

# ARBOR HILLS LANDFILL APRIL 16, 2019 TOWN HALL

## Response to Community Questions

The questions and answers contained in this document represent the questions that were asked during the Arbor Hills Landfill (the landfill) Town Hall, hosted by Senator Polehanki, Representative Koleszar, and Supervisor Nix of Northville Township. Mr. Scott Miller, Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) and Mr. Larry Bean, EGLE Materials Management Division (MMD), answered community questions during the town hall. Time constraints did not allow all questions to be answered.

In this document, you will find questions answered by category or topic. These have been grouped together for your convenience. Additionally, many questions covered the same concept and were paraphrased into one question to make finding answers to your questions easier. The number of questions asked per category or topic is included in parenthesis after the topic name.

### Contents

<b>EGLE’s Role (7 Questions)</b> .....	<b>1</b>
<b>Air Monitoring/Testing (23 questions)</b> .....	<b>2</b>
<b>Waste Handling (10 Questions)</b> .....	<b>3</b>
<b>Landfill Construction (6 Questions)</b> .....	<b>4</b>
<b>Landfill Expansion (10 Questions)</b> .....	<b>4</b>
<b>Permitted Emissions (9 Questions)</b> .....	<b>5</b>
<b>Asbestos (5 Questions)</b> .....	<b>6</b>
<b>Odors (9 Questions)</b> .....	<b>6</b>
<b>Leachate (6 Questions)</b> .....	<b>7</b>
<b>Elevated Temperature Event (12 Questions)</b> .....	<b>8</b>
<b>Compliance/Escalated Enforcement (20 Questions)</b> .....	<b>8</b>
<b>Health Effects (11 Questions)</b> .....	<b>9</b>
<b>Soil and Water Concerns (5 Questions)</b> .....	<b>10</b>
<b>Community Involvement (1 Question)</b> .....	<b>11</b>

### EGLE’s Role (7 Questions)

- 1. Can EGLE have someone permanently stationed at the landfill to make sure they operate in compliance?**

EGLE does not have the resources to permanently station staff at the landfill.

**2. Are inspections announced or unannounced? How often do they occur?**

Inspections are both announced and unannounced and are occurring about once a week. Some meetings and other monitoring activities need to be coordinated, so those inspections are announced in advance to ensure all appropriate staff are in attendance.

**3. The landfill currently pays fees (outside of enforcement actions). How much are they annually and who do they go to?***With respect to MMD:*

The landfill paid \$598,875.38 in surcharge fees in FY18. Surcharge fees are deposited in an account that is used for regulated oversight, inspection, and monitoring by EGLE. A description of how those funds are used can be found in Section 11550(4) of [Part 115](#), Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and amended.

The landfill reported receiving 2,037,815 tons of waste in FY18, which is more than 3,000 tons of waste per day. As a result, the fee for a renewal operating license application under [Part 115](#) would be \$30,0000. Operating licenses are required to be renewed every five years with submittal of a complete application.

EGLE MMD currently holds \$26,453,182.08 in financial assurance for Arbor Hills West Landfill, which includes \$1,952,000 in corrective action financial assurance. The financial assurance is provided via surety bonds totaling \$24,194,087.08 and a Perpetual Care Fund account, funded with a perpetual care fund surety bond of \$2,259,095.00.

*With respect to AQD:*

The landfill is a major source of air pollutants. Major sources are required to pay fees based on their facility type as well as a dollar per ton of pollutant emitted. In 2019, the landfill paid \$30,876.15 (which includes 501 billable tons of emissions; substantial increase in estimated PM10 and SO2 emissions compared to previous years). In 2018 the landfill paid \$22,231.80 (332 billable tons of emissions) and in 2017, the landfill paid \$18,549.00.

**4. The landfill fees are relatively low. Who can increase those fees?**

[Part 115](#) and [55](#) set forth the fees and as such would need to be changed through the legislative process.

**Air Monitoring/Testing (23 questions)****5. What air monitors are in the area of Arbor Hills Landfill?**

The closest monitoring site to the landfill is at Schoolcraft College which is about 7 miles directly east. To the south, is the Ypsilanti air monitoring station which is located at the Washtenaw Co Health Department about 15 miles away. A third air monitoring station is located at the Eliza Howell Park which is 17 miles to the east. Overall, there are 12 separate air monitoring stations throughout Wayne Co. which closely borders the landfill.

**6. Is air monitoring and testing information available to the public, if so, where?**

The AQD posts real-time ambient (outdoor) air data to the [DEQMIAIR.ORG](http://DEQMIAIR.ORG) website. Other data is summarized and published in an annual report each year. The public can also [contact](#) the Air Monitoring Unit of the AQD to request information. Air sampling information can be found on the Arbor Hills Landfill [website](#) under "Ambient Air Monitoring/Sampling".

**7. We are concerned about air quality for children in the area. Can we get more air monitors around the Landfill, specifically at Ridgewood Elementary?**

The AQD's air monitoring network is designed to monitor for specific pollutants to ensure areas of the state are meeting the National Ambient Air Quality Standards (NAAQS). The air monitors used throughout the state measure specific compounds. Not all compounds of interest can be accurately measured in the ambient air. In order to evaluate this type of request, the compounds of interest would need to be identified to determine whether air

monitoring is feasible. It should be noted that air monitors are not a compliance tool and will measure emissions from all sources, depending on the wind direction. If the monitor measures an elevated value, it would most likely not translate to a violation for any specific source. The accurate way to assess industrial compliance is through inspections, records review, and when applicable – stack testing.

**8. Can air testing be done now and into the future at Ridge Wood Elementary?**

The AQD’s Jackson District collected air samples near the landfill in 2016 and 2017. Details of this sampling can be found on the [Arbor Hills Landfill website](#), under “Ambient Air Monitoring/Sampling”. The data did not identify compounds of concern. As stated above, the compounds of concern would need to be known before any further monitoring could be considered.

**9. As part of the escalated enforcement, can we require Arbor Hills Landfill to put air monitors in?**

The escalated enforcement action will include a compliance program and payment of a monetary penalty. The AQD has requested the landfill install air monitors as part of the compliance program.

**10. The stack test failed 7 months ago. Is there plans to retest, and if so, why is it taking so long?**

On February 1, 2019, MDEQ issued a violation notice (VN) to Arbor Hills Energy in part, for exceeding their permitted sulfur dioxide (SO2) emission limits during a stack test conducted in October 2018. SO2 is produced when landfill gas, containing sulfur, is used to run the gas-to-energy turbines. Arbor Hills Energy has an existing air permit with specific SO2 emission limits. The sulfur content in the landfill gas increased due to the quantity and types of wastes being processed. When landfill gas is burned by the turbines, it forms SO2. As sulfur content in the gas increases, the SO2 emissions increase.

**Waste Handling (10 Questions)**

**11. What is the capacity of the landfill?**

According to the “[Fiscal Year 18 Report of Solid Waste Landfilled in Michigan](#)”, the remaining capacity of the landfill is 17,459,200 cubic yards with a projected 9 years of remaining capacity.

**12. Is it true the landfill receives trash from Canada?**

In FY18, the landfill did not accept waste from Canada (see below), but in past years has accepted up to 1,277,330 cubic yards of waste from Canada (in FY00).

APPENDIX B LANDFILL DISPOSAL BY WASTE ORIGIN AND TYPE – FY 2018 (All Values are in Cubic Yards)			
ADVANCED DISPOSAL SERVICES ARBOR HILLS LANDFILL, INC. (WASHTENAW COUNTY)			
ORIGIN	MCW	IW	C&D
GENESEE	26	112	570
INGHAM	203	142	1,292
LIVINGSTON	43,361	6,047	39,239
MACOMB	247,245	87,183	46,998
MONROE	720	82	30
OAKLAND	1,225,314	102,787	211,622
OHIO	5,190	75,730	24
WASHTENAW	389,664	122,889	152,526
WAYNE	1,193,598	441,987	596,118
<b>TOTALS</b>	<b>3,105,321</b>	<b>836,959</b>	<b>1,048,419</b>

MCW = Municipal and Commercial Waste; IW = Industrial Waste; C&D – Construction and Demolition Waste

**13. What type of waste is the landfill allowed to collect?**

The landfill accepts non-hazardous solid waste. The waste includes municipal solid waste, industrial waste, and construction and demolition waste.

**14. Is there a limit to how many garbage trucks allowed to dump waste at the landfill per day? If I observe these trucks losing trash or potentially asbestos containing materials on the road, who should I call?**

The state license does not directly limit the number of trucks allowed to dump per day. However, if the number of trucks causes a violation of the solid waste regulations in other ways then the facility might have to reduce the number of trucks or change operational procedures to comply with [Part 115](#). If residents observe waste trucks losing waste on the road, they should notify the waste hauling company, Advanced Disposal Services, and EGLE MMD staff Larry Bean at 517-416-4375, or Aubrey Proctor at 517-740-5500.

**15. What violation notice addresses the height of the landfill? I thought the lawsuit a couple years ago addressed this issue. (2 Questions)**

The final height of the landfill was determined by the 2009 construction permit and complies with [Part 115](#). At closure the landfill will be about 350 feet above the intersection of Six Mile Road and Napier Road. That is also about 400 feet above the level of the railroad track on the south side of the landfill. There has not been a violation of the landfill height and the final height has not been altered by a lawsuit.

**Landfill Construction (6 Questions)**

**16. Is the current landfill liner constructed to meet the capacity and longevity of this landfill? Are there any breaches in the liner?**

The current landfill liner is designed with multiple layers and a leak detection zone between the layers. The liner is designed to contain the waste during the active life of the landfill and for the long-term post closure period. There are no known breaches in the current liner. The closed east portion of the landfill did not have a liner, so groundwater was contaminated east of Napier Road from leachate migrating into the soil and groundwater. The facility installed a vertical clay slurry wall around the old portion of the landfill in 1991. The contaminated groundwater was pumped out for 16 years to clean up the groundwater east of the landfill. Gradient control wells and the slurry wall remain in place to prevent leakage of the old portion of the landfill into the groundwater or migrate downgradient.

**17. Are there setback requirements for residential areas when requesting a landfill be constructed or expanded?**

Pursuant to Rule 299.4412 of [Part 115](#) a new landfill cannot be constructed closer than 300 feet to a domicile. The landfill must be at least 2,000 feet from type I and type IIa larger public water supply wells. The landfill must also be at least 800 feet from type IIb and type III smaller public water supply wells and residential wells.

**Landfill Expansion (10 Questions)**

**18. I am worried about this landfill expanding and creating a worse problem. How can you allow the landfill to expand when they are still in violation?**

Before a landfill can expand, the expansion must be reviewed and approved through the county solid waste management plan. In this case, the Washtenaw County solid waste management plan. This is the local approval process of the expansion at the county level. After the proposed expansion is approved by the county and listed on the county solid waste management plan, the facility can apply for a construction permit from EGLE, MMD. MMD staff would evaluate the construction permit application to be sure it meets the requirements of [Part 115](#). Any operational violations at the existing facility would need to be resolved or addressed through a consent order with work plans and schedules to achieve compliance prior to issuing a construction permit for an expansion of the facility under [Part 115](#).

**19. Why was ADS's request for expansion (in 2015) withdrawn? Please share what you know.**

ADS coordinated with Washtenaw County regarding a request to approve an expansion by the county and list the expansion on the Washtenaw County Solid Waste Management Plan. EGLE staff were not part of the county planning discussions between ADS and Washtenaw County. EGLE does not have information regarding the reason for the landfill withdrawing the request.

**20. Why can't the state stop the landfill from growing? It already is too large, and can't we stop them.**

The current landfill will continue to grow within the limits of the 2009 construction permit for about nine more years. If the facility can address violations and there is no imminent danger to public health, EGLE will not have the authority to close the landfill. If the facility proposes to expand into the area north of Six Mile Road, the legal process of obtaining approval from Washtenaw County and applying for a construction permit from EGLE-MMD must be adhered to.

**Permitted Emissions (9 Questions)**

**21. What are the current levels of allowed pollutants and what are they (Arbor Hills Energy) requesting?**

The current annual emission limits for the Arbor Hills Energy plant (Arbor Hills Energy) are as follows:

Pollutant	Permit Limit (tons per year (tpy))
NO <sub>x</sub>	145.6 tpy
CO	239.1 tpy
SO <sub>2</sub>	46.71 tpy
VOC	38.7 tpy
HCl	27.1 tpy

In the latest PTI application No. 53-18A, Arbor Hills Energy requested to increase their emission limits related to an increase in the sulfur content of the landfill gas. This included a request to increase their total annual SO<sub>2</sub> emission limit in their permit from 46.71 tpy to 166.5 tpy, which is an increase of 250 percent. To modify the permit, all emissions from the units being modified must meet all State and Federal rules and regulations. Arbor Hills Energy did not request to increase annual emission limits for other pollutants. During the review of the application, EGLE was concerned about the company complying with permit emission limits in addition to SO<sub>2</sub>. Review of the application was complicated by the ongoing elevated temperature event and well conditions. These circumstances could change the characteristics of the landfill gas fuel and therefore change the levels of emissions. In order to meet the non-sulfur related permit emission limits, Arbor Hills Energy may be subject to additional restrictions or permit requirements which could impact their sulfur-related emission rates. Arbor Hills Energy does not have an application undergoing review at this time. Better information is required before AQD would issue a permit increasing emission limits for any pollutants.

**22. How are the SO<sub>2</sub> limits set?**

Emission limits are included in a permit for many different reasons; such as, the need to meet best available control technology (BACT); the need to meet the National Ambient Air Quality Standards (NAAQS) and the Prevention of Significant Deterioration (PSD) increments; and/or to limit emissions to opt-out of certain regulations including PSD, Title V, or federal National Emission Standards for Hazardous Air Pollutants (NESHAPs).

For the landfill, the projected SO<sub>2</sub> emissions are tied to the sulfur content of the landfill gas produced. As the most recent application was subject to PSD, the SO<sub>2</sub> limit included in a permit will need to meet BACT, the NAAQS, and the PSD increments.

**23. Can the requirement for more frequent stack testing be added since there is a history of non-compliance?**

Stack testing requirements are typically included in a permit as a means of compliance demonstration. Usually, the frequency of the testing is determined looking forward instead of back at the historical compliance history of a facility. During permit review, the frequency is set at a rate that the AQD is confident will sufficiently demonstrate compliance. This approach applies to all facilities, not just this one.

**24. Would the requested increase in emissions lead to an increase in fugitive emissions and therefore odors?**

There is no correlation between the requested increase in permitted limits and odors. Additionally, the landfill gas contains an amount of sulfur that changes based on the decomposition of the waste. In the latest permit application (No. 53-18A), a request to increase the turbine emission limits related to an increase in the sulfur content of the landfill gas. A change in permitted emission limits does not change the amount of sulfur being produced in the landfill gas. The permitted emission limits increase requested apply only to what is emitted from the turbines after the gas is burned.

The sulfur content in the fugitive emissions of landfill gas is also not impacted by the permit limits or emission controls.

**25. Can the permit be denied because the landfill has so many violations?**

EGLE is required by law to approve any new permit that will comply with all applicable state and federal air rules and regulations. Often, the way an existing source comes back into compliance is through the issuance of a new permit. The new permit may include changes in allowed emission limits, additional control equipment requirements, and/or changes in operational restrictions or requirements. Meeting these new restrictions and/or requirements can be what brings the facility back into compliance.

**Asbestos (5 Questions)**

**26. Is there a way to monitor continually for asbestos around the landfill?**

Air sampling methods for asbestos have been used around residential and commercial demolitions. The AQD does not have the equipment or expertise to conduct this type of sampling, but there are professional contractors who are experienced with this type of work.

**27. Is it possible people living close to the landfill were exposed to asbestos?**

Asbestos brought onsite must be buried and covered at the end of the day to comply with state and federal requirements. The landfill has committed to the asbestos is being covered at the end of each day. As such, the risk of asbestos fibers blowing offsite is very low.

**28. Is asbestos considered hazardous? If so, why is it allowed at a non-hazardous landfill?**

Asbestos is not a hazardous waste, so it is appropriate to dispose of asbestos in this type of landfill, provided the landfill complies with federal regulations in [40 CFR 61.154](#). The landfill must follow special waste handling procedures to ensure asbestos waste is disposed without releasing asbestos into the air.

**Odors (9 Questions)**

**29. What is the source of the odors?**

Our investigations have shown that odors are coming from several activities at the Landfill: 1) The “working face” or the location on where new waste is delivered; 2) Truck exhaust and waste in the trucks waiting to drop their loads; 3) Composting activities; 4) Leachate, or liquid that comes from the breakdown of the waste and; 5) Landfill gas odors.

**30. Can we expect the odors to ever go away or are these typical of a landfill?**

Offsite odors from a landfill operating in compliance with state and federal environmental requirements should be low, but there may still be some odors present.

**31. The odors are horrendous on the weekends and in the evenings. Has EGLE put anyone in charge of handling odor complaints outside of your normal business hours? The dump is taking advantage of your inability to send out investigators after hours.**

Odors can be reported at any time using the [EGLE Online Odor Complaint Form](#) or [Arbor Hills Landfill - Online Complaint Form](#) (automatically forwarded to EGLE). EGLE is aware of ongoing odors and conducts regular inspections (including after hours) of the facility and observations in the community.

**32. Are smelling these odors dangerous?**

One of the compounds typically released from landfills is called hydrogen sulfide (H<sub>2</sub>S). H<sub>2</sub>S has a very low odor threshold and is detected at levels much lower than the health standard used to evaluate exposure and any potential health concerns. This means that even though you smell it in the air, it does not necessary mean there are health concerns. Using instruments that quantify the air concentrations of H<sub>2</sub>S, EGLE has found that the levels of H<sub>2</sub>S are below the health protective limits.

**33. Is there more the landfill can do to reduce odors than what they have already done? If so, what?**

The company is required to address odors in violation of [Part 55](#) and [115](#) through a compliance program. EGLE staff are reviewing the company's proposal to reduce odors through a variety of operational and infrastructure changes.

**Leachate (6 Questions)**

**34. How much leachate is seeping, where is it seeping into and what contaminants does the leachate contain?**

Liquids in contact with waste or which is released from the waste is called "leachate". Leachate is collected on the liner and in pipes below the waste. The leachate is pumped out to be processed at a wastewater treatment plant. There have been leachate seeps through the interim cover on the side of the landfill. This leachate either infiltrates back into the landfill or is pumped and managed with the other landfill leachate so that it is not discharged with the storm water from the site. The leachate contains many organic and inorganic contaminants in such as oils, solvents, and metals. Some contaminants are naturally occurring but exist at higher concentrations in the leachate than found in the soil and groundwater. Typical contaminants found in landfill leachate are listed in Rule 299.4450 through 299.4454 of [Part 115](#).

**35. How is pumped leachate being disposed of?**

Some of the leachate is discharged to the Ypsilanti Community Utilities Authority Wastewater Treatment Plant (WWTP). Other leachate is trucked to the treatment facility in Detroit for pretreatment prior to discharge into the Great Lakes Water Authority WWTP. These wastewater treatment plants reduce or remove contaminants to acceptable levels and then discharge the treated water to an approved water body.

**36. Does the leachate pose a risk to groundwater and/or soil?**

The leachate could pose a risk to groundwater and soil if discharged to the groundwater. Therefore, groundwater is sampled and evaluated routinely to demonstrate the groundwater and soil the groundwater flows in is not contaminated.

## Elevated Temperature Event (12 Questions)

### 37. The elevated temperature event is concerning to me. What does this mean? Is there a chance it could get out of control?

There is an area of elevated temperature believed to be associated with a specific waste within the landfill that is degrading at a temperature that is unusually high compared to most other waste. The facility is required to take immediate and long-term action, as necessary, to ensure the event is under control. EGLE will be requiring the facility to submit data pertaining to the elevated temperature so that EGLE staff and other subject matter experts can review and validate that the appropriate measures are being taken to control the event.

### 38. How high are the temperatures and how widespread is the issue?

The landfill and EGLE staff are still in the process of determining how high temperatures may be as well as the extent of the elevated temperature area. The elevated temperatures in some of the gas collection wells is also under evaluation. The landfill is in the process of pumping leachate out of some of the gas collection wells and returning gas flow to those wells. Once the gas is flowing, a determination can be made based on the temperature of the gas flowing through the wells.

### 39. Is there danger of a fire or a steam explosion?

There is a danger of fire at any landfill. Every landfill, including this one, has a contingency plan for managing a fire or other emergency that could occur. Temperature and pressure levels are too low to pose a risk of a steam explosion. Any steam under pressure at the gas-to-energy plant could produce a steam explosion within the plant. The gas-to-energy plant has contingency plans to manage the steam and any explosive release of steam.

### 40. How does the elevated temperature affect the gas collection system?

The elevated temperature event has decreased the performance of gas collection in a portion of the landfill.

## Compliance/Escalated Enforcement (20 Questions)

### 41. Will a new owner assume the liabilities of ADS including the violations and enforcement actions related to Arbor Hills?

A new owner of the landfill will assume liability of any violations that need to be resolved and EGLE enforcement actions.

### 42. Can the landfill be awarded a new permit when they are out of compliance with current permits?

Yes, provided what the landfill is proposing under the new air permit will comply with all applicable state and federal air rules and regulations, EGLE is required by law to approve it. Often, the way an existing source comes back into compliance is through the issuance of a new permit. The new permit may include changes in allowed emission limits, additional control equipment requirements, and/or changes in operational restrictions or requirements. Meeting these new restrictions and/or requirements can be what brings the facility back into compliance.

### 43. Why are they allowed to continue operating w/violations the accountability seems lenient? Who has the power at what level to control the situation?

EGLE MMD and AQD staff are actively engaged in escalated enforcement with the landfill to resolve the ongoing violations and ensure corrective actions are taken to prevent future violations.

In addition, EGLE AQD and US EPA are actively engaged in escalated enforcement against Arbor Hills Energy and the landfill. Both state and federal air enforcement units are working diligently to resolve the ongoing violations and ensure corrective actions are taken to prevent future violations. These companies have failed to comply with state and federal air quality rules and regulations. Some violations alleged by AQD and US EPA are federally enforceable and are considered High Priority Violations (HPVs). Pursuant to the state's grant commitments with the EPA and the state's delegated enforcement authority of the federal Clean Air Act, the AQD and the EPA places

a priority on enforcing the regulations governing these violations and on formally resolving them promptly. However, in this case, given the ongoing noncompliance at the landfill, the settlement negotiations are prolonged to ensure that the escalated enforcement action effectively addresses and resolves the violations at the landfill and concerns of the nearby community.

**44. Can the EGLE Enforcement Team along with the Attorney General's Office look into prosecution of ADS and Arbor Hills Energy for their continual violation of the law (Clean Air Act)?**

Pursuant to Section 5528 of Part 55 of NREPA, [MCL 324.5528](#), the AQD is required to provide Arbor Hills Energy and ADS with an opportunity to formally resolve these violations through the entry of a legally enforceable administrative agreement, otherwise called a consent order. At the request of EGLE, the Attorney General Office may commence a civil action if the companies fail to promptly resolve the alleged violations in a timely manner and enter into a consent order with a sufficient compliance program and monetary penalty.

**45. Arbor Hills Energy has exceeded its allowable emissions since at least 2015 and ADS has been issued 9 violation this year alone. How big a penalty has ADS and/or Arbor Hills Energy paid over the last several years? How big a fine will they be required to pay now?**

The AQD is currently in escalated enforcement with ADS and Arbor Hills Energy. If an administrative settlement is reached, the AQD follows [Part 55](#) of NREPA and US [EPA's Clean Air Act Stationary Source Penalty Policy](#) when assessing administrative penalties. Consistent with the policy, the AQD considers any potential economic benefit gained from noncompliance and the gravity of actual or potential harm from the violations. The following factors are considered when calculating the gravity component: level of the exceedance, toxicity of the pollutant, length of time of the violation, importance to the regulatory program and the size of the violator as well as aggravating or mitigating factors such as the degree of cooperation, willfulness or negligence of the violator and the history of noncompliance. If an administrative settlement is not reached, the Department of Attorney General may proceed with a civil action and the court imposes civil fines pursuant to Section 5530 of Part 55 of NREPA, [MCL 324.5530](#). At this time, the AQD has not reached an agreement with either Arbor Hills Energy or ADS so final penalties or fines have not been calculated.

**46. Who has the authority to shut the dump down, even temporarily? And what will it take to make that happen? 9 violations in one year? Isn't that enough? (30 Questions)**

While EGLE has authority to shut down a facility if an imminent and substantial endangerment to public health, welfare, safety, or the environment exist, there is no such evidence at this time. It should also be noted that while waste disposal activities may cease, leachate and landfill gas will continue to be produced and require management.

**Health Effects (11 Questions)**

**47. What measures have you put in place to protect the health and safety of the community, in particular the students at Ridge Wood Elementary?**

Ongoing efforts to protect the health of the community include inspections, air sampling, records evaluation, and enforcement of air pollution control rules. In 2019, inspections by AQD personnel included several air samples taken from a hand-held device. Most areas of the landfill itself (on landfill property, at known or suspected emission sources) show H<sub>2</sub>S concentrations below the sample detection limit of 4 µg/m<sup>3</sup> (0.003 ppm). AQD personnel have not smelled H<sub>2</sub>S when the hand-held device showed "less than detection limit. Also, since many of the H<sub>2</sub>S air measurements were below the hand-held sample detection limit of 4 µg/m<sup>3</sup> and not detected by AQD personnel, it is reasonably anticipated that the average air impacts of H<sub>2</sub>S at Ridge Wood Elementary are much lower than the occasional measured levels.

**48. Why is odor screening level not set below odor levels petitioned by residents? The current odor screening level is not protective of resident's quality of life.**

For key air pollutants associated with landfills such as hydrogen sulfide, the air concentrations resulting in odors are lower than the health protective air limits. This means odors attributed to H<sub>2</sub>S can be detected well before the concentration of H<sub>2</sub>S becomes a health concern. Therefore, the presence of odors does not necessarily mean there are elevated health concerns. Still, excessive odors are a violation of air pollution control rules. Inspections and verification of the effectiveness of the gas control collection system should provide an indication that odors are being controlled. However, human noses are unique to each person, and not everyone detects odors in the same way. Some individuals may be more sensitive odors than others. AQD staff evaluate the duration, intensity and frequency of odors are part of the criteria for determining an odor violation. Because the landfill continues to be cited for odor violations, enforcement actions are underway.

**49. Can EGLE look at the long-term health effects of breathing landfill emissions? Most studies are short term.**

Air pollution control measures employed by the landfill and required by permit are expected to reduce landfill emissions. Air sampling has shown that H<sub>2</sub>S concentrations vary from non-detect to approximately 11 µg/m<sup>3</sup>. Since many of the H<sub>2</sub>S air measurements were below the hand-held sample detection limit of 4 µg/m<sup>3</sup>, and not detected by AQD personnel, it is reasonably anticipated that the long-term average air impacts of H<sub>2</sub>S are much lower than the occasional measured levels.

Ongoing and future inspection efforts, along with air measurements and effectiveness of the gas collection control system will continue to be essential to demonstrate that emissions continue to comply with permit limits and ensure that H<sub>2</sub>S and other landfill emissions will be below concentrations protective of public health.

**50. How can you say that it (the air) is safe from samples from 2016/2017? What about now?**

The landfill is required to monitor surface methane emissions according to federal regulations, specifically the Clean Air Act, New Source Performance Standards (NSPS) for Landfills. This monitoring is done as a means of evaluating the performance of the gas collection system. In general, the surface monitoring shows overall compliance with the NSPS – with corrective actions taken to address the occasional surface exceedance. Analysis of ongoing air sampling using a hand-held H<sub>2</sub>S detector, as well as monitoring of odors, and other air sampling continues to show that landfill-associated air concentrations are below air limits designed to protect the public health.

**Soil and Water Concerns (5 Questions)****51. Is there a possibility that groundwater is affected because of the violations at Arbor Hills?**

Currently, there are no indications that the current violations are affecting groundwater. Routine monitoring of the groundwater is conducted in accordance with the landfill's Hydrogeological Monitoring Plan to evaluate the groundwater for potential contamination. All permitted and licensed landfills, including Arbor Hills, are required to follow the [Part 115](#) rules for groundwater monitoring, determining the presence of groundwater contamination, and for conducting any investigation and clean-up of the groundwater that may be required. The closed east portion of the landfill did not have a liner, so groundwater was contaminated east of Napier Road from leachate migrating into the soil and groundwater. The facility installed a vertical clay slurry wall around the old portion of the landfill in 1991 and pumped out the contaminated groundwater for 16 years to clean up the groundwater east of the landfill. Gradient control wells and the slurry wall remain in place to prevent leakage into the groundwater.

**52. Is the groundwater around Arbor Hills being regularly tested?**

The groundwater around Arbor Hills Landfill is routinely sampled and tested for leachate contaminants, in accordance with the facility's Hydrogeological Monitoring Plan. The MMD Jackson District geologist evaluates the routine sample results.

**53. Is the soil being tested in nearby neighborhoods and schools?**

Soil is not being tested at the nearby neighborhoods and schools by EGLE since there is no evidence to indicate that the soil is contaminated from the landfill.

**Community Involvement (1 Question)**

**54. Are there other agencies that should be involved? State and local health departments? Local government?**

EGLE staff often work with other local, state and federal agencies when evaluating facilities. In the case of the landfill, we do collaborate on issues that are out of our areas of expertise or fall outside our rules and regulations.

Michigan's Environmental Justice Policy promotes the fair, non-discriminatory treatment and meaningful involvement of Michigan's residents regarding the development, implementation, and enforcement of environmental laws, regulations, and policies by this state. Fair, non-discriminatory treatment intends that no group of people, including racial, ethnic, or low-income populations, will bear a disproportionately greater burden resulting from environmental laws, regulations, policies, and decision-making.

Meaningful involvement of residents ensures an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health.