FGCOLDCLEANERS***

The coldcleaner utilized by the facility is located in the landfill garage and is used for maintenance purposes. The facility provided the SDS of the solvent, Safety Kleen Premium Solvent.

## II. MATERIAL LIMITS

The facility does not use any of cleaning solvents listed in this condition that are more than 5% by weight. It contains 100% distillates (petroleum), hydrotreated light.

## III. PROCESS/OPERATIONAL RESTRICTION(S)

There were no parts dripping with cold cleaner during the time of inspection, and the facility indicated that routine maintenance is performed on each cold cleaner as recommended.

## IV. DESIGN/EQUIPMENT PARAMETERS

The cold cleaner air/vapor interface is less than 10 ft<sup>2</sup> (3 ft x 2 ft x 1.4 ft) and its emissions are released into the general plant environment. The device was equipped with a device for draining parts. The cold cleaner was covered during the time of inspection. The Reid vapor pressure of the chemical is less than 0.3 lb/in<sup>2</sup> and no solvents were being agitated or heated during the time of inspection.

## VI. MONITORING/RECORDKEEPING

There was no documentation indicating the facility has heated the solvent during its use. Solvent in use is referenced as GHS82658 with a Reid vapor pressure at 20 degrees Celsius (68 Fahrenheit) that varies between 0.02 and 0.09 lb/in<sup>2</sup>. The facility has posted and provided a copy of the written operating procedures for each cold cleaner used.

## **SECTION 2 – WMRE Treatment System**

### **General Information**

The landfill gas pipeline is owned, operated, and maintained by WMRE and is used to transport the gas to the nearby General Motors plant. The pipeline is used to treat the landfill gas prior to subsequent use or sale off-site by a third party. 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 installed the 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 being generated at OHD. During the installation of the treatment system, the General Motors gas pipeline was not operating, and all the landfill gas was being routed to the flare. The pipeline was not in operation at the time of inspection.

### **Facility Introduction**

On July 30, 2021, I arrived at the facility at approximately 1 p.m. and met with Jason Mabe, Facility Manager, of the Waste Management Renewable Energy (WMRE) gas renewable energy pipeline. The facility is located off-site at 600 Silver Bell Road in Orion Township. The site employs two staff members who oversee the gas pipeline. The pipeline operates at various hours of the day and can be controlled by both entities.

### ***EUTREATMENTSYS***

WMRE's process has no emission sources or atmospheric vents. The system consists of three vessels eight feet in diameter and eight feet tall (6,000 tons each by mass). These vessels contain activated granular carbon and represent what WMRE refers to as the final "polishing" treatment of the gas. The vessels are downstream of the existing equipment and are used to compress, dewater, and filter the landfill gas. One vessel operates at a time with the remaining two serving as backup when not in operation. The activated carbon usage lasts for approximately seven to eight months.

The temperature of the landfill gas is approximately 110 F during operation and facility conducts their own monthly sampling to measure the sulfur concentration. The facility indicated that a sulfur concentration of under 240 ppm is desired given the landfill flare's sulfur limit is 400 ppm. The facility employs a third-party contractor to vacuum out the vessels once each year to remove the used activated carbon which resides within the mesh pad of the vessel.

Based on inspection review, it appears the facility is operating and maintaining the treatment system at all times when the landfill gas is routed to the General Motors facility. Based on records review, the pipeline doesn't operate when maintenance or malfunction

events occur at Oakland Heights Development or when the General Motors plant is not accepting landfill gas. There have not been any control or treatment system exceedances regarding its operational standards per the Preventative Maintenance Plan.

**Conclusion**

Based on the EGLE-AQD inspection and records review, it appears that Oakland Heights Development and WMRE are in compliance with the requirements of the Federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; and the Michigan Department Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules, conditions of the facility's Renewable Operating Permit (ROP) MI-ROP-N6008-2020 and Consent Order 9-2017.

NAME Robert Joseph      DATE 08-16-21      SUPERVISOR Joyce