



January 26, 2021

**CERTIFIED MAIL NO. 7020 1290 0001 7622 4942**

Robert Garner, Jr., Executive Director  
Greater Lebanon Refuse Authority  
1610 Russell Road  
Lebanon, PA 17046

Re: Major Permit Modification  
Heilmandale Expansion  
Greater Lebanon Refuse Authority Municipal Waste Landfill  
Permit No. 101544  
APS ID No. 979433, Authorization ID No. 1249254  
North Lebanon, North Annville, & Swatara Townships, Lebanon County

Dear Robert Garner:

Enclosed is a permit modification to Solid Waste Permit No. 101544 for the operation of the Greater Lebanon Refuse Authority Municipal Waste Landfill, issued in accordance with Article V of the Solid Waste Management Act, 35 P.S. Sections 6018.101, et seq.

This modification approves both a lateral and vertical expansion of the closed landfill site north of Russell Road, originally permitted under permit number 100825, hereafter referred to as the "Heilmandale Expansion". The Environmental Assessment for this modification, which was completed on November 18, 2020, is attached to this permit modification.

Compliance with the terms and conditions set forth in the permit is mandatory. You have the right to file an appeal as to these terms and conditions.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board) pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S.A. Chapter 5A. The Board's address is:

Environmental Hearing Board  
Rachel Carson State Office Building, Second Floor  
400 Market Street  
PO Box 8457  
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800.654.5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at <http://ehb.courtapps.com> or by contacting the Secretary to the Board at 717.787.3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

**IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717.787.3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.**

**IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.**

If you have any questions about the enclosed permit or requirements of the Solid Waste Management Act, please contact Edward Rawski at 717.705.6637.

Sincerely,

*Anthony L. Rathfon*

Anthony L. Rathfon  
Program Manager  
Waste Management Program

Enclosure(s)

cc: Denise Wessels, P.E., SCS Engineers  
North Lebanon Township Supervisors  
North Annville Township Supervisors  
Swatara Township Supervisors  
Lebanon County Commissioners

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
WASTE MANAGEMENT PROGRAM  
SOUTHCENTRAL REGION

FORM NO. 13-A

MODIFICATION TO SOLID WASTE DISPOSAL AND/OR PROCESSING PERMIT

Under the provisions of Act 97, the Solid Waste Management Act of July 7, 1980, as amended, Solid Waste Permit Number 101544, issued on October 10, 1990, to:

Greater Lebanon Refuse Authority  
1750 Russell Road  
Lebanon, PA 17042

North Lebanon & North Annville Townships, Lebanon County

is hereby modified as follows:

This modification approves both a lateral and vertical expansion of the closed landfill site north of Russell Road, originally permitted under permit number 100825, hereafter referred to as the "Heilmandale Expansion".

This permit modification is issued based on the following submissions:

1. Major Permit Modification Application, prepared by SCS Engineers and dated July 23, 2018, received by the Department on July 23, 2018, consisting of the following:

Phase I Expansion Permit Modification, Volume 1 of 2

- General Information Form – Authorization Application
- Form A, Application for Municipal or Residual Waste Permit with Supporting Site Map
- Copies of Notification Letters to the Townships and County
- Copies of Notification Letters to the Contiguous Landowners
- Copies of Land Use Letters to the County and North Lebanon Township
- Form B, Professional Certification

This permit modification shall be attached to the existing Solid Waste Permit described above and shall become a part thereof effective on January 26, 2021.

*Anthony L. Rathfon*

FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

1. Major Permit Modification Application (continued):

- Form B1, Application Form Certification
- Form C1, Compliance History Certification with Supporting Attachments
- Form D, Environmental Assessment for Municipal and Residual Waste Management Facilities with Supporting Narrative and Documentation

Phase I Expansion Permit Modification, Volume 2 of 2

- Form E, Contractual Consent of Landowner with Supporting Attachments
- Form F, Soil Information – Phase I with Supporting Narrative and Documentation
- Form 1, Facility Plan with Supporting Narrative
- Form 2, Map Requirements – Phase I Municipal Waste and Construction/Demolition Waste Landfills with Supporting Documentation
- Form 6, Geologic Information – Phase 1 with Supporting Narrative and Documentation
- Form 7, Hydrogeologic Information, Phase 1 with Supporting Narrative and Documentation
- Form 8, Municipal Waste Landfill, Baseline Ground Water Analyses
- Form 11, Mineral Deposits Information – Phase 1
- Form 12, Alternative Water Supply – Phase 1 with Supporting Narrative
- Form 46, Relationship between Municipal Waste Management Plans and Permits

Phase II Expansion Permit Modification, Volume 1 of 3

- Form G (A), Air Resources Protection, Dust Emissions Estimate and Control Plan with Supporting Narrative and Documentation
- Form G (B), Air Resources Protection, NMOC Emissions Estimate and Control Plan with Supporting Narrative and Documentation
- Form H, Revegetation with Supporting Narrative
- Form I, Soil Erosion and Sedimentation Controls with Supporting Narrative and Documentation
- Form J, Soils Information – Phase II with Supporting Documentation
- Form K, Gas Management with Supporting Narrative
- Form L, Contingency Plan for Emergency Procedures with Preparedness, Prevention, and Contingency (PPC) Plan
- Form Q, Request for Equivalency Review for Use of Geocomposite Drainage Net in the Leachate Detection Zone with Supporting Narrative
- Form Q, Request for Equivalency Review for Alternate Bench Spacing and Width with Supporting Narrative
- Form Q, Request for Equivalency Review for Use of Geosynthetic Clay Liner as Subbase with Supporting Narrative

1. Major Permit Modification Application (continued):

Phase II Expansion Permit Modification, Volume 2 of 3

- Drawing 1, Title Sheet
- Drawing 2, Overall Site Key Map
- Drawing 3, Existing Conditions I
- Drawing 4, Existing Conditions II
- Drawing 5, Overall Excavation Grade Plan
- Drawing 6, Overall Top of Leachate Collection Layer Plan
- Drawing 7, Overall Final Cover Grade Plan
- Drawing 8, Site Monitoring Plan with Groundwater Contours
- Drawing 9, Phasing Plan – Pad 8
- Drawing 10, Phasing Plan – Pad 9
- Drawing 11, Phasing Plan – Pad 10
- Drawing 12, Phasing Plan – Pad 11
- Drawing 13, Phasing Plan – Pad 12
- Drawing 14, Phasing Plan – Pad 13
- Drawing 15, Landfill Cross-Sections I
- Drawing 16, Landfill Cross-Sections II
- Drawing 17, Landfill Cross-Sections III
- Drawing 18, Liner System Details
- Drawing 19, Perimeter Road Profile
- Drawing 20, Perimeter and Landfill Access Road Profile
- Drawing 21, Perimeter & Haul Road Details
- Drawing 22, Leachate Collection / Detection System Plan
- Drawing 23, Leachate Collection System Details
- Drawing 24, Leachate Collection Sump Plan
- Drawing 25, Leachate Sump Sections I
- Drawing 26, Leachate Sump Sections II
- Drawing 27, Leachate and Landfill Gas Transmission Plan
- Drawing 28, Landfill Gas Decommissioning Plan
- Drawing 29, Landfill Gas System Plan
- Drawing 30, Landfill Gas System Plan for Old Waste
- Drawing 31, Landfill Gas Details I
- Drawing 32, Landfill Gas Details II
- Drawing 33, Overall Stormwater Management Plan
- Drawing 34, Stormwater Details I
- Drawing 35, Stormwater Details II
- Drawing 36, Erosion & Sediment Control Details

1. Major Permit Modification Application (continued):

Phase II Expansion Permit Modification, Volume 3 of 3

- Form 14, Operation Plan – Phase II with Supporting Narrative and Documentation
  - Form 18, Water Quality Monitoring System, Phase II with Water Quality Monitoring Plan
  - Form 24, Liner System – Phase II with Supporting Narrative and Documentation, including Settlement Accommodation Plan
  - Form 25, Leachate Management – Phase II with Supporting Narrative and Documentation
  - Form 28, Closure / Post-Closure Land Use Plan with Supporting Narrative and Bonding Worksheets
  - Form 45, Protection of Capacity with Supporting Documentation
2. Additional information and permit application forms in response to the Department's Administrative Incompleteness Review Letter, prepared by the Greater Lebanon Refuse Authority and dated October 30, 2018, received by the Department on October 31, 2018, consisting of the following:
- Proof of Notice for Newspaper Publication
  - Certified Mail Delivery Receipts of Notices to the Townships and County
  - Certified Mail Delivery Receipts of Notices to the Contiguous Landowners
  - Form R, Waste Analysis and Classification Plan with Supporting Documentation
  - Form 54, Background Meteorological Monitoring with Supporting Documentation
  - Form X, Radiation Protection Plan with Supporting Documentation, including Radiation Protection Plan
3. Additional and revised information in response to the Department's Environmental Assessment Letter, prepared by the Greater Lebanon Refuse Authority and dated April 9, 2019, received by the Department on April 12, 2019, consisting of the following:
- Revised Form D Narrative
  - 2004 Traffic Impact Study, prepared by Gannett Fleming
  - Letter from Lebanon County Planning Department, dated February 27, 2017, stating that a Traffic Impact Study was not currently necessary for the landfill expansion proposal
  - PennDOT Type 10 General Highway Map of Lebanon County (annotated)
  - Photograph Renderings of various locations around the landfill for Visual Impact Analysis
  - 3-Mile Radius Visibility Map for Visual Impact Analysis

4. Additional and revised information in response to the Department's Second Environmental Assessment Review Letter, prepared by the Greater Lebanon Refuse Authority and dated January 14, 2020, received by the Department on January 16, 2020, consisting of the following:
  - Revised Form D Narrative
  - Draft Regulations, dated July 2, 2019, for the Greater Lebanon Refuse Authority
  - Draft Policies and Procedures Manual, dated June 5, 2019, for the Greater Lebanon Refuse Authority
  - Revised Form 14 Narrative
  - Landfill Excavation Plan
  - 5-Year and 10-Year Photograph Renderings from Russell and Heilmandale Intersection for Visual Impact Analysis
  
5. Additional and revised information in response to the Department's First Technical Review Letter, prepared by SCS Engineers and dated December 16, 2020, received by the Department on December 17, 2020, consisting of the following:

Volume 1 of 2

- Revised Form I Stormwater Calculations
- NPDES Permit No. PA0080322, dated February 9, 2018
- Revised Form J Construction Quality Assurance Plan
- Revised Form L PPC Plan
- Revised Form Q, Request for Equivalency Review for Alternate Bench Spacing and Width with Revised Supporting Narrative
- Revised Drawing 1, Title Sheet
- Revised Drawing 5, Overall Excavation Grade Plan
- Revised Drawing 6, Overall Top of Leachate Collection Layer Plan
- Revised Drawing 7, Overall Final Cover Grade Plan
- Revised Drawing 8, Site Monitoring Plan with Groundwater Contours
- Revised Drawing 9, Phasing Plan – Pad 8
- Revised Drawing 10, Phasing Plan – Pad 9
- Revised Drawing 11, Phasing Plan – Pad 10
- Revised Drawing 12, Phasing Plan – Pad 11
- Revised Drawing 13, Phasing Plan – Pad 12
- Revised Drawing 14, Phasing Plan – Pad 13
- Revised Drawing 15, Landfill Cross-Sections I
- Revised Drawing 16, Landfill Cross-Sections II
- Revised Drawing 17, Landfill Cross-Sections III
- Revised Drawing 18, Liner System Details

5. Response to the Department's First Technical Review Letter (continued):

- Revised Drawing 19, Perimeter Road Profile
- Revised Drawing 20, Perimeter and Landfill Access Road Profile
- Revised Drawing 21, Perimeter & Haul Road Details
- Revised Drawing 22, Leachate Collection / Detection System Plan
- Revised Drawing 23, Leachate Collection System Details
- Revised Drawing 25, Leachate Sump Sections I
- Revised Drawing 26, Leachate Sump Sections II
- Revised Drawing 27, Leachate and Landfill Gas Transmission Plan
- Revised Drawing 28, Landfill Gas Decommissioning Plan
- Revised Drawing 29, Landfill Gas System Plan
- Revised Drawing 30, Landfill Gas System Plan for Old Waste
- Revised Drawing 32, Landfill Gas Details II
- Revised Drawing 33, Overall Stormwater Management Plan
- Revised Drawing 34, Stormwater Details I
- Revised Drawing 35, Stormwater Details II
- Drawing A-1, Pump Stations No. 8 & No. 10, Architectural Plan and Sections
- Drawing A-2, Pump Stations No. 8 & No. 10, Architectural Elevations
- Drawing A-3, Pump Stations No. 8 & No. 10, Architectural Details
- Drawing M-1, Pump Stations No. 8 & No. 10, Mechanical Plan, Sections, and Details
- Drawing M-2, Pump Stations No. 8 & No. 10, Mechanical Details and Schedules

Volume 2 of 2

- Revised Form 24 with Revised Supporting Narrative, Revised Slope Stability Analysis, and Revised Settlement Accommodation Plan
- Revised Bonding Worksheets
- Revised Form R Waste Characterization Plan
- Revised Form X Radiation Protection Plan
- Revised Form 18 Water Quality Monitoring Plan
- Revised Form 25 Narrative
- Revised Form B
- Revised Form B1

6. Revised Bonding Worksheets G and L for the Heilmandale Expansion, prepared by the Greater Lebanon Refuse Authority and dated December 21, 2020, received by the Department on December 30, 2020.



7. Revised information prepared by the Greater Lebanon Refuse Authority and dated January 12, 2021, received by the Department on January 13, 2021, consisting of the following:
  - Revised Form 18 with Revised Water Quality Monitoring Plan
  - Revised Bonding Worksheets for the Heilmandale Expansion
8. Revised Bonding Worksheets for the Heilmandale Expansion, prepared by SCS Engineers and received by the Department on January 14, 2021.

PERMIT CONDITIONS:

1. The Permittee shall construct the approved facility in accordance with the design details approved herein and under the oversight of a licensed professional engineer who is registered to practice in the Commonwealth of Pennsylvania. Each individual construction project of the approved facility shall be documented, and this documentation shall be submitted with a Form 37, *Certification of Facility Construction Activity*, upon completion of the individual construction project and for Department approval prior to operation of the constructed facility.
2. The Permittee shall complete all mitigations and provide for all benefits identified in the Department's Environmental Assessment of this permit modification. Failure to either complete the mitigations or provide the benefits that are identified in the Environmental Assessment of this permit modification may result in suspension or revocation of this permit, as well as other enforcement actions that the Department deems necessary.
3. A report of mitigations completed to date and benefits provided to date shall be submitted annually with the Permittee's Annual Operation Report, due by June 30 of every calendar year.
4. Abandonment of any landfill gas collection well shall be under the oversight of a licensed professional engineer who is registered to practice in the Commonwealth of Pennsylvania. The abandonment shall be documented, and this documentation shall be submitted with a Form 37, *Certification of Facility Construction Activity*, upon completion of the abandonment of the landfill gas collection well for Department approval.
5. Installation or abandonment of any groundwater monitoring well, including piezometers and test wells, shall be under the oversight of a licensed professional geologist who is registered to practice in the Commonwealth of Pennsylvania. The installation or abandonment shall be documented, and this documentation shall be submitted with a Form 37, *Certification of Facility Construction Activity*, within 60 days from completion of the installation or abandonment of the groundwater monitoring well for Department approval. A revised Form 6, *Geologic Information – Phase 1*, to include updated construction and lithologic logs, shall be included with the Form 37 for wells that are installed. The revised Form 6 shall also include updated narrative description and geologic mapping, if warranted based on new geologic information obtained during the well installations.

6. All well drilling and abandonment activities shall be consistent with both Act 610, *Water Well Drillers License Act*, and the *Pennsylvania Groundwater Monitoring Guidance Manual*, and shall be proposed to the Department for approval prior to work being performed. All required forms, notices, and reports shall be submitted to both the Department and to the Water Well Drillers Licensing Service of the Pennsylvania Geological Survey.
7. The Permittee shall submit a revised Water Quality Monitoring Plan to the Department for approval within 90 days from the issuance of this permit.
8. A revised Form 18, *Water Quality Monitoring System, Phase II*, shall be submitted within 60 days from the completion of the final groundwater monitoring system described in the Water Quality Monitoring Plan, but no greater than 180 days subsequent to the completion of any individual well installation or abandonment activities. The approved groundwater monitoring system includes the installation of wells M-12D, M-57, M-57D, M-58 and M-58D, as well as the abandonment of wells M-14, M-14D, M-21, M-22A, M-44, M-44D, M-46, M-47, M-47D and M-0L6, unless otherwise approved by the Department. In addition, a revised Form 18 shall be submitted within 60 days from the completion of any future approved well installation or abandonment activities, but no greater than 180 days subsequent to the completion of approved well installation or abandonment activities for any individual well.
9. Any final operation, design, or other plan developed subsequent to permit issuance which exhibits changes in the structures, locations, specifications, control measures or other changes of substance shall be submitted to the Department for subsequent permit action. Any deviation of plans herein approved shall not be implemented before first obtaining a permit modification or written approval from the Department.
10. Nothing herein shall be construed to supersede, amend or authorize violation of the provisions of any valid and applicable local law ordinance, or regulation, provided that said local law, ordinance or regulation is not preempted by the Pennsylvania Solid Waste Management Act, the Act of July 7, 1980, Act 97, 35 P.S. § 6018.101, et seq.

## **Greater Lebanon Refuse Authority Municipal Waste Landfill**

### **Application for Lateral and Vertical Expansion Environmental Assessment Analysis**

#### **Project Description**

Greater Lebanon Refuse Authority submitted a major permit modification application on July 23, 2018. Greater Lebanon Refuse Authority is proposing both a lateral and a vertical expansion to the closed section of the Greater Lebanon Refuse Authority Municipal Waste Landfill (GLRA Landfill) adjacent to Heilmandale Road, formerly permitted under permit number 100825. This expansion would add six (6) waste disposal cells, totaling approximately 47 acres, onto the closed landfill. Three of the waste disposal cells will be built entirely upon existing waste of the closed landfill, and three of the cells will be built partially upon existing waste of the closed landfill. The expansion would add approximately 140 feet of elevation to the closed landfill site, as well as provide approximately 5,903,000 cubic yards of additional waste disposal capacity to the GLRA Landfill.

The permit for GLRA Landfill expires February 1, 2025, unless an application for a permit renewal is submitted to DEP to extend the permit term. GLRA Landfill has approximately 5.6 years of disposal capacity remaining (as of June 2019), at which time it must close, unless this expansion application is approved by DEP. The application that was submitted is for a landfill design of about 15 years of disposal capacity based upon anticipated daily operating volumes.

The application was deemed administratively complete by the Southcentral Regional Office on November 5, 2018. DEP negotiated an application review time with Greater Lebanon Refuse Authority of 563 business days (826 calendar days), beginning on September 26, 2018, and ending December 30, 2020.

A Local Municipal Involvement Process meeting was held on September 26, 2018. A public meeting was held on January 15, 2019. A second public meeting, along with a subsequent public hearing, was held on May 9, 2019.

The scope of this environmental assessment review will be the impacts that would result from the applicant's proposed landfill expansion. DEP does not consider existing impacts from currently permitted operations to be within the scope of the environmental assessment.

#### **Environmental Assessment Process**

The following is a general summary of DEP's Environmental Assessment (EA) process. For further details, see DEP's guidance document entitled "Environmental Assessment Process, Phase I Review" (Document No. 254-2100-101), available on DEP's internet site. DEP referred to this guidance document when analyzing the applicant's EA.

DEP conducts the EA review under 25 Pa. Code §§ 271.126–127 (EA regulations). Applications subject to the EA regulations must: (1) include a detailed analysis of the potential impact of the proposed facility on the environment, public health and public safety; (2) describe the known and potential harms of the proposed project; (3) include a written mitigation plan that explains how the applicant will mitigate each known or potential harm and the extent to which any known or potential harms remain after mitigation; and (4) demonstrate that the benefits of the project to the public clearly outweigh the known and potential environmental harms that will remain after the proposed mitigation. Benefits, as well as known and potential harms, can be identified by the applicant, DEP or other agencies, and any municipality or person.

The harms and benefits of the project can be: (1) social and economic, and/or (2) environmental. To determine whether an impact is a harm or a benefit, and the extent of that harm or benefit, DEP compares the conditions that would result from the applicant’s proposed project to the conditions that would exist if the proposed project does not go forward. Where appropriate, past performance may be used to predict future results related to a harm or benefit. DEP will consider only benefits related to the project.

Social and economic (SE) benefits are evaluated after offsetting them with SE harms. Environmental harms are evaluated after offsetting them with acceptable mitigation plans. When balancing the harms and benefits, DEP considers a harm only to the extent that the harm would remain after mitigation. DEP evaluates the mitigation measures to ensure that, individually and collectively, they adequately protect the environment and the public health, safety, and welfare. The remaining environmental harms are then balanced against the benefits to determine whether the benefits clearly outweigh the harms.

Among other things, the degree to which a harm or benefit affects DEP’s balancing depends on the following factors:

1. *For harms, is the harm a “known” harm or a “potential” harm?* A known harm is one that DEP concludes is certain to occur in the future. A potential harm is one that would result from the proposed project under some circumstances, but not others. All other factors being equal, known harms affect DEP’s balancing more than potential harms.
2. *What is the duration, frequency, and intensity of the benefit or harm?* “Duration” refers to how long a harm or benefit continues. “Frequency” refers to how often it will occur; it can be measured on a daily, weekly, or yearly basis, or it may be constant. “Intensity” refers to how much the harm or benefit will be if or when it occurs. For example, a loud noise is more intense than a softer noise. All other factors being equal, the longer the harm or benefit lasts, the more frequently it occurs, or the more intense it is, the more it will affect DEP’s balancing.
3. *How many people are impacted by a benefit or harm?* All other factors being equal, the more people that are impacted by a harm or benefit, the more that harm or benefit will affect DEP’s balancing.

4. *How sensitive are the receptors?* All other factors being equal, the more sensitive the receptors are to a harm or benefit, the more that harm or benefit will affect DEP's balancing. For example, if a harm would impact children more than adults, and the proposed project is in an area with a high population of children, that harm would affect DEP's balancing for that project more than if the project would be in an area without children nearby.

### **EA Evaluation – Harms**

DEP considered the following to be harms for purposes of this EA evaluation:

#### **Real Estate Depreciation**

The potential exists that real estate values near landfills may depreciate because of their proximity to the landfill. If this depreciation occurs, then this would present a social and economic harm. However, DEP has not yet obtained any evidence or studies that support the assertion that landfills cause nearby real estate depreciation. Even if such evidence existed, it would still be difficult for DEP to accurately assess this real estate depreciation since the scope of environmental assessments is limited to only the impacts of proposed landfill expansions.

#### **Mitigation**

GLRA Landfill has not proposed any mitigations to this potential social and economic harm.

#### **DEP Determination of Remaining Impacts**

DEP deems that this potential social and economic harm has a variable intensity, with a continuous frequency and an indefinite duration.

#### **Off-Site Odors**

Nearby residents of the landfill may experience odors resulting from the operations of the landfill.

#### **Mitigation**

To mitigate off-site odors, GLRA Landfill has developed an active gas collection system (i.e., under vacuum) that sends all collected gas to an onsite gas-to-electric generation plant, as well as to an enclosed flare system. This gas collection system is comprised of several gas extraction wells across the entire area of the existing landfill. GLRA Landfill routinely adds new gas extraction wells in new areas of the landfill and as final landfill grades are achieved. GLRA Landfill minimizes the size of its working face to as small of an area as possible with consideration of incoming waste volume and weather conditions. GLRA Landfill prioritizes and hastens the disposal of more-odorous waste loads when they arrive at the landfill. GLRA Landfill conducts off-site odor patrols twice daily during working operations and will further investigate and locate sources of detected odors for remedial actions. GLRA Landfill uses perimeter odor neutralization sprays when necessary to control odors.

Daily compliance with standard regulatory requirements such as daily, intermediate, and final cover applications, waste load compliance with the approved waste acceptance plan, and control of leachate seeps, should they ever arise, will also inherently contribute to the control of odors at the site.

### **DEP Determination of Remaining Impacts**

DEP believes that the mitigation measures offered to reduce odors are only partially effective. DEP has received complaints of off-site odors along Heilmandale Road, which have been communicated to GLRA Landfill. These off-site odors are affected by factors such as weather, particularly wind speed and direction. Working area locations and elevations also affect odor levels.

Due to the location and number of nearby residents, the prevailing wind directions, the occasional odor detections along Heilmandale Road, and the partially effective mitigations conducted by GLRA Landfill, DEP considers off-site odors related to landfill operations to be a moderate environmental harm, with a potentially variable intensity lasting intermittently for 15 years during the life of the expansion.

### **Off-Site Dust**

Nearby residents of the landfill may experience dust resulting from the operations of the landfill.

### **Mitigation**

To mitigate off-site dust, as well as to prevent onsite dust from occurring, GLRA Landfill uses a water truck to water down landfill access roads during dust-conducive weather conditions (e.g., dry, windy, hot, etc.). GLRA Landfill also uses a street sweeper to clean paved roads when heavy mud track-out occurs ahead of or during dust-conducive weather conditions. Compliance with standard regulatory requirements such as final cover application and waste load compliance with the approved waste acceptance plan will also inherently contribute to the control of dust at the site.

### **DEP Determination of Remaining Impacts**

Due to the location and number of nearby residents, the prevailing wind directions, and the efforts conducted by GLRA Landfill on this mitigation, DEP considers dust related to landfill operations to be a minor environmental harm, with a variable but potentially high intensity occurring during daily operations for 15 years during the life of the expansion.

### **Off-Site Vectors**

Nearby residents of the landfill may experience vectors (e.g., insects, rodents, birds) resulting from the operations of the landfill.

## **Mitigation**

To mitigate vectors whenever necessary, GLRA Landfill regularly monitors for vectors. GLRA Landfill minimizes the size of its working face to as concentrated of an area as possible, subject to incoming waste volume and weather conditions. GLRA Landfill employs licensed extermination services when necessary. GLRA Landfill uses decoys and noisemakers, when necessary, to repel birds at the landfill. Routine compliance with the daily, intermediate, and final cover regulatory requirements inherently contributes to the control of vectors at the site.

## **DEP Determination of Remaining Impacts**

DEP recognizes that large bird populations are drawn to landfills, with the GLRA Landfill being no exception, but these bird populations tend to reside at the landfills and do not normally cause any harm to nearby properties.

Due to the location and number of nearby residents, the ability to employ licensed extermination services, and the historical lack of off-site vector nuisances near the GLRA Landfill, DEP considers vectors related to landfill operations to be a potential minor environmental harm of low intensity occurring continuously for 15 years during the life of the expansion.

## **Off-Site Litter**

Nearby residents of the landfill may experience litter resulting from the operations of the landfill.

## **Mitigation**

To mitigate litter, GLRA Landfill actively monitors the primary access route to the landfill during operating days. GLRA Landfill dispatches site personnel to collect litter from all impacted areas, both onsite and off-site, when necessary. GLRA Landfill employs portable, ground level catch fences near working area operations, and has also installed permanent litter control fencing at the landfill. GLRA Landfill minimizes the size of its working face to as concentrated of an area as possible, subject to incoming waste volume and weather conditions. Routine compliance with requirements such as daily cover applications, waste compaction, and proper tarping and cleaning of waste vehicles will also inherently contribute to the control of litter at the site.

## **DEP Determination of Remaining Impacts**

DEP has recognized the litter control efforts of GLRA Landfill over the course of several years. Because of these efforts, and the location and number of nearby residents, DEP considers litter related to landfill operations to be a known but minor environmental harm of low to potentially moderate intensity occurring continuously for 15 years during daily operations through the life of the expansion.

## **Off-Site Noise**

Nearby residents of the landfill may experience noise resulting from the operations of the landfill.

## **Mitigation**

GLRA Landfill operates from 7:00 AM until 4:00 PM, Monday through Friday, and from 8:00 AM until noon on Saturday. It is during these hours that landfill equipment and vehicular traffic is in operation at the landfill. As such, the landfill should not be causing noise disturbances during the remaining hours of the week. As for the hours of operation, GLRA Landfill limits the speed of vehicular traffic within the landfill, as well as requires all landfill equipment and vehicles to have proper functioning muffler systems. GLRA Landfill also maintains a vegetative noise buffer of trees and shrubs along roadways contiguous to the landfill.

## **DEP Determination of Remaining Impacts**

Due to the location and number of nearby residents and the mitigations conducted by GLRA Landfill, DEP considers off-site noise related to landfill operations to be a minor environmental harm, with a low intensity occurring during daily operations for 15 years during the life of the expansion.

## **Aesthetics**

The proposed expansion would add six (6) new waste disposal cells at GLRA Landfill, primarily upon existing landfill, and would add 140 feet of landfill height over already permitted elevations.

## **Mitigation**

GLRA Landfill submitted a *Visual Impact Analysis* for an area within a 3-mile radius of the landfill. This analysis included a site drawing for the 3-mile radial area around the landfill, with 20 radial cross-sections identified within the 3-mile study area. An individual drawing was also provided for each cross-section depicting an elevational profile for the cross-section as well as computer renditions of the projected views of the proposed landfill at 1-, 2-, and 3-mile distances along that cross-sectional profile. At DEP's request, GLRA Landfill provided a color-coded satellite map of the 3-mile study area depicting areas that are currently impacted by view of the landfill, as well as areas that will be impacted in the future by the proposed expansion. GLRA Landfill also provided additional photograph renderings from eight (8) different locations around the landfill depicting current and final landfill images and elevations for both the active Schilling Farm landfill and the proposed Heilmandale Expansion landfill.



GLRA Landfill estimated that approximately 1,980 people currently live within the 3-mile study area, which occupies approximately 28.3 square miles. Of this estimated population, GLRA Landfill estimates that 307 people, living within 5.9 square miles of the study area, are within an area that have some view shed of the two existing landfills of the refuse authority (Schilling Farm and Heilmandale). GLRA Landfill estimates that the proposed Heilmandale Expansion will increase the viewshed to an additional 208 people and an additional 3.4 square miles within the 3-mile study area.

GLRA Landfill asserts that the number of impacted residents, both current and with the proposed expansion, is modestly low (16% and 26% of the total population, respectively), and that the affected areas are equally low (21% and 33% of the total area, respectively). It is worth noting that these area and population estimates do not account for random tree, vegetation, or structure sight occlusions that may currently exist.

GLRA Landfill further asserts that it will both maintain and enhance its current program of vegetative plantings, including both trees and shrubs.

Compliance with standard regulatory requirements such as final cover application and revegetation will also inherently mitigate the aesthetic impacts of this environmental harm.

### **DEP Determination of Remaining Impacts**

DEP finds that tree obstruction, while potentially effective when in place, is not a permanent mitigation. DEP also finds that tree obstruction of the visual impacts may be compromised in several areas with seasonal leaf loss.

Although the visual impact analysis reveals only a modest, 10% increase in affected population impacted by the proposed expansion, along with a modest 12% increase in viewing area, the evaluation had no way of assessing the increased visual impact on the current viewing area (i.e., the 307 people who currently see the landfill). DEP also recognizes that there will be a few houses on Heilmandale Road that will have a direct view of the Heilmandale expansion area when the height of the landfill reaches a certain elevation.

For the scope and purpose of this harms/benefits analysis, DEP can only consider the additional six (6) waste disposal cells and the additional 140 feet of landfill height that would result from this proposed landfill expansion. DEP finds that the visual impact of the additional waste disposal cells and 140 feet of landfill height dissipates over distance. DEP, nonetheless, does consider this to be a moderate environmental harm due to the 140-foot elevation increase and its permanence. The impact will be more significant to residents that live closest to the Heilmandale Expansion on Heilmandale road. The impact will be greater during the remaining years of site operation but will gradually decrease after final closure of the landfill. The harm has a definite, though variable, intensity, as well as a duration and a frequency that are both permanent.

## **Truck Traffic**

GLRA Landfill has three (3) approved approach (i.e., haul) routes. Approach Route 1 begins at the intersection of State Route (SR) 422 and SR 72 in Lebanon City and proceeds north on SR 72 for approximately 4 miles to SR 4006 (Heilmandale Road), then for approximately 1.2 miles to Russell Road, then for approximately 0.6 miles to the landfill entrance. Approach Route 2 begins at the junction of U.S. Route 22 and SR 72 and proceeds south on SR 72 for approximately 5 miles to Heilmandale Road, then for approximately 1.2 miles to Russell Road, then for approximately 0.6 miles to the landfill entrance. Approach Route 3 begins at the intersection of SR 422 and SR 934 in Annville and proceeds north on SR 934 for approximately 1.7 miles to SR 4004 (Hill Church Road), then for approximately 2 miles to Russell Road, then for approximately 1.9 miles to the landfill entrance. DEP recognizes that with daily trash truck traffic on these routes, the potential exists for litter, emissions, odors, noise, road mud, and safety issues due to the size and nature of waste hauling vehicles.

## **Mitigation**

A Traffic Impact Study was prepared for GLRA Landfill in 2004 and submitted to both DEP and to the Pennsylvania Department of Transportation as part of their 2004 permit application requesting an increase in both average and maximum daily volumes. DEP eventually issued a permit on March 15, 2006, authorizing an increase in the average daily volume to 750 tons per day, and an increase in the maximum daily volume to 1,100 tons per day, if needed due to waste volume being generated in Lebanon County.

As part of this landfill expansion proposal, GLRA provided information to the Lebanon County Planning Department requesting a decision on whether a traffic study was necessary for the routine crossing of Russell Road from the current weigh scales of the Schilling Farm landfill to the proposed Heilmandale disposal areas. In a final decision letter dated February 27, 2017, the County stated that a traffic study was not warranted. Nevertheless, GLRA Landfill plans to install truck crossing signs on Russell Road should this expansion proposal be approved.

GLRA Landfill has appointed an Enforcement Officer to oversee compliance with all GLRA regulations, including waste vehicle rules regarding vehicle weight, tarping, leaks, and Act 90 compliance. GLRA Landfill issues notification letters to all haulers in violation of being greater than two (2) tons over maximum vehicle weight. GLRA Landfill reports all overweight violations to DEP. GLRA Landfill may issue a \$2,000 penalty to any hauler in violation of weight limits. The Enforcement Officer also dispatches a safety management team to the local haul routes daily in order to monitor for waste vehicle nuisances and unsafe driving.

## **DEP Determination of Remaining Impacts**

There have been minimal complaints from residents regarding traffic related issues in the past few years. DEP believes that the landfill's current operating procedures, including the strict enforcement of its operating and safety rules, has mitigated most environmental issues such as litter, leaks, odors, mud, and dust on the local haul routes.

Because of the landfill's efforts in enforcing its rules, as administered by its Enforcement Officer, its daily surveillance of the local haul routes, and the consultation with the Lebanon County Planning Department regarding the Russell Road truck crossings, DEP considers truck traffic related to the landfill to be a minor environmental harm, with a low to potentially moderate intensity for 15 years during daily operations through the life of the expansion.

### **EA Evaluation – Benefits Accepted by DEP**

**DEP considered the following to be environmental benefits for purposes of the EA evaluation:**

#### **Recycling Drop Off Containers and Special Waste Collection**

GLRA Landfill provides onsite containers for the public to drop off recyclable materials consistent with Act 101, the Commonwealth's recycling law. Between 2000 and 2017, this recycling collection has netted 1,690 tons of paper fiber, 233 tons glass, 106 tons of plastics, 102 tons of aluminum and tin cans, and 1,218 tons of scrap metal. GLRA Landfill has also recycled 190 tons of tires since 2000, as well as collected 2,099 tons of electronic waste, 422 tons of household hazardous waste, 211 tons of appliances, and 61 tons of propane tanks. Projecting forward, this environmental benefit should exceed 5,500 tons of collected recyclables and special wastes over the 15-year life of the expansion.

#### **County Compost Facility**

GLRA Landfill operates the Lebanon County Compost Facility. This facility composts yard waste and processes woody waste for desirable end products. This facility also accepts Christmas trees until late-February. Since 2001, the compost facility has received over 10,000 tons of leaf and yard waste, as well as over 3,000 tons of wood waste. Projecting forward, this environmental benefit should exceed 13,000 tons of compostable or processable yard and wood waste over the 15-year life of the expansion.

#### **Reduction of Waste and Leachate from Unlined Disposal Areas**

If approved, the proposed expansion will relocate over 159,000 cubic yards of old waste from currently unlined disposal areas. This expansion will also cover approximately 36 acres of unlined waste with the impervious liner system of the proposed overlying landfill. Together, these two activities would reduce the amount of leachate that is currently generated in these unlined waste disposal areas. This environmental benefit would be both significant and permanent.

**DEP considered the following to be social and economic benefits for purposes of the EA evaluation:**

**Host Benefit Fee - \$1.25 per ton required by 53 P.S. § 4000.1301 and 25. Pa. Code § 273.314**

GLRA Landfill will pay at least \$165,000 per year to North Lebanon Township, per its host municipal agreement, representing the required \$1.25 per ton amount per statute with the approval of the expansion. This represents at least \$2,475,000 to North Lebanon Township over the 15-year life of the expansion.

**Disposal Fee - \$4.00 per ton required by 27 Pa. C.S. § 6301(a)**

GLRA Landfill will pay a Disposal Fee of at least \$528,000 per year to the Commonwealth. This represents at least \$7,920,000 to all Pennsylvania residents during the 15-year life of the expansion.

**Recycling Fee - \$2.00 per ton required by 53 P.S. § 4000.701 and 25 Pa Code § 273.315(c)**

GLRA Landfill will pay a Recycling Fee of at least \$264,000 per year to the Commonwealth. This represents at least \$3,960,000 to all Pennsylvania residents during the 15-year life of the expansion.

**Environmental Stewardship Fee - \$0.25 per ton required by 27 Pa. C.S.A. § 6112(b) and 25 Pa Code § 273.316(c)**

GLRA Landfill will pay an Environmental Stewardship Fee of at least \$33,000 per year to the Commonwealth. This represents at least \$495,000 to all Pennsylvania residents during the 15-year life of the expansion.

**Free Trash Disposal for Nearby Residents**

GLRA Landfill issues annual permits to residents on nearby haul routes which grants them free trash disposal of up to two (2) tons per year. Although this benefit represented a nominal value of less than \$2,000 in 2017, it still demonstrates GLRA Landfill's commitment to lessening landfill impacts upon its immediate neighbors both now, and during the 15-year life of the expansion.

**Local Benefits Attributable to Operating Expenses and Capital Expenditures**

GLRA Landfill asserts that it spends over \$2,270,000 annually in routine operating expenses, such as on fuel and vehicle maintenance, and on capital expenditures such as equipment purchases. This benefit represents a projected expenditure of at least \$34,000,000 to the local economy over the 15-year life of the expansion.

### **Local Benefits Attributable to Payroll Payments**

GLRA Landfill asserts that it spends over \$2,300,000 annually in payroll wages and benefits to its employees. This benefit represents a projected expenditure of at least \$34,500,000 to landfill employees over the 15-year life of the expansion.

### **Benefits Attributable to Tax Revenues**

GLRA Landfill asserts that it pays over \$130,000 per year in payroll and sales taxes. This benefit represents a projected expenditure of at least \$1,950,000 to local, state, and federal taxing authorities over the 15-year life of the expansion.

### **EA Evaluation – Benefits not Accepted by DEP**

#### **Beneficial Use of Landfill Gas**

GLRA Landfill supplies landfill gas to an onsite third-party electric generator that burns the gas to produce electricity for onsite consumption. Nonetheless, DEP policy directs that beneficial use of landfill gas shall not be considered as a benefit in environmental assessment analyses.

#### **Maximizing Use of Current Disposal Area**

GLRA Landfill asserts that the proposed expansion would continue to provide local waste disposal capacity for Lebanon County for the next 15 years. In turn, this would avert the need to haul waste to other disposal sites outside of the county, as well as the possible need to build a waste transfer station within the county. Nevertheless, DEP does not consider the conservation of waste disposal area (i.e., capacity, infrastructure, alternative facilities, etc.) in and of itself to be a benefit, as waste can be readily directed elsewhere given the size of the current waste disposal industry. The possibility of needing a new waste transfer station is also speculative.

#### **Charitable Contributions**

GLRA Landfill provides annual charitable contributions to local fire departments, environmental education programs, clean-up projects, community service projects, emergency assistance to the County, and student field trips to the landfill. As such, DEP recognizes GLRA Landfill's positive and proactive commitment to the wellbeing of the local community. Nevertheless, DEP considers charitable contributions as being discretionary decisions, albeit supported by landfill revenues and assets, as opposed to inevitable events that occur due to landfill activities.

## **Continued Use of the Natural Aquatic Life Treatment System**

GLRA Landfill currently treats leachate-impacted groundwater with a series of 12 ponds containing aquatic vegetation that consumes leachate constituents for nutritive purposes. DEP recognizes that this aquatic treatment system is a novel environmental solution for leachate-impacted groundwater, and that it directly benefits natural aquatic vegetation and habitat. Nonetheless, DEP considers this aquatic treatment system to be outside of the scope of this EA evaluation in that the proposed expansion does nothing to expand or improve this treatment system, and that the treatment system would continue to exist regardless of the proposed expansion.

## **Land Reuse**

GLRA Landfill plans to develop natural, historic, and public use areas from the proposed expansion after the landfill finally closes. As such, DEP recognizes GLRA Landfill's positive and proactive commitment to the environmental and cultural wellbeing of both the local community and the county. Nevertheless, DEP considers these post-closure plans to be outside of the scope of this EA evaluation in that these restorative activities do not depend on, nor would result from, the proposed expansion.

## **Balancing**

After considering the benefits and the known or potential harms, and according each of them a weight as prescribed in the environmental assessment guidance mentioned above, DEP has concluded that the applicant has demonstrated that the benefits of the project to the public clearly outweigh the known and potential environmental harms, as required by 25 Pa. Code § 271.127(c). As noted in this regulation, the "benefits of the project to the public" consist of the environmental benefits of the project together with any social and economic benefits of the project that remain after taking into consideration the known and potential social and economic harms.

In performing the balancing, the first step is to weigh the social and economic harms of the project against the social and economic benefits to obtain a net social and economic benefit. The next step is to weigh the known or potential environmental harms against their associated mitigations to obtain a net environmental harm. Lastly, DEP combines the net social and economic benefit with any environmental benefits, then weighs this net benefit against the net environmental harm.

Real estate depreciation was considered to be a potential social and economic harm.

The following were considered to be social and economic benefits:

- Host Benefit Fee - \$1.25/ton required by 53 P.S. § 4000.1301 and 25. Pa. Code § 273.314 – at least \$165,000 annually
- Disposal Fee - \$4.00/ton required by 27 Pa. C.S. § 6301(a) – at least \$528,000 annually

- Recycling Fee - \$2.00/ton required by 53 P.S. § 4000.701 and 25 Pa Code § 273.315 (c) – at least \$264,000 annually
- Environmental Stewardship Fee - \$0.25/ton required by 27 Pa. C.S.A. § 6112(b) and 25 Pa Code § 273.316(c) – at least \$33,000 annually
- Free Trash Disposal for Nearby Residents – approximately \$2,000 annually
- Local Benefits Attributable to Operating Expenses and Capital Expenditures – at least \$2.27 million annually
- Local Benefits Attributable to Payroll Benefits – at least \$2.30 million annually
- Benefits Attributable to Tax Revenues – at least \$130,000 annually

The following were considered environmental harms after their respective offsetting mitigations:

- Off-site odors were considered to be a moderate environmental harm.
- Off-site dust was considered to be a minor environmental harm.
- Off-site vectors were considered to be a potential minor environmental harm.
- Off-site litter was considered to be a minor environmental harm.
- Off-site noise was considered to be a minor environmental harm.
- Aesthetic impact was considered to be a moderate environmental harm.
- Truck traffic was considered to be a minor environmental harm.

The following were considered to be an environmental benefit:

- Recycling Drop Off Containers and Special Waste Collection
- County Compost Facility
- Reduction of Waste and Leachate from Unlined Disposal Areas

Real estate depreciation was the only social and economic harm considered in this analysis. This potential, albeit currently unmitigated, harm was compared to the list of social and economic benefits, all of which are quantifiable monetary sums resulting from periodic fees, taxes, and economic spending incidental to the operation of the landfill. The net benefit of this social and economic comparison was then further combined with the environmental benefits of a local recycling program, a compost facility, and a projected decrease of landfill leachate from old, unlined waste disposal areas. This overall net benefit was then compared to the list of environmental harms as ameliorated after analysis against their respective mitigations.

The environmental harms of off-site dust, vectors, litter, noise, and truck traffic were all considered to be minor when offset by their routine and proposed mitigations. Off-site odors, however, were still deemed as being a moderate environmental harm despite consideration of the respective mitigations. Lastly, the 140-foot landfill height increase of the proposed expansion would result in a moderate environmental harm which would never be truly mitigated.

## **Conclusion**

DEP has evaluated the environmental assessment for this application as required pursuant to 25 Pa. Code §§ 271.126 - 271.127. Based on its review of the proposed mitigation measures, DEP concludes that, individually and collectively, the proposed mitigation measures adequately protect the environment and the public health safety and welfare. DEP has found that GLRA Landfill has demonstrated that collectively, the benefits of the project to the public clearly outweigh the known and potential environmental harms.