

# **Response to Comments Received for PTI Application Number 02-12954 and PTI Application Number 15-01601 for the American Landfill Located in Stark County**

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On December 16, 2005, Ohio EPA issued a draft solid waste permit to install (PTI Number 02-12954) and a draft air permit (PTI Number 15-01601) to American Landfill, Inc., Waste Management Company (ALI) for the proposed lateral and vertical expansion of the American Landfill located in Stark County. An information session and public hearing were held on February 2, 2006, and written comments on the draft permits were accepted until March 13, 2006.

The following are responses to questions and comments received during the hearing and comment period pertinent to the proposed expansion. Comments received are in bold print, followed by Ohio EPA's responses.

Answers to questions received from oral testimony during the hearing and letters from citizens are presented first. Some comments, especially those received from several different commentors, have been summarized and are not quoted word-for-word.

If you would like additional information regarding the permit applications, the permit applications are available for public review by conducting a file review. You may contact Lily Aaron, Ohio EPA Northeast District Office, 2110 East Aurora Road, Twinsburg, Ohio 44087. If you would like more information about Ohio EPA, including links to solid waste and air rules and regulations, please visit the Ohio EPA web site at [www.epa.state.oh.us](http://www.epa.state.oh.us).

## **Solid Waste Responses**

### **1. How high is the facility going to be?**

The top elevation of the cap system of the vertical expansion will be 1435 feet MSL. (MSL stands for "mean sea level" and is used to measure the height of an object relative to the average sea level. It is calculated using surveying equipment to measure the relative height of an object to a survey mark at a known elevation.) For comparison, American Landfill's facility office elevation is 1105 feet MSL, and Indian Run Avenue is at approximately 1030 feet MSL.

The final cap elevation at the highest point of the vertical expansion will be approximately 40 feet higher than the previously approved height. The maximum depth of waste will be approximately 360 feet deep.

### **2. "Each county in the State of Ohio is required under Sections 208 and 303 of the Federal Clean Water Act to develop a water quality management plan...Stark County is required to address the following items in their water quality management plan...total maximum daily loads, which is TMDLs...effluent limits...municipal and industrial waste treatment...nine point source management and controls...management agencies...implication**

**measure...grants and fill programming...basin plans...ground water...Ohio EPA documents show that there are 38 exceeding the fluent quality limits on the site, the NPDES permits since 1996. Given the past history of leachate and sediment release from the site, there is no certainty that the expansion area will perform any better...it is clear that the American Landfill will not meet their projected total TMDL requirement...Is American Landfill amenable or assure that they will guarantee the meaning of the TMDLs for these subwatersheds? Is Ohio EPA going to guarantee that they will and not take a disciplinary action against the watershed and Stark County when these mandated requirements are not met? Who provides guarantees?"**

The Total Maximum Daily Load (TMDL) program, established under Section 303(d) of the Clean Water Act, focuses on identifying and restoring polluted rivers, streams, lakes, and other surface waterbodies. A TMDL is a written, quantitative assessment of water quality problems in a waterbody and contributing sources of pollution. It specifies pollutant reductions necessary to meet water quality standards (WQS), allocates pollutant load reductions, and provides the basis for taking actions necessary to restore a waterbody. To date, a TMDL has not been finalized for the Tuscarawas River Basin.

At this time, the TMDL for the Tuscarawas River Basin is in pre-draft form and not ready for public review. However, data collected to date documents that the lower Tuscarawas River main stem, to which Sandy Creek and Indian Run are tributary, is in full attainment. If the final TMDL results in more stringent effluent limits than American Landfill's NPDES permit, then Ohio EPA will expect ALI to perform additional treatment in order to meet those limits.

With regard to ALI's NPDES permit, American Landfill has experienced sporadic NPDES permit violations. These violations have been for total manganese, pH, and total suspended solids. While these parameters are limited in the NPDES permit, it is important to point out that there is no water quality standard for total manganese or total suspended solids. There is a standard of 6.5 to 9.0 SU for pH. Additionally, these limits are placed at the discharge point from the sedimentation ponds and represent the worst-case scenario, prior to mixing with general storm water flows in the receiving stream.

Although ALI has violated its NPDES permit in the past, when ALI submitted its solid waste permit to install and NPDES permit applications, they underwent an anti-degradation rule review. As a result, the proposed discharges were found to be in compliance with the Ohio's anti-degradation rule.

- 3. The sedimentation basins will not prevent unacceptable levels of sediment from discharging to Sandy Creek and Indian Run. The 1999 PTI application showed calculations to predict the amount of sediment that would be released from eight storm water retention basins. The model showed that**

**over 4,000 tons of sediment load would be placed into the receiving stream! However, the 2005 application now calculates that the TOTAL annual amount of erosion will only be 1640 tons per year. This number has decreased dramatically. How can this be true? Will the basins as designed prevent excess amounts of sediment? Would it not be more appropriate to use a conservative interpretation that demonstrates that the site will be able to meet the NPDES requirement of a maximum daily discharge for total suspended solids of 70 milligrams per liter?**

**Sediment allowed to escape from the undersized sedimentation ponds will also allow harmful quantities to enter the surrounding surface waters in violation of ORC 6111 and Ohio EPA regulations.**

Ohio EPA has reviewed the PTI application and has determined that the sedimentation basins have been designed to the Best Available Technology Standards. Sedimentation basins constructed to these standards have historically performed as designed. As such, under design conditions, the basins will remove excessive amounts of sediment and will meet the limits established in NPDES permit 3IN00169. We do, however, retain the right to readdress this issue should the TMDL Report identify American Landfill as a point source in need of attention.

**4. Has the amount of water in the cap drainage layer been accounted for in the design of the sedimentation ponds?**

No, the design of the pond is based on peak storm runoff. The water volume from the cap drainage layer does not provide a significant volume of water to the peak storm runoff volume.

**5. Why does the Ohio EPA allow a single liner system that is not the Best-Available-Technology when many landfills use multiple liner systems with technology to monitor the leaks?**

Federal regulations require landfills to be constructed with two feet of recompacted soil and a flexible membrane liner (known together as a “composite liner system”) and a leachate collection system. Additionally, the federal solid waste landfill standards have very minimal siting restrictions. Ohio EPA’s regulations are more stringent than the federal regulations and incorporate very stringent siting restrictions. Ohio EPA’s philosophy regarding the siting of a solid waste landfill is that it is best to start with a good site, and implement the siting with engineered components such as a liner, leachate collection system, and surface water management system, among others.

Ohio EPA’s standard liner system design requires landfills to be constructed with a minimum of five feet of compacted clay in the composite liner system or with three

feet of compacted clay, overlain with a geosynthetic clay liner. However, in an exceptional hydrogeologic setting, the five feet of recompacted clay liner may be reduced to three feet. Ohio EPA considers the liner design specified in Ohio's solid waste regulations, in concert with the stringent siting restrictions, to provide protection of public health and safety and the environment.

American Landfill's lateral expansion areas have been designed with either: 1) a composite liner consisting of a 3-foot thick recompacted soil liner, overlain with a geosynthetic clay liner, overlain by a 60 mil textured HDPE flexible membrane liner, or 2) a composite liner consisting of a 5-foot thick recompacted soil liner, overlain by a 60 mil textured HDPE flexible membrane liner.

**6. How will Ohio EPA monitor and protect the quality of the surface water?**

Ohio EPA will monitor and protect the quality of surface water surrounding American Landfill through enforcement of the current NPDES permit and periodic inspections of the sedimentation ponds to ensure they are working as designed and approved.

**7. “Because of the enormous size and complexity of the project contemplated by the PTI, a substantial amount of the detail, which the regulatory scheme for a Permit to Install contemplates, is omitted with notations that these details will be developed and submitted to Ohio EPA at a later date. This is not consistent with the intent of the PTI process, which is to have the applicant define in detail what is to be constructed or installed prior to the issuance of the PTI, so public comment can be received and there is a clear understanding of what will be required by the regulatory authority prior to commencement of construction.”**

The submittal contains all the information required by the rules. There is additional information which is to be submitted, such as the exact location of the separatory liner and ground water underdrain. In addition, due to economic and weather constraints, the owner may choose to build cells that are smaller than the phases shown on the plan drawings, which will be reflected in the construction plans.

**8. The ongoing releases of hazardous and offensive landfill gas and leachate into the environment from the Landfill has resulted in conditions that are “injurious to human health or offensive to the senses, interferes with the comfortable enjoyment of life or property” and that “affect the community, neighborhood or any considerable number of persons” in the vicinity of the landfill. This constitutes a nuisance under Ohio Administrative Code (OAC) Rule 3745-27-01(N)(6).**

OAC Rule 3745-27-01(N)(6) states, “Nuisance’ means anything which is injurious to human health or offensive to the senses; interferes with the comfortable

enjoyment of life or property; and affects a community, neighborhood, or any considerable number of persons (although the extent of annoyance or damage inflicted upon individual persons may be unequal).”

Odors from the landfill should not be a nuisance if proper operational controls are employed. Odor is typically controlled through proper facility operational activities such as minimizing the area of the working face and covering the waste at the end of each working day or more often if necessary. There may be isolated short-term instances of odors during certain repair and maintenance operations, but these should occur very infrequently, if at all.

Provided the source is not excluded from regulation, Ohio EPA’s Division of Air Pollution Control (DAPC) or an approved air agency may cite the nuisance rule in the air pollution control regulations, if evidence confirms the source of the odor and shows that the odor is being emitted in such amounts as to endanger the health, safety, or welfare of the public, or to cause unreasonable injury or damage to property. The burden for any inspector in determining the above criteria are met is substantial and must be met for the state to take action. However, the mere presence of an odor is not enough to cite DAPC’s public nuisance rule. Typical landfill constituents have extremely low odor thresholds, meaning an average person can detect such odors well below our health-based maximum acceptable ground level concentrations.

**9. Before the proposed landfill expansion may proceed, the applicant must obtain the Section 404 permit and meet the terms and conditions of both the Section 404 and Section 401 permits.**

American Landfill, Inc. obtained both the Ohio EPA 401 Water Quality Certification on February 18, 2004, and the Army Corps of Engineers 404 Permit on June 16, 2005.

**10. Several concerns were raised regarding the removal of wetlands and recreating them.**

Under Section 401 of the Federal Water Pollution Control Act of 1972 and subsequent amendments (also known as the Clean Water Act), the approval to fill, drain, or otherwise degrade a wetland may be conditional on restoring, creating, enhancing, or preserving wetlands to compensate for any unavoidable loss in wetland area and function (process called “wetland mitigation”). Mitigation, in accordance with Ohio Revised Code (ORC) Sections 6111.02 to 6111.027, is required in order to qualify for coverage under the Water Quality Certification. Compensatory mitigation is required and will be considered only after a determination that unavoidable impacts have been minimized. The goal of compensatory mitigation is the ecological replacement of the impacted wetland, including its functions and values. Mitigation requirements, ratios, and performance

process are listed in OAC Rule 3745-41-55.

ALI has obtained approval from Ohio EPA and ACOE to partially fill two wetlands that are located within 200 feet of the facility expansion and intends to maintain them in their current locations and take measures to improve their function. See also responses to Comments 9 and 11.

11. **It appears as though a variance for setback distances from wetlands and a stream may already have been approved by the agency outside this permitting process. The variance request to the 200 foot setback to surface water bodies should not be granted. There has been no showing that allowing the “exemption” will “not create a nuisance or a hazard to the public health or safety of the environment and will be unlikely to result in a violation of any other requirement of 3704, 3734 and 6111.” Seeps and springs around the site can transport leachate to receiving surface waters. To date, the locations of springs and seeps have not been mapped, in violation of permit application requirements to determine the distance to those features.**

American Landfill has proposed alternative setbacks to two wetlands of 135 and 178 feet. ORC 3734.02(A) states in part, “The director shall grant a variance only if the applicant demonstrates to the director's satisfaction that construction and operation of the solid waste facility in the manner allowed by the variance and any terms or conditions imposed as part of the variance will not create a nuisance or a hazard to the public health or safety or the environment.” Requesting a variance need not be included in a permitting process. However, American Landfill’s request for a variance will be acted upon jointly with the permit to install. Please see the final permit approval for the expansion. The alternative setbacks were outlined in the American Landfill Army Corps of Engineers (ACOE) 404 permit application and the Ohio EPA 401 Water Quality Certification (WQC) and it has been determined that the alternative setbacks will not create a nuisance or a hazard to the public health or safety of the environment.

12. **Citizens have observed sudsy foam in the ditch running from the site into Sandy Creek, and other contaminants have been found in ditch water samples.**

Sudsy foam may not be caused by the sedimentation pond discharges. Natural causes can also cause foaming in streams. As with any unusual condition observed in water of the state, incidents should be reported to the appropriate Ohio EPA District Office for investigation.

13. **Waste Management has had numerous exceedances of its existing NPDES permit over the last several years, showing an inability of Waste Management to comply with ORC Chapter 6111.**

American Landfill has experienced violations of its NPDES permit. The majority of them have been Total Manganese violations for which there is currently no numeric water quality standard. American Landfill has been proactive and responsive in continually making improvements to the sedimentation ponds and implementing control measures in the ditches leading to the sedimentation ponds. As this time, Ohio EPA considers American Landfill to be in substantial compliance with its NPDES permit.

- 14. The Ohio EPA has conditioned the 401 permit to require an “acceptable, notarized, recorded, and filed Conservation Easement“ before ANY fill may be placed in streams and wetlands. This requirement is yet to be met.**

The conservation easement will be held by the Guernsey County Community Development Corporation. This has been approved by the Army Corps of Engineers and Ohio EPA. The terms and conditions of the conservation easement have not been finalized, but a signed agreement is required prior to impacting streams and wetlands on the property. Until the agreement is finalized, American cannot place fill.

- 15. Concerns revolved around the vertical expansion area over existing solid waste placement. "The placement of the separatory liner over tens of feet of unlined landfill which can be expected to compact differentially, both with respect to space and time is an unacceptable application. This is at very best, an experimental application. And at the worst, an invitation to disaster for the surrounding surface and ground water." What research has been done to support the safety of placing a liner over an old unlined landfill site? Where has this process been successfully used?**

The separatory liner has been designed with both recompacted clay and a synthetic liner. The synthetic liner is capable of stretching several feet without tearing. The calculations in the submittal are very conservative to account for potentially more settlement than may actually occur. These calculations indicate that the integrity of the synthetic liner will be maintained. The clay liner is a second layer of protection. The landfill has been designed to ensure that the liner will not tear and that leachate depth will not exceed one foot in accordance with the rules.

Similar designs as proposed in this application have been used in other states dating back to 1986 without any adverse issues developing. Among the states are New York, New Jersey, Pennsylvania, Massachusetts, Illinois, Indiana, and Delaware. Ohio EPA rules are similar to design requirements of these states. Extensive studies have been performed on settlement of the liner system, and they have been used to develop design criteria. Ohio EPA has included some of these criteria in the current rules. This application meets all of Ohio EPA's design requirements. Other states have not attributed any adverse impact with respect to ground water or surface water to the inclusion of a separatory liner in the design of

landfills.

- 16. “The applicant does not provide any apparent means of monitoring the liner system for tears, punctures, or leach[ate] detection, or leach[ate] ponding, maintaining low heads on liner.”**

As discussed in Comment 15, above, the liner should remain intact during operation of the landfill, therefore, there is no reason to require monitoring for leaks or tears. The composite liner system is also made of both clay and plastic. If there should be a tear or leak in the plastic, the clay liner should still be intact. In addition, the liner is required to be constructed on a slope which will promote drainage even if there may be a tear in the plastic, and will discourage ponding.

All solid waste landfills are required to limit the depth of leachate on the liner. OAC Rule 3745-27-08(C)(3)(c) states in part, “The leachate collection and management system shall be designed to do the following:...Limit the level of leachate in areas other than sumps to a maximum of one foot throughout the operation and post closure of the facility.” The liner must be designed to limit the leachate level to less than one foot after settlement and throughout the life of the landfill.

- 17. Allowing a vertical expansion at this facility violates OAC Rule 3745-27-20(C)(5) prohibiting a landfill in unstable areas. The subsidence that will occur from the weight of the new landfill poses a significant risk of collapsing not only the underlying waste but new leachate and landfill gas collection systems that should be in place in the new area. Since the geology of the area may not support the added weight, how does the Ohio EPA plan to keep the liner system from tearing?**

There is no violation of OAC Rule 3745-27-20(C)(5) since this rule refers to areas of instability and not areas that are capable of settling. The landfill is not in an unstable area. The permit to install application includes calculations demonstrating the liner will withstand the weight of the landfill. The design of the landfill has taken into account the potential settlement of the landfill and underlying soils, and the design calculations show that the landfill will not fail. The leachate collection system and gas collection system have been designed to stay intact taking into account the potential settlement of the landfill.

- 18. How will Ohio EPA respond to an earthquake that tears the landfill liner and allows leachate to contaminate the aquifer?**

The landfill, including the composite liner system, has been designed to withstand potential seismic activity. If ground water contamination were to occur from the landfill for any reason, the owner is responsible for any required corrective measures.

19. **“Shouldn’t we know that we are monitoring in the right places when the separatory liner leaks with time? Should we prohibit re-circulation of leachate over these old unlined areas forever?”**

Ohio EPA does not allow leachate recirculation over areas where leachate is not collected (i.e., unlined areas of the facility), and, although American Landfill has included a leachate collection system within the area of the separatory liner, ALI has not proposed leachate recirculation within this area. If leachate recirculation is proposed, the owner must demonstrate that the leachate collection system will meet all applicable rules, including limiting the depth of leachate to one foot on top of the liner.

20. **“...there is no proposed frequent monitoring of leach[ate] collection pipes on top of the separatory liner to ensure that they are open and not broken.”**

All leachate collection pipes, regardless of their location, are required to be monitored at least annually. OAC Rule 3745-27-19(K)(3) states, “The owner or operator shall visually or physically inspect the collection pipe network of the leachate management system after placement of the initial lift of waste to ensure that crushing has not occurred and shall inspect the collection pipe network annually thereafter to ensure that clogging has not occurred.”

21. **“A check of the most recent seismic activity in Ohio on the Ohio Seismic Network documents a 3.0 and 3.9 earthquake with an epicenter around Alliance in northeast Stark County in 2000. Further east, in Ashtabula County, there is a very active section where an old fault was lubricated by a 6,000 foot deep injection well. While the well has been decommissioned, the fault still moves. What triggered the Alliance quake? Alliance is east of Akron, but there are dozens of deep oil and gas brine reinjection wells in the area that could create the same reaction that was found in the Ashtabula County site. In fact, one of those deep injection wells is located on the south corner of American Landfill property. Can Waste Management guarantee that the brine reinjection well will never activate a quake under the site? Can Ohio EPA make that same guarantee?”**

The permit has been designed for seismic activity in accordance with the rules. The Ohio Department of Natural Resources (ODNR) can be contacted with specific questions with respect to the 2000 earthquake and the potential for brine injection to cause a quake under the site.

22. **Concerns were raised about the type of waste which was previously disposed of at the facility.**

The American Landfill is a licensed and permitted solid waste disposal facility. It has been licensed and inspected since it opened in 1976. Since the hazardous waste

regulations were implemented in 1980, the site has been permitted to only accept solid waste, not regulated hazardous waste. At one time, Ohio EPA did review testing results for many wastes proposed to be disposed of at the landfill and these results are contained in our files. Currently it is the responsibility of American Landfill to submit a hazardous waste detection plan to Ohio EPA and follow that plan. Part of that plan includes reviewing testing results for waste which may be disposed of at the landfill to ensure that it is not hazardous.

In addition to regulating the landfill, Ohio EPA also regulates hazardous waste generators who are required to comply with the hazardous waste regulations and are subject to inspections and review of records. The waste generator is responsible for ensuring that the waste they generate is disposed of properly.

However, keep in mind that not all hazardous waste is prohibited from the landfill. For example, household hazardous waste is exempt from hazardous waste regulations. Households can throw hazardous waste such as pesticides, mercury, batteries, motor oil, and bleach into their trash. In order to determine whether waste disposed of in the landfill is impacting ground water, the landfill is required to install and monitor ground water monitoring wells and test for many potential contaminants.

- 23. Several comments were received regarding landfill inspections. Specifically, the commentors wanted to know if Ohio EPA can inspect during all operating hours because American Landfill operates 24 hours a day, whether Ohio EPA can limit operating hours, and whether random inspections of operations can be conducted.**

Ohio's solid waste regulations require that landfills be inspected four times a year (once per quarter). The Stark County Health District is approved to administer the solid waste program in Stark County and is required to conduct the inspections. Ohio EPA oversees the Health Department, who typically inspects the landfill at least weekly. Ohio EPA also conducts inspections of the facility on an as needed basis, typically about once per quarter. Ohio EPA and health department inspectors can, and have, conducted inspections of solid waste disposal facilities before and after operating hours, as necessary. Ohio EPA has conducted landfill inspections after closing hours, before opening, and during the night. These inspections have been conducted to determine whether operational rules are being followed, such as placement of adequate daily cover.

There are no Ohio laws or Ohio EPA rules that limit the operating hours of a solid waste facility, and information regarding proposed operating hours is not required as part of the permit to install application. However, issuance of a permit to install does not override local zoning or other ordinances that may address the hours of operation at a solid waste facility.

- 24. The Ohio Administrative Code also states that a letter of acknowledgement from the police and fire department be included into the permit-to-install. If these written acknowledgements from the police and fire departments are included in American Landfill's permit to install, who signed them and where can I obtain a copy of these letters?**

The Ohio Administrative Code does not require a letter of acknowledgement from the police or fire department. OAC Rule 3745-27-12(E)(6)(b) requires that the permit application contain copies of letters of notification to the appropriate authorities stating that they will be notified if explosive gas concentrations exceed the threshold limits. The letters are in the permit application and can be obtained by conducting a file review at the Ohio EPA Northeast District Office.

In addition, pursuant to OAC Rule 3745-3745-27-06(C)(10)(a), letters of intent to establish or modify a landfill are required to be sent to a number of parties, including local government authorities, and copies of these letters of intent with copies of the mail receipts are to be included with the PTI application. These letters are also in the permit and available through a file review.

- 25. The permit application does not include an explosive gas monitoring plan that meets the requirements of 3745-27-12. Waste Management has made no effort to properly determine and eliminate the pathways of migration of landfill gas from its existing facility, including the areas of the proposed expansion.**

American Landfill's PTI application included an explosive gas monitoring plan in section Volume II, Section 7.5 of the narrative, and the plan meets the applicable rule requirements of OAC Rule 3745-27-12.

- 26. Will the Ohio EPA honor the proposed moratorium on new landfills and landfill expansions in the Tuscarawas River Watershed until the USGS hydrologic study is completed? Any decision concerning the expansion of American Landfill should be delayed until the results of the USGS hydrologic study are available.**

The proposed moratorium authorized by Proposed Senate Bill 224 would not apply to this permit application. Specifically, the moratorium would only apply to new or expanding solid waste landfills for which a permit to install application is received by the director after October 8, 2005. PTI Application Number 02-12954 for American Landfill was received on March 31, 1999.

While the Agency is not categorically opposed to moratoriums, Ohio EPA cannot support a moratorium that is tied to the completion of the USGS regional basin study. The Agency believes that the statute and rules currently provide us with the authority we need to ensure that solid waste landfills are suitably sited, constructed, operated, monitored, closed, and undergo post-closure care. As such, we believe

that the facilities that have been permitted under those regulations are protective of human health and the environment.

- 27. Additional landfill capacity is not needed in this area. Why does the Ohio EPA continue to force landfill expansions that are mainly for out-of-district and out-of-state waste? Why has Ohio become the dumping ground of not only the East Coast, but even Michigan? Why do we take all of this trash from other states?**

Article I of the U.S. Constitution states, in part, that Congress has the authority “to regulate commerce ... among the several states...”. As decided by several federal courts, the movement of waste between states is considered commerce. Therefore, only Congress can regulate this activity; individual states currently cannot restrict the disposal of out-of-state waste. Ohio EPA has no authority to restrict out-of-district waste coming into American Landfill.

Furthermore, in 2004, Ohio’s solid waste imports totaled 3,157,614 tons, which was fourteen percent of total incoming waste. However, in this same year, Ohio also exported 1,200,905 tons of municipal solid waste to neighboring states.

See also the response to Comment 28.

- 28. Citizens voiced concerns over the number of municipal solid waste facilities in this area.**

Ohio EPA does not choose locations for landfill sites. Ohio EPA has no authority to approve or deny a permit application based on the number of facilities or the amount of landfill capacity available in an area and cannot take that into consideration when reviewing an application. When reviewing a permit, Ohio law requires Ohio EPA to consider the siting, design, construction, monitoring, and operations of the facility and base its decision on whether the facility meets the standards established in rules.

- 29. The expansion will result in violations of ORC 3734, including 3734.20, RCRA’s open dumping prohibition, and RCRA’s imminent and substantial endangerment provision.**

ORC Section 3734.20 is titled “Investigation of conditions where waste treated, stored or disposed of; actions or measures by director” and gives the director of Ohio EPA the authority to investigate hazardous waste treatment, storage, and disposal sites. It is unclear from the comment how the expansion will violate the cited law, prohibition, and provision.

- 30. Roads in Stark County have a tremendous amount of wear and damage from the weight of trucks headed to the landfill.**

Ohio EPA does not have the authority to regulate truck traffic, does not have jurisdiction over trucks on the road, and cannot take into consideration truck traffic when reviewing a PTI application. The Stark County Sheriff's Office can be contacted if truck traffic and/or debris from trucks are of concern.

**31. Why doesn't Ohio enforce mandatory recycling? In Florida they actually give you bins to put glass and tin cans in, one for paper products, and one for trash. Why can't this type of procedure be put in place in the entire US.**

While a few states have pursued mandatory recycling, the State of Ohio is one of many states that have pursued recycling through a voluntary approach. As part of this effort, Ohio EPA has developed recycling goals for the state. As of 2004, Ohioans recycled about 40 percent of the waste generated in the state. Both Ohio EPA and the Ohio Department of Natural Resources work with private industry, counties, and local governments to promote recycling in Ohio.

Ohio's approach towards recycling places a great deal of responsibility on county and local governments to promote and provide for recycling. In Ohio, all counties are required to be part of a "solid waste management district". The 88 counties in Ohio are organized into 52 different solid waste management districts. These solid waste management districts, in turn, are required to develop and implement plans to reach the recycling goals established by Ohio EPA. Solid waste management districts pursue these goals by providing recycling services, funding recycling activities, working with local businesses and governments to develop recycling opportunities, and educating the public. Thus, the exact type of recycling service available in any given location in Ohio is largely dependent on the decisions of the local government and solid waste management district. Any citizen that is not satisfied with the recycling opportunities available to them is encouraged to contact their local government and solid waste management district to explore the opportunities to improve the situation.

Ohio EPA supports the efforts of solid waste management districts and local governments by establishing the state recycling goals and providing technical assistance on how to reach these goals. In addition, the Ohio Department of Natural Resources provides several million dollars of grants each year to support recycling efforts. Most of these grants are awarded to local governments, although some grant funds are given to Ohio businesses to help stimulate the market for recycled materials.

In order to establish a mandatory system of recycling in the entire United States, the U.S. Congress would have to pass legislation establishing a mandatory system. Until that time, each state has the flexibility to pursue an approach that fits their individual needs. Ohio's approach has been to focus on regional and locally-driven solutions as opposed to a statewide mandatory system.

- 32. Since the Environmental Justice rules should apply to this watershed area with the high concentration of landfills and depressed economy, how can the Ohio EPA continue to facilitate the pollution of the watershed by permitting new landfills and landfill expansions?**

Ohio EPA is charged with, and also concerned about, protecting citizens' health and environmental interests. Since there is no specific environmental justice law in Ohio, Ohio EPA must rely on current environmental laws and rules to address environmental issues. We accomplish this through both our technical review and our processes for public input on the PTI application. The rules and laws of the State of Ohio that apply to the permitting and operation of a landfill are protective of human health and the environment. Each landfill, no matter where it is located, is required to meet these solid waste rules. Based on the review by Ohio EPA engineers and scientists, this permit application meets Ohio's strict requirements. See also response to Comment 28.

In addition, local zoning often plays a part in siting decisions regulating land use at the local level. Ohio EPA has no legal authority to tell an applicant where to place their landfill and has no input in an applicant's decision to propose a facility in a particular location.

- 33. “When you decide to approve or deny a permit to install for American Landfill do you take into consideration the effect it has on the property values in the community and surrounding communities?”**

Ohio EPA recognizes that proposals to establish a solid waste facility in an area are controversial and often unpopular. However, Ohio EPA must consider a proposal based on its technical merits and its ability to meet the siting, design, construction, operation, closure, and post-closure requirements of Ohio's solid waste regulations. Ohio EPA bases its decision to approve or deny a permit application on whether these criteria are met. Issues regarding local land uses and their effects on matters such as property values and socio-economic issues are concerns that should be addressed locally by zoning boards, planning commissions, and other regulatory bodies.

- 34. “There is an alarming rate of cancer in this area. I feel that should also be taken into consideration before you allow this expansion. Have you ever actually thought about doing a health study to see if there are health issues related to landfills?”**

The Ohio Department of Health (ODH) can respond to inquiries regarding cancer surveillance and prevention activities. Please contact Robert Indian of ODH at (614) 644-7025 for further information.

- 35. “The strip mining companies are required to put the land back to within 5% of the original contour. Why are not the landfills under these regulations?”**

Landfills are regulated under ORC Chapter 3734, and mines are regulated under ORC Chapters 1513 and 1514.

- 36. How will Ohio EPA provide clean water to the people in the contaminated region?**

At this point in time, there is no verified contamination of groundwater from the American Landfill. If ground water contamination is detected and verified, the owner is responsible to implement corrective measures to ensure that contamination does not migrate beyond the facility boundary. In addition, the owner must provide financial assurance to cover assessment activities which include additional costs for ground water monitoring. If the facility is required to implement corrective measures, separate financial assurance is required for additional costs associated with those activities. Thus, the owner is financially responsible if contamination occurs.

- 37. “You need to have an independent group do testing rather than listening to Waste Management when it comes to our water supply. How can you guarantee that their monitoring wells are correct? How can you be sure yourself that what they are telling you is true?”**

The owner or operator is responsible for conducting the required ground water monitoring at the landfill. Ohio EPA does not have the funding or resources to conduct all ground water monitoring required throughout the state. Ground water monitoring data must be submitted to Ohio EPA. Ohio EPA conducts a review of ground water monitoring plans, monitoring well construction, and ground water data and statistical analysis.

OAC Rule 3745-27-10(A)(5) requires that a qualified ground water scientist shall certify, in accordance with rule 3745-27-09 of the Administrative Code, any ground water detection monitoring plan, the ground water quality assessment plan, the compliance monitoring plan, and the corrective measures plan, and any revisions thereof and reports and data submitted in accordance with this rule. Additionally, OAC Rule 3745-27-10(C)(10)(c) requires a chain of custody and sample forms including preservation methods for any ground water samples. Also, Ohio EPA has the ability to split samples or collect its own samples and analyze them in Ohio EPA's lab in the event that the agency thinks it is necessary. The facility will face enforcement action and possible penalties if Ohio EPA discovers any falsified information.

- 38. Several concerns were raised regarding the removal and filling of sand lenses under the proposed expansion area that may be connected to a 100 GPM aquifer.**

OAC Rule 3745-27-07(H)(2)(d) requires that “the sanitary landfill facility is not located above an unconsolidated aquifer system capable of sustaining a yield of one hundred gpm for a twenty-four hour period to an existing or future water supply well located within one thousand feet of the limits of waste placement of the sanitary landfill facility.”

The facility footprint extends over two unconsolidated sand zones that may, or may not, be connected to an adjacent 100 gallon per minute (gpm) aquifer. Rather than attempting to demonstrate there is no hydraulic connection between the sand lens and 100 gpm aquifer, which could be subject to numerous interpretations and uncertainty, the application contains engineering plans for removing the sand zones beneath the footprint of the facility and thus ensuring isolation of the 100 gpm aquifer system. Removing the sand zones and isolating the 100 gpm aquifer from the facility ensures that the requirements of OAC Rule 3745-27-07(H)(2)(d) are met.

However, upon approval of the permit, the facility boundary changed and the facility is located over the sand lenses. Therefore, an exemption was required in order for the director to issue the permit to install. Waste Management could have removed the sand lenses and replaced them with fill material prior to submitting the permit application. In that case, the siting criterion would not have applied to the permit application and an exemption would not be necessary.

In addition, the application contains information demonstrating that removal of the sand zones from beneath the facility footprint will not affect the 100 gpm aquifer as a ground water resource.

39. **“We were told earlier tonight that this landfill was not a sole source aquifer. Well, let me tell you the only reason this aquifer is not designated as a sole source is because nobody has petitioned the Federal EPA for that designation. The Tuscarawas River Buried Valley Watershed Council is in the process of doing this petition as we speak.” “I am totally against any landfill expansion and whole-heartedly in favor of landfill eradication. The singular fact that American Landfill is located above our only water source, the Tuscarawas River Buried Valley Aquifer, which supplies drinking water to over 600,000 people, should be reason enough to deny any expansion and should promote the elimination of such a threat.”**

OAC Rule 3745-27-07(H)(2)(c) requires that the director apply the following siting criterion in making a decision to approve or deny a permit to install application:

“The sanitary landfill facility is not located above an aquifer declared by the federal government under the Safe Drinking Water Act, 42 U.S.C 300f et seq. (2003), to be a sole source aquifer prior to the date of receipt of the permit to install application by Ohio EPA.”

The landfill is not located above a sole source aquifer declared by the federal government under the Safe Drinking Water Act. Currently, four areas have been designated sole source aquifers in Ohio: the Bass Islands Aquifer under Catawba Island (Ottawa County), the Pleasant City Aquifer (Guernsey County), the Great Miami/Little Miami River Basins Buried Valley Aquifer System (southwestern Ohio) and the Allen County Area Combined Aquifer System (western Ohio). None of these are near the American Landfill.

Ohio EPA's landfill siting criteria contain many ground water protection standards which were designed to be protective of ground water resources. In addition to only allowing facilities to be located in areas with acceptable hydrogeologic characteristics, the owner is required to monitor the groundwater underlying the facility to ensure that the landfill will not have any impact on ground water resources.

**40. Did Eagon's report show any data on fracture flow?**

Appropriate technology and methods were utilized to delineate the hydrogeologic properties of the bedrock underlying the facility, including the determination of any fracture flow.

The applicant performed packer tests on bore holes through the bedrock in order to estimate flow rates. The packer tests were performed on discrete intervals through the Clarion Shale, Putnam Hill Limestone, and Brookville (No. 4 ) Coal. Cohen (1995) recommends packer tests for quantitative assessment of ground water flow and indicates the results of packer tests are consistent with other techniques such as: impeller flowmeter, thermal-pulse, and fluid conductivity logging.

**41. Was there any geophysical work or data collecting done on any bore holes, such as gamma data, and if so, have you reviewed that data?**

Appropriate technology and methods were utilized to delineate the geologic and hydrogeologic properties of the bedrock underlying the facility. Ohio EPA has reviewed this information as part of the PTI application.

The applicant utilized a subsurface boring program as a direct method to characterize the subsurface materials below the sanitary landfill. Numerous well borings were cored and logged across the site as part of the hydrogeologic site investigative study. The potential for multiple interpretations of geophysical data results from a large number of potential combinations of subsurface conditions that can occur to produce the measured response. Therefore, information from geophysical surveys must be used in conjunction with direct observations from borehole samples to verify the interpretation of the geophysical logs (California EPA, 1995)

**42. Were there any angle borings to show connected fractures?**

All well borings drilled as part of the hydrogeologic site investigation were vertical borings. There is no OAC Rule which requires angled borings. Information developed from the borings has been determined to be sufficient to demonstrate that the facility satisfies the requirements.

**43. Was there any trace testing done to show possible connecting fractures?**

Trace testing was not performed. Instead, direct observation of rock cores was used to characterize the degree and nature of bedrock fractures. The application contains, as part of coring log descriptions, the degree and location of fractures observed. Based on a review of this data, interconnecting fractures are not present at the site, and thus, no further testing such as trace testing was necessary.

In addition, the fractured nature of the bedrock was taken into consideration while reviewing the defined aquifers and aquifer systems underlying the facility.

**45. The application ignores that leachate contamination has already reached off-site drinking water wells.**

The geochemical and analytical results of ground water samples obtained from the ground water monitoring system do not indicate that waste-derived constituents have migrated beyond the facility boundary. One monitoring well, LKC-6, located in the Lower Kittanning Coal/mine spoil significant zone of saturation (SZS) has entered assessment monitoring for the presence of waste-derived constituents in ground water in the Lower Kittanning Coal/mine spoil SZS. The installation and sampling of additional down-gradient ground water assessment monitoring wells located within the facility's boundary indicate that ground water impacted by waste-derived constituents within the Kittanning Coal/mine spoil SZS have not migrated beyond the facility boundary.

**46. Comments were made regarding elevated sodium and chloride levels in the groundwater and the status of assessment monitoring.**

Ground water beneath the facility is of poor quality due to a combined effect of historical coal surface mining, operation of oil and natural gas production facilities, and improper oilfield brine disposal. As such, both upgradient and downgradient monitoring wells exhibit the effects of these previous activities through high sodium and chloride levels.

Ohio EPA acknowledges that sodium and chloride concentrations can be used as indicators of groundwater impacted by landfill leachate. However, they can also be good indicator parameters for groundwater impacted by other sources such as

oilfield brine or road salt. Thus, when used as indicator parameters of waste-derived constituents, sodium and chloride are best used in concert with other, more reliable indicator parameters of waste derived constituents such as potassium and ammonia.

- 47. How will the Ohio EPA clean up the contamination that has already been documented at American Landfill? How will Ohio EPA stop the migration of the contamination to other parts of the watershed aquifer system? Waste Management should be performing assessment monitoring and undergoing corrective measures under OAC Rule 3745-27-10 for the groundwater contamination caused by its existing operations, but has failed to do so.**

Because ground water monitoring well LKC-6, located in Lower Kittanning Coal, has indicated statistically significant changes for sodium, chloride, potassium, ammonia, and benzene, assessment monitoring was required. The facility has determined the concentration, rate, and extent of the impacted ground water in accordance with the 2003 revised solid and infectious waste regulations (OAC Rule 3745-27-10). Impacted ground water does not extend beyond the facility's boundary. The facility is required to submit to Ohio EPA, and implement, a corrective measures plan designed to address the impacted groundwater.

- 48. Questions were asked about the adequacy of the ground water monitoring system to detect leachate contamination from the unlined portion of the landfill.**

The current facility includes a groundwater monitoring program capable of determining the impact of the facility on the quality of ground water occurring within the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system underlying the sanitary landfill facility in accordance with OAC Rule 3745-27-10(A)(1).

The ground water monitoring system consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground water samples from both the uppermost aquifer system and any significant zones of saturation that exist above the uppermost aquifer system that represent the quality of the ground water passing directly downgradient of the limits of solid waste placement in accordance with OAC Rule 3745-27-10(B)(1).

- 49. "Although water and leachate are known to move more quickly through fractures, the application uses average rates to make most computations of how fast liquid will travel through and from the site. This is a non-conservative estimate that is not as protective of public health, welfare, and the environment as the use of actual rates through fractures."**

OAC Rule 3745-27-07(H)(3)(a) requires, in part, that "The limits of solid waste

placement of the sanitary landfill facility and any temporary or permanent leachate ponds or lagoons are not located within the surface and subsurface areas of either of the following: surrounding an existing or proposed public water supply well through which contaminants may move toward and may reach the public water supply well through underground geologic or man-made pathways within a period of five years.”

The five year time of travel calculation contained within the PTI application did not begin at the bottom of the proposed landfill, or within the bedrock uppermost aquifer system beneath the proposed facility. Rather, in order to be as conservative as possible, the five year time of travel calculation contained within the PTI application was begun starting at the facility property boundary, in the unconsolidated alluvial outwash/buried valley aquifer adjacent to the proposed facility. As such, the theoretical travel time from the bottom of waste to the uppermost aquifer system (UAS), and the theoretical time of travel from the UAS to the adjacent unconsolidated alluvial outwash/buried valley aquifer is not included as part of the five year time of travel demonstration required to meet the siting criterion in OAC Rule 3745-27-07(H)(3)(a). Ohio EPA has determined that the five year time of travel demonstration for the sand and gravels of the unconsolidated alluvial outwash/buried valley aquifer meets the requirements of OAC Rule 3745-27-07(H)(3)(a). In addition, the proposed facility is not located within a five year time of travel area surrounding a public water supply well as developed and delineated by Ohio EPA’s Source Water Protection and Assessment Program, which acts as an independent confirmation that the proposed facility meets the requirement of OAC Rule 3745-27-07(H)(3)(a).

**50. “...why, when Waste Management presented their PTI application, didn’t the Ohio EPA ask the hard questions about the fastest routes that leachate could take when moving from the bottom of the landfill to the uppermost aquifer system?”**

The hydrogeologic and geotechnical site investigation report(s) required by OAC Rule 3745-27-06(C) are required to contain sufficient information to allow the director to determine the suitability of the site for solid waste disposal through the following:

1. Identification and characterization of the hydrogeology of the uppermost aquifer system and all stratigraphic units that exist above the uppermost aquifer system.
2. Characterization of the site geology and hydrogeology to allow for the evaluation of the proposed design of the sanitary landfill facility and to ensure that it will be in compliance with the requirements of OAC Rules 3745-27-07 and 3745-27-10.

Ohio EPA has determined that the site specific hydrogeologic site investigation report has adequately met all requirements of OAC Rule 3745-27-10(C).

51. **“The currently designated uppermost aquifer system only includes the bedrock directly beneath the site, but not the hydrologically connected buried valleys of Little Sandy Creek and Indian Run that supply and receive recharge. We dispute the upper aquifer system designation.”**

The UAS designation pertains to the aquifer system directly beneath the proposed facility. While the unconsolidated buried valley aquifers of Little Sandy Creek and Indian Run are adjacent to the proposed facility, the facility boundary as proposed in the PTI application, is not located above these buried valley aquifers, but rather over consolidated bedrock units. As such, the UAS designated beneath the proposed facility is the bedrock unit directly beneath the proposed facility.

52. **The application allows a proposed groundwater control structure that serves as a toe drain to part of the unlined portion of the landfill to discharge leachate directly toward the Little Sandy Creek or Indian Run without treatment or even testing.**

OAC Rule 3745-33-02 requires, in part, that “No person may discharge any pollutant or cause, permit, or allow a discharge of any pollutant without applying for and obtaining an Ohio National Pollution Discharge Elimination System (NPDES) permit in accordance with the requirements of this chapter. Any person who holds a federal NPDES permit issued under Section 402 (a) of the act is not required to obtain an Ohio NPDES permit until its expiration date. The director shall administer and enforce permits issued under Section 402 (a) of the act within this state, and may modify the terms and conditions thereof, in accordance with division (J) of section 6111.03 of the Revised Code.” ALI was issued an NPDES permit on September 1, 2005.

The ground water control structures are being installed to collect and convey ground water, not leachate. All ground water control structures that will discharge to a surface water body will be regulated by the Ohio NPDES program as contained in OAC Chapter 3745-33. All applicable water standards must be met before any surface runoff or ground water is discharged into a surface water body in accordance with the Ohio NPDES program.

Although not considered leachate, the ground water that will discharge to sedimentation ponds from underdrains will be tested. Condition #12 of the final permit approval states in part, “Not later than 60 days after the effective date of this permit approval, the permittee shall submit a sampling and analysis plan for monitoring the discharge from all underdrains.” The discharge from all sedimentation ponds is also tested for certain parameters as required by ALI's NPDES permit.

**53. A comment was made that not all water supply wells were shown in the permit application.**

OAC Rule 3745-27-06(B)(2)(b) requires that all plan drawings required by (B)(2) of this rule shall include the following based on "publicly available information": all public and private wells, within two thousand feet of the limits of solid waste placement. In addition, OAC Rule 3745-27-06(C)(2)(b)(ii) requires, in part, that " the hydrogeologic site investigation report shall contain, based on publicly available information, the well logs of public and private water supply wells within one mile of the proposed sanitary landfill."

For the purposes of this rule, "publicly available information" means written or published information from public or private sources that is reasonably available to the public, and includes but is not limited to visual surveys from public right-of-ways and public lands of the area surrounding the proposed sanitary landfill facility and/or written or oral surveys of the landowners around the proposed sanitary landfill facility.

The current PTI application has adequately addressed the requirements of OAC Rules 3745-27-06(B)(2)(b) and 3745-27-06(C)(2)(b)(ii).

**54. The application failed to provide complete and accurate hydrogeologic and geotechnical site investigation report, e.g.:**

- a. **failing to characterize full depth of upper most aquifer by including lower units**
- b. **failing to characterize and consider network of fractures**
- c. **failing to identify pathways of migration both vertically and horizontally**
- d. **failing to characterize stratigraphic units**
- e. **failing to consider the local geomorphology**
- f. **failing to consider recharge and discharge areas including surface water impacts**
- g. **failing to characterize the fastest time of travel through the fracture network**
- h. **failing to characterize the groundwater quality below and downgradient of the facility**

OAC Rule 3745-27-06(C)(3)(a) requires, in part:

The site-specific Hydrogeologic Site Investigation Report shall, at a minimum, contain sufficient information to allow the director to determine the suitability of the site for solid waste disposal through the following:

- (i) Identification and characterization of the hydrogeology of the uppermost aquifer system and all stratigraphic units that exist above the uppermost aquifer system.
- (ii) Characterization of the site geology and hydrogeology to allow for the evaluation of the proposed design of the sanitary landfill facility and to ensure that it will be in compliance with the requirements of OAC Rules 3745-27-07 and 3745-27-10.

The Hydrogeologic Site Investigation Report (HSIR) contained in the PTI application includes sufficient site specific information to identify and characterize the hydrogeology of the uppermost aquifer system and all stratigraphic units that exist above the uppermost aquifer system, and allow for the evaluation of the proposed design of the sanitary landfill facility and to ensure that it will be in compliance with the requirements of OAC Rules 3745-27-07 and 3745-27-10.

In accordance with OAC Rule 3745-27-06(C)(3)(b), the HSIR contains a description, based on publicly available information, of the regional geology and hydrogeology within one mile of the proposed sanitary landfill facility. This description includes, but is not limited to the following information:

- (i) Identification and average yield of the regional aquifer system(s);
- (ii) Direction of ground water flow in the regional aquifer system(s);
- (iii) Identification of recharge and discharge areas of the regional aquifer;
- (iv) Regional stratigraphy, including any regional stratigraphic or structural features, such as the bedrock surface, bedrock dip, or joint systems, that may influence the ground water flow system;
- (v) Description of the regional geomorphology, including the location of surface water bodies, flood plains, etc. and a description of any topographic features that may influence the ground water flow system.

Ohio EPA has determined the HSIR meets the requirements of OAC Rule 3745-06(C)(3) and contains sufficient information to allow the director to determine the suitability of the site for solid waste disposal.

- 55. The application does not include an adequate groundwater monitoring plan. The proposed plan will not be capable of detecting the groundwater contamination resulting from the operation of the existing landfill or expansion areas. The wells are not located at a sufficient depth to detect contaminants migrating vertically, nor are all the horizontal pathways of migration being monitored.**

OAC Rule 3745-27-10(A)(1) requires in part, that “the owner or operator of a sanitary landfill facility shall implement a ground water monitoring program capable of determining the impact of the facility on the quality of ground water occurring

within the uppermost aquifer system (UAS) and all significant zones of saturation (SZS) above the uppermost aquifer system underlying the sanitary landfill facility.”

The facility is monitoring the Brookville Coal/Putnam Hill Limestone as the uppermost aquifer system, and both the Clarion Formation and Lower Kittanning Coal/mine spoil as SZS located above the UAS based on the site specific information contained in the present PTI application, and previously approved PTI applications. The current and proposed ground water monitoring system consists of a sufficient number of wells installed in both the UAS and SZS. The wells have been located at appropriate locations and depths to yield ground water samples that represent the quality of the ground water passing directly downgradient of the limits of solid waste placement in accordance with OAC Rule 3745-27-10(B)(1). See also the response to Comment 48.

Please note there is no regulation in Ohio’s Solid and Infectious Waste Regulations that requires a facility to initially monitor a hydrogeologic unit below the designated UAS. The UAS, or an SZS above the UAS, would be the first unit to be impacted in the event of a release of waste-derived constituents.

**56. The director should consider the additional criteria under OAC Rules 3745-27-07(B)(1) and 3745-27-07(B)(2) and deny the permit application.**

OAC Rule 3745-27-07(B), in part, allows the director to consider, when determining whether or not to approve a permit to install application for a sanitary landfill facility, the following:

- (1) The impact the establishment or modification of the sanitary landfill facility may have on corrective measures that have been taken, are presently being taken, or are proposed to be taken at the facility or in the immediate area.
- (2) The technical ability of the owner or operator to adequately monitor the impact of the sanitary landfill facility on the environment.

Ground water monitoring well LKC-6, located in the Lower Kittanning Coal/mine spoil significant zone of saturation on the south side of the facility, is in assessment. The owner has determined the rate, concentration, and extent of impacted ground water in a final Ground Water Assessment Report. The facility has submitted to Ohio EPA a Corrective Measures Plan which includes corrective measure options based on both approval and/or denial of the proposed PTI application that meet the requirements of OAC Rule 3745-27-10(F). As such, the PTI application will have no adverse effect on any corrective measure undertaken at the American Landfill facility.

The current and proposed ground water monitoring system contained in the PTI

application meet the requirements of OAC Rule 3745-27-10(B); the ground water monitoring system consists of a sufficient number of wells, installed at appropriate locations and depths, that are capable of yielding ground water samples that represent the quality of the background ground water that has not been affected by past or present operations at the sanitary landfill facility and the quality of the ground water passing directly downgradient of the limits of solid waste placement.

- 57. The proposed monitoring network appears to utilize existing wells which are part of a currently approved detection monitoring system along with the installation of new wells. However, the rationale for the placement of the wells should be expanded upon in the proposed monitoring plan. The location of the wells (both by area and at depth) should be justified with the anticipated flow paths of the hydrogeologic system. This system must meet the criteria set forth in OAC Rule 3745-27-10. Specifically, the presence of seeps/springs and their potential impact to surface water, the presence of water transmissive zones at the bedrock-regolith contact, and the monitoring wells locations at the tributary valleys need to be addressed by the proposed groundwater monitoring plan.**

The current and proposed ground water monitoring system contained in the PTI application meet the requirements of OAC Rule 3745-27-10(B); the ground water monitoring system consists of a sufficient number of wells, installed at appropriate locations and depths, that are capable of yielding ground water samples that represent the quality of the background ground water that has not been affected by past or present operations at the sanitary landfill facility and the quality of the ground water passing directly downgradient of the limits of solid waste placement.

OAC Rule 3745-27-10(B)(5) requires, in part, that the owner or operator evaluate, at least annually until the end of the post-closure care period, the ground water surface elevation data obtained in accordance with paragraph (C)(3) of this rule to determine whether the requirements of paragraph (B) of this rule for locating the monitoring wells continue to be satisfied. If the evaluation shows that paragraph (B) of this rule is no longer satisfied, the owner or operator shall immediately revise the number, location, and/or depth of the monitoring wells to bring the ground water monitoring system into compliance with this requirement and place documentation of the revision into the operating record in accordance with paragraph (B)(3)(d) of this rule.

- 58. OAC Rule 3745-27-06(C)(2)(c)(iv)(c) requires the identification and characterization of recharge and discharge areas within the boundaries of the proposed sanitary landfill facility. This shall include any relationships of groundwater with seeps, springs, streams, and other surface water features. Are seeps present on the site? If present, is the flow associated with seeps intermittent based upon precipitation events? The common elevations between the wetlands that border the current limits of waste areas suggest**

**that they may be spring-fed. The text fails to identify any investigation as to the presence of seeps on the site. Given the amount of spoil that abuts waste on the site and the relatively impermeable nature of the Clarion Shale, how is this justified? Though the spoil has a great range of hydraulic conductivity/permeability, and varying moisture contents, saturated and wet intervals do exist in these units. In addition, based upon the analytical data presented in Appendix J, one of the two chlorinated volatile organic compounds detected (1, 1-dichloroethane at 1.5 ug/L) was identified in a monitoring well (LKC-1) in this SZS unit. An adequate investigation as to the presence of seeps should be conducted at the site during high-flow conditions. The quality of water at each seep should be assessed to assure that leachate-derived parameters are not affecting surface water quality on or off site.**

OAC Rule 3745-27-06(C)(2)(c)(iv)(c) does not exist. OAC Rule 3745-27-06(C)(3)(d)(iv), however, requires that the hydrogeologic and geotechnical site investigation report (HSIR) include, in part, the "identification and characterization of recharge and discharge areas within the boundaries of the proposed sanitary landfill facility. This shall include any relationships of ground water with seeps, springs, streams, and other surface water features."

The site specific HSIR contained in the PTI application indicates that no observable ground water seeps are present within the boundaries of the proposed sanitary landfill facility. The HSIR identifies the adjacent low-lying wetlands along the perimeter of the proposed facility as ground water discharge areas. It also identifies the two major buried valleys located outside the boundaries of the proposed sanitary landfill facility, where the hydrogeologic units beneath the current and proposed facility subcrop, as ground water discharge areas.

The HSIR includes sufficient information to allow the director to determine the suitability of the site for solid waste disposal through the identification and characterization of the hydrogeology of the uppermost aquifer system and all stratigraphic units that exist above the uppermost aquifer system, and characterization of the site geology and hydrogeology to allow for the evaluation of the proposed design of the sanitary landfill facility and to ensure that it will be in compliance with the requirements of OAC Rules 3745-27-07 and 3745-27-10 in accordance with OAC Rule 3745-27-06-(C)(3)(a).

The current and proposed site specific ground water monitoring plan contains ground water monitoring wells located between the current and proposed limits of waste placement and the identified ground water discharge areas. In accordance with OAC Rule 3745-27-10(B), the ground water monitoring system contains a sufficient number of wells that are located as close as practicably possible to the current and proposed limits of solid waste placement in order that a release of waste derived constituents would immediately be detected as soon as possible prior

to discharge to a surface water body.

### Air Responses

- 59. The odors from the landfill negatively affect the residents who live near the landfill. In addition to the odors that are traveling to the residences, harmful gases are also traveling to the residences.**

In September of 2005, special sampling was conducted at the landfill by the Canton City Health Department, Air Pollution Control Division to characterize the gases being emitted during the drilling of a landfill gas collection well. Based on a review of the results of the sampling, the Canton City Health Department and the Air Toxic Unit of the Ohio EPA Division of Air Pollution Control state that the concentration of air contaminants measured at the drilling site are below levels that would be expected to result in any adverse health or welfare effects to citizens near the landfill.

- 60. The air emissions from the landfill are harmful to produce grown in the area.**

The amount of air pollution emitted by this facility complies with the applicable law and is relatively small. For this reason, we do not expect any adverse effects on vegetable gardens.

- 61. Due to the presence of the landfill in the area, tap water in neighboring residences catches fire.**

There is no evidence to support this claim. There is evidence to refute it. The Canton City Health Department, Air Pollution Control Division conducted testing of water supplies in some basements, at the tap, and in a spring house about 5 years ago. There was no evidence of any explosive levels of gas and no water ignited.

### **References**

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