

# HanoverEngineering

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October 19, 2023

Mr. Mark Hudson, Manager  
Lower Saucon Township  
3700 Old Philadelphia Pike  
Bethlehem, PA 18015-5426

RE: Bethlehem Landfill Company  
Phase V Preliminary Land Development & Lot  
Consolidation Plan  
LST Project #LD 01-23  
Hanover Project LS23-34

Dear Mr. Hudson:

We have reviewed the first submission of the following above-referenced Plan and supporting documentation, prepared by Martin and Martin, Inc.:

1. Preliminary Land Development & Lot Consolidation Plan for Bethlehem Landfill Company, Sheets 1 through 29 of 29, dated September 11, 2023.
2. Post Construction Stormwater Management Plan, Sheets 1 through 13 of 13, dated September 11, 2023
3. Land Development and Lot Consolidation Plan Supporting Documents, Volumes 1 & 2, dated September 11, 2023.
4. Cover letter, dated September 11, 2023.

The Applicant proposes a lot consolidation/subdivision and lateral expansion land development at the existing Bethlehem Landfill Company property located at 2335 Applebutter Road. The proposed consolidation includes merging Parcels B, C, D, & E (Sheet 2) with the “existing” (approved with the Northern Realignment plans) 421.47 acre landfill property. Parcel A is proposed to be subdivided from the landfill property and added to the landfill owned parcel to the west (DBY 2002-1-023852). This results in a 503.46 acre parcel containing the existing and the proposed expansion to the landfill.

The proposed waste disposal expansion area will be located beyond the current PaDEP Permit Boundary and consists of 86 acres of new disposal footprint and 27.28 acres of disposal footprint atop previously permitted lined disposal area. This project will require DEP approval for the expansion. The proposed landfill expansion will have a total disturbance of 171 acres, with approximately 27 acres of disturbance proposed within the existing approved landfill disposal footprint. The waste stream anticipated for the proposed facility will be similar to those currently accepted. The landfill is served with both public water and sanitary sewer services.

According to the Zoning Map, the landfill property is located in the Light Industrial (LI), Light Manufacturing (LM) and Rural Agricultural (RA) Districts, with a portion of the property located in the Carbonate Geology (CG) Overlay District. All proposed landfill activities are within the Light Industrial (LI) District.

**SUBDIVISION AND LAND DEVELOPMENT ORDINANCE COMMENTS**

1. Section 145-9 and SMO Section 137-30 – The Approved Waivers note on Sheet 1 shall be revised accordingly based on action by the Township Council. Additionally, all waivers referencing final plan shall be removed, as the applicant has only submitted the preliminary plans.
2. Section 145-21.B.(d)[7] – Reports from the Township Police Chief and appropriate Fire Chief should be reviewed. Please note that the City of Bethlehem provides fire service to the current landfill. Also, the appropriate Fire Chief should review the access provisions for emergency response into the expansion area, as well as any fire hydrant issues.
3. Section 145-30 – A certificate of insurance naming the Township and Township Engineer shall be provided. **The Applicant has requested a waiver of these requirements.**
4. Section 145-33.B.(1) – For the plan layout, the horizontal scale shall be a minimum of one inch equals 100 feet for lots greater than one (1) acre. Several overall plan views are drawn at a scale of one inch equals 300 feet. **The Applicant has requested a waiver of this requirement.**
5. Section 145-33.B.(1) – The access road profile on sheet 25 shall provide a vertical and horizontal scale.
6. Section 145-33.C.(1) – The location of all existing features within 500 feet of any part of the land to be developed shall be identified on the plan. **The Applicant has requested a waiver of this requirement.**
7. Section 145-33.C.(2) – The location of all existing contour lines on or within 500 feet of any part of the land to be developed shall be identified on the Plan. **The Applicant has requested a waiver of this requirement.**
8. Section 145-33.C.(3) – The applicant shall provide the approximate age of the existing single family detached dwellings and the existing storage buildings. Additionally, clarify the proposed uses for the existing single family homes whose parcels are to be consolidated as part of this plan.
9. Section 145-33.D.(9) and Section 145-44.G – The plans shall provide a profile for the entirety of the proposed access road and existing access roads with proposed grade changes.
10. Section 145-33.E.(6) – A soil erosion control plan and narrative shall be provided in accordance with this section.
11. Section 145-33.E.(7) – It appears that lighting is proposed in the vicinity of the proposed tanks. A lighting plan shall be provided in accordance with this section.

12. Section 145-33.F.(1)(a) and Appendix B-7 – The Township standard notices for drainage facilities and easements shall be listed on the Plan. **The Applicant has requested a waiver of this requirement.**
13. Section 145-41.B.(4) and Section 145-45.B.(3), (4) and (9) – When the existing roads (Applebutter Road, Skyline Drive and Riverside Drive) adjacent to the property being developed do not meet the construction standards (right-of-way width, cartway width, curbing, and sidewalk) of this chapter and its Appendix A, then in that case, the Developer shall provide those improvements. **The Applicant has requested a waiver of these requirements.**
14. Sections 145-44.B – The Applicant shall provide documentation from PennDOT that both existing driveways to Applebutter Road are adequate to service the proposed landfill addition.
15. Section 145-44.D.(1) – The width and slope depicted on the Typical Access Road Section Detail appears to be inconsistent with the Phase V Disposal Boundary Typical Section on Sheet 25.

The contours in the area of the MSE wall, downstream of the wall, and the roadside channel shall be clarified.

16. Section 145-45.G.(2)(a) – The minimum width of the access roads shall be 24 feet for two-way traffic and 16 feet for one-way traffic. The applicant shall clearly define access roads to be utilized for one-way traffic versus two-way traffic. Additionally, the proposed access road along the northern phase V disposal boundary shall be revised to be the minimum width in accordance with this section. **The Applicant has requested a waiver to permit driveways that do not meet the required pavement widths and thicknesses.**
17. Section 145-46.B.(3) – Storm drainage easements shall be provided. **The Applicant has requested a waiver of this requirement.**
18. Section 145-49 – Following comments on sanitary sewer shall be addressed:
  - a. Flow projections shall be provided.
  - b. A DEP Planning Module shall be provided or a determination from DEP should be provided that a Planning Module is not required.
  - c. No sewer lines are shown on the plan to be extended into the proposed new cell areas.
  - d. The host agreement provides that the landfill is a direct sewer customer of the City of Bethlehem. The agreement also provides for a maximum flow amount in the existing sewer line in Applebutter Road and a provision for Township use for the sewer line. The flow projections should be compared to the flow amounts listed in the agreement.

Please note that the site data on Sheet 11 lists the sewer provider as Lower Saucon Authority.

- e. The plan proposes a leachate storage tank system. A letter should be provided by the City of Bethlehem that approves of the use of the system and demonstrates compliance with the industrial waste provisions in Chapter 130-48.
  - f. Certification of capacity for treatment from the City shall be provided.
19. Section 145-50 – Plans do not show an extension of the water line or fire hydrants into the proposed expansion area.
20. Section 145-51 – The Township shall determine whether the Applicant shall meet the Township Open Space and Recreation requirements for non residential development.

### **STORMWATER MANAGEMENT ORDINANCE COMMENTS**

1. Sections 137-6.D and 137-29 – Please note that our Stormwater Management Ordinance Review was limited to only those features which have been added/revised and does not comment on the current Ordinance compliance of existing facilities (pipes, swales, basins, etc.) that were previously analyzed for drainage areas that have not been revised.
2. Sections 137-11.L and 137-15.A – No earth disturbance activities associated with any regulated activities shall commence until approval by the Township of a plan which demonstrates compliance with the requirements of this Chapter.
3. Section 137-13.B – The pre-development release rate for DP009 in the pre-development release rate table (Sheet SW-1) does not appear to be reduced by 50%.
4. Section 137-13.C – The exact location of the stormwater management district boundaries and their applicable release rates shall be provided on the drainage plans for clarity.
5. Section 137-14.2.A – It appears the Water Quality Volume controls are not adequate for the difference in runoff volume from the pre-development to post-development for the 24-hour, 2-year return period storm. Revise the design to meet the Water Quality Volume for each watershed.
6. Section 137-14.D.(2) – Since the detention facilities are proposed without lining, the engineer must sign and seal the following note which shall be attached to all drainage plans, subdivision plans, and land development plans:” I, [name], certify that the proposed facilities are not underlain by carbonate geology.”
7. Section 137-14.N – The time of concentration flow path shall be shown for the post development drainage areas. Additionally, the longest time of concentration flow path shall be shown on the pre-development drainage area boundary 2, as it appears that multiple flow paths are depicted. The calculations shall be revised to be consistent with these changes.

8. Section 137-18.E – The minimum circular orifice diameter for controlling discharge rates from detention facilities shall be three inches. **The Applicant has requested a waiver of this requirement to allow a 1-inch and 2-inch orifice.**
9. Section 137-18.G – An access ramp of 10 to 1, 10 feet wide, shall be provided to allow maintenance equipment to reach the detention basins floor. **The Applicant has requested a waiver of this requirement.**
10. Section 137-18.H – A fence, with locking gate, shall be provided around the basins, and the fence shall be at least three (3) feet from the inside edge of the berm (or top of slope) and five (5) feet from the outside top of the berm. **The Applicant has requested a waiver to allow the outside perimeter fencing to serve as the basin fencing.**
11. Section 137-18.K – The detention basins' outside slope of a berm shall not be steeper than a ratio of 3:1, horizontal to vertical. **The Applicant has requested a waiver of this requirement.**
12. Section 137-18.L – The detention basins shall meet the maximum depth, interior slope, drawdown times, and fencing requirements of this Section. **The Applicant has requested a waiver of these requirements.**
13. Section 137-18.N – The minimum slope of the bottom of the detention basins shall be 1% towards the outlet structure. **The Applicant has requested a waiver of this requirement.**
14. Section 137-18.O – Basin 7 and Basin 8 shall be revised to provide the required freeboard in accordance with this section.  
  
Additionally, an emergency spillway for each basin shall be designed to pass the one-hundred-year storm peak basin inflow rate, as if the basin were full prior to the storm, with a minimum 0.5 foot freeboard measured to the top of basin. Provide emergency spillway calculations to show compliance with this section.
15. Section 137-18.P – The detention basins' one-hundred year water storage surface elevation perimeter shall be shown on all plans.
16. Section 137-19.D.(1) – Since a level spreader is proposed, the post development peak rate of discharge across the width of the level spreader shall not exceed the predevelopment peak flow across the same width at the same location. Provide calculations to show compliance with this section.
17. Section 137-19.F.(2) – Slopes for swale banks shall not be steeper than one (1) vertical to three (3) horizontal. **The Applicant has requested a waiver of this requirement.**
18. Section 137-19.G.(8) – Inlet and manhole castings and concrete construction shall be equivalent to Pennsylvania Department of Transportation Design Standards. **The Applicant has requested a waiver of this requirement.**

19. Section 137-19.G.(10) – Concrete end walls or wing walls in accordance with PennDOT standards and with 30-inch concrete footings shall be provided. Additionally, flared end sections are not permitted on open-ended pipes. **The Applicant has requested a waiver of these requirements.**
20. Section 137-19.G.(13) – The maximum permissible storm sewer pipe velocity shall be 15 feet per second. Calculations documenting the pipe velocities shall be provided.
21. Section 137-19.G.(14) – Fixed pipe conveyance of stormwater must be to the same destination as stormwater would be conveyed overland if the fixed pipe conveyance system were to fail. **The Applicant has requested a waiver of this requirement.**
22. Section 137-19.G.(17) – Provide capacity calculations for all sections of the storm water collection system to show adequate collection and conveyance of the design flows. Provide inlet capacity calculations for all inlets in the proposed collection system.
23. Section 137-21.A and D and 137-22.A(1) – No regulated earth disturbance activities within the Township shall commence until approval by the Township of an erosion and sediment control plan for construction activities. Written approval by DEP or the Northampton County Conservation District shall satisfy this requirement.
24. Section 137-21.B – A soil erosion control plan and narrative shall be provided.
25. Section 137-21.C – A copy of any required NPDES Permit or Permit Modification shall be provided to the Township.
26. Section 137-22.B – A copy of all plans, with supporting calculations, which have received a government agency permit, including the revised DEP Solid Waste Permits for the landfill expansion and the DEP Chapter 105 Permits for the removal of the streams and wetlands, shall be provided to the Township and Township Engineer. If the stream and wetland removals are approved, the corresponding easements should be noted to be removed.
27. Section 137-23.M – No ground may be proposed or altered to exceed a slope steeper than one (1) vertical for three (3) horizontal. **The Applicant has requested a waiver of this requirement to allow a proposed slope of one (1) vertical for two (2) horizontal.**
28. Section 137-26.B.(14) – The pre development drainage area boundaries between Drainage Area 4 and Drainage Area 6, as well as the boundaries between Drainage Area 6 and Drainage Area 2, appear to be inconsistent with the contours. Additionally, the post development drainage area boundaries between Drainage Area 8B and Drainage Area 12B shall be revised to be consistent with the contours presented.
29. Section 137-26.D and E, -34, -36, -37, and -38 – The BMP operations and management plan, describing how each permanent stormwater BMP will be operated and maintained and the identity of the person(s) responsible for operations and maintenance, and a statement, signed by the owner, acknowledging that the stormwater BMPs are fixtures that cannot be altered or removed without approval by the Township, shall be provided. **The Applicant is requesting**

**a waiver from the requirement to provide a legal agreement between the Owner and Township describing the owner's responsibility for stormwater management facility ownership, maintenance, repair, and replacement.**

30. Section 137-28.B – Lehigh Valley Planning Commission consistency review shall be provided.
31. Section 137-37.B and C – Easement shall be provided around any proposed stormwater management facilities. **The Applicant has requested a waiver of this requirement.**
32. Appendix I – The Storm Drainage Maintenance and Easement Notes shall be provided on the Plans. **The Applicant has requested a waiver of this requirement.**

### **ZONING ORDINANCE COMMENTS**

1. Section 180-22 and Section 180-23– Provide the lot requirements and yard requirements for the RA District in the Site Data.
2. Section 180-78 and 180-93.D – Provide the proposed use of the existing dwellings in the Site Data.
3. Section 180-95.A(2)(a) – Provide aerial photo showing features within 1,000 ft of the parcel.
4. Section 180-95.B.(17) – The following comments regarding the Carbonate Geology Area Investigation shall be satisfactorily addressed:
  - a. The report contains references to “Drawing ME-1”. No drawing labeled as such is found in this submission.
  - b. The report does not address the presence or absence of sinkholes and previously filled sinkholes as required by Zoning Ordinance Section 180-95.B.(17)(c)[10][a][vi].
  - c. The report states that the carbonate Leithsville Formation normally overlies the older, non-carbonate Hardyston Formation in the stratigraphic sequence. However, on this site, the Hardyston Formation is on top due to the Hellertown Thrust Fault. The consultant should clarify and justify the placement of the carbonate boundary line based on the results of the exploratory drilling. Numerous drilling locations that encountered the dolomite of the Leithsville Formation at depths of 53.5 feet to 122 feet are situated on the non-carbonate side of the boundary line. However, several drilling locations that encountered dolomite at similar depths (22 feet to 91 feet) are situated on the carbonate side of the boundary line. The consultant shall justify considering an area as non-carbonate when carbonate bedrock exists in that area, albeit at depth below an intervening non-carbonate formation.
5. Section 180-96.C – It appears lighting is proposed on the eastern side of the site. Provide lighting plans and details to show compliance with this section.

6. Section 180-97.C.(2)(b) – Provide the height and details for the proposed litter control fence shown on the Typical Section Detail.
7. Section 180-97.C.(3)(a) – Provide the proposed fence material and finishing type in accordance with this section.
8. Section 180-97.C.(4)(a) – Provide all locations of the litter control fence in plan view.
9. Section 180-98 – Traffic impact; driveways; off-street parking and loading; drive-in facilities; required rights-of-way. The applicant shall address the following comments pertaining to the undated Traffic Impact Evaluation and the Transportation Impact Analysis (TIA), prepared by Pennoni Associates, Inc., dated December 2022.
  - a. Provide copies of the existing HOP permit and plans referenced in the April 16, 2023 correspondence.
  - b. Provide HOP permit for the proposed driveway access to the leachate tanks or confirm with PennDOT an HOP is not required.
  - c. Provide evidence, including turning templates, the existing/proposed access to the leachate tanks is adequate for the largest anticipated vehicle.
  - d. Expand/augment the narrative of the TIA to clarify the various references to trip generation referencing “no change” and/or “new” trips.
  - e. Document adequate sight distance for all three scenarios on the PennDOT M-950S for the existing and proposed driveways in the Sight Distance narrative/chart.
  - f. Verify Table 5 Trip Generation matches the narrative, figures and analyses.
  - g. Provide Signal Warrant analyses for all study time frames and Warrant Criteria.
  - h. Provide clarification in the narrative whether the Peak Hour analyses were based on peak site generation observations or typical adjacent street peak hours.
  - i. Expand the “Roadway Condition Review” to evaluate the adequacy of the roadway and shoulder areas for the largest anticipated vehicles, particularly in the areas of roadway curvature and make recommendations for mitigation of any observations. It is noted the report identifies shoulder, signage and pavement marking observations which could be incorporated into recommendations for improvements.
10. Section 180-98.B. – The applicant shall meet the requirements of this Section for all driveways.
11. Section 180-98.B.(4) – Regardless of frontage, a development may be restricted to a single entrance/exit driveway. It appears there are 2 driveways onto Applebutter Road. Clarify the usage of the second driveway from the southeast portion of the site onto Applebutter Road.




12. Section 180-109.F.(3)(a) and 180-109.C.(2) – An earthen berm shall be placed no closer than 50 feet to all adjacent uses around the perimeter of a landfill or waste disposal facility and buffer yards and screening shall be provided. The Applicant requests that Township Council determine that the existing features serve as an acceptable substitute for the required berms, screening, and buffers.
13. Section 180-109.F.(3)(a) – No landfill or waste disposal facility activities shall be conducted within 100 feet of the bank of any stream. Two (2) existing streams are located within the Phase V Expansion limit of disposal and are proposed to be eliminated.
14. Section 180-109.F.(3)(h) – Upon cessation of waste disposal operations for a period of more than 18 month, the site shall be reclaimed to a condition that is non hazardous and does not result in environmental or neighborhood degradation.
15. Section 180-109.G – The Applicant shall dedicate 92.99 acres to the Township for preservation of land to account for the proposed Excess Resource Utilization. In the event that the Applicant demonstrates to the satisfaction of the Township Council, that it was unable to obtain any or enough property for dedication pursuant to this Section, the Applicant may meet the requirements of this Section by submitting a fee-in-lieu of dedication in accordance with the calculations in the Lower Saucon Township Subdivision and Land Development Ordinance, Section 145-51.E.

If you have any questions concerning this review, please contact the undersigned.

Respectfully,

HANOVER ENGINEERING



Brien R. Kocher, PE  
Township Engineer

brk:avy/jlw2

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cc: Mr. James Young, Zoning Officer (by e-mail)  
Ms. Molly Bender, Zoning Clerk (by e-mail)  
Ms. Rachelle Markovic, Receptionist (by e-mail)  
B. Lincoln Treadwell Jr., Esquire (by e-mail)  
Maryanne Garber, Esquire (by e-mail)  
Joe McDowell, PE (by e-mail)