



August 18, 2016

Joan McVaugh  
Franklin Township  
20 Municipal Lane  
Kemblesville, PA 19347

RE: Gourmet's Delight Mushroom

Dear Ms. McVaugh:

Enclosed are revised plan sets and the unchanged reports for the above referenced project. The enclosed plans respond to the Township Engineer's review letter dated May 26, 2016. Following are responses to the comments in the review letter. The comments from the letter are listed in normal text. The responses to each comment are indicated in ***bold italic text***.

**I CONFORMANCE WITH THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE – CHAPTER 22**

1. *Section 22-404.6.D. As this project includes improvements that are located within the adjoining municipality, a copy of the plan shall be sent to London Grove Township. Ultimately evidence of an approval or waiver of review will be required. We also suggest that a copy of all review letters be forwarded to same.*

***The Applicant has discussed the project with Steve Brown, LGT Manager. There are no buildings proposed in LGT, therefore, there is no requirement for a land development plan review. The Applicant did provide a set of plans to the Township for their review.***

2. *Section 22-404-7. The applicant must provide a copy of the title insurance certificate and documentation of any and all encumbrances, conservation easements, restrictive covenants, deed restrictions, and other filings listed on said certificate.*

***Copies of the Title Report have been included in this resubmittal package.***

3. *Section 22-410. Refer to the specific section in this review for comments related to Stormwater Management.*

***Comment noted.***

4. *Section 22-502.L. Regarding the survey information on the plans:*

- a. *To avoid confusion a different symbol should be used for the concrete monument to be set as compared to a pin that is to be set*

***There only needs to be one symbol because only concrete monuments are proposed to be set.***

- b. *The plan must list proposed public utility line information, such as electric services for the proposed buildings.*

***The approximate locations of the electric and communication utilities have been added to the plans.***

- c. *The plan must contain information of any existing wells and sewage drain fields within 100' of the property boundary.*

***The locations of all existing wells and sewage drain fields with 100' of the property boundary have been shown on the plans.***

5. *The designer should verify the accuracy of the existing contours in the vicinity of intermittent stream in the northwest corner of the site, as based upon a site visit, there appears to be a more defined swale in this area than is currently reflected on the plans.*

***The project surveyor has field checked the data and has verified that the topography is accurate.***

6. *Section 22-722. Sewage. See separate review from the Township's sewage consultant, as applicable.*

***Comment noted.***

## **II. TRAFFIC, SITE ACCESS AND INTERNAL CIRCULATION REVIEW – CHAPTERS 22 AND 25**

1. The plan should contain a note that memorializes the statement in the Traffic Assessment Report that reads "...most trip generation, existing and projected, will continue to enter/exit the facility via the existing gate controlled driveway that intersects Garden Station Road."

***Note #25 on Sheet #1 containing the following language has been added to the plan:***

***"The Applicant intends to control access to the site such that most trip generation, existing and projected, will continue to enter/exit the facility via the existing gate controlled driveway that intersections Garden Station Road."***

2. A plan needs to be provided with truck turning templates for the proposed new driveway. This information will determine if the driveway's design (location, width, corner radii, curb offset from edge of cartway, etc.) is acceptable.

***Sheet #12 has been added to the plan set and contains the truck turning templates plotted at critical locations within the development and at the access to Auburn Road demonstrating the acceptability of the layout to handle the truck traffic.***

3. We note that once the proposed curb is offset from the edge of the cartway, an existing utility pole will become an issue. *This can easily be rectified by shifting the driveway northward.*

***The radii tangents have been offset from the edge of the exiting cartway by 4 feet and the internal driveway adjusted accordingly.***

### **III. STORMWATER MANAGEMENT REVIEW – CHAPTER 19**

1. *Section 19-301.14. The applicant will need to provide clear detailed information regarding all the activities that are being performed on this site, as it appears portions of this site may qualify as a 'hot spot', for the lagoon and corresponding drainage area. For projects that involve hot spots, special pretreatment of runoff will be required prior to infiltration.*

***All drainage to the SW BMP comes from lawn areas, driveways, roofs or vegetated fields (used mostly to store hay). None of the compost production areas drain to the SW BMPs. The runoff from the compost areas is captured in the gray water system and retained in the dip pit or gray water lagoon.***

2. *Section 19-302.A-E. All regulated activities shall have approvals from the applicable agencies prior to, or as a condition of, plan approval. These approvals need to be obtained.*

***A table of all required approvals and the status of each one has been copied to Sheet #1.***

3. *Section 19-303.1-3. No regulated activity within the Municipality shall commence until approvals have been issued by PADEP and the Chester County Conservation District. These approvals need to be obtained.*

***The Applicant has submitted the Notice of Intent (NOI) for the project to the Chester County Conservation District (CCCD) and is awaiting their review. A copy of the SW NPDES permit will be provided to the Township upon receipt.***

4. *Section 19-304 requires a site design process to minimize disturbances to land, site hydrology, and natural resources. The process has four steps outlined in the section, and the required information, such as a prioritized listing of the natural resources and the minimization process to reduce impervious surfaces, is not shown on the plans.*

***At a meeting with the Applicant (Gabe Valentino and Ron Ragan) and the Township (John Auerbach, Joan McVaugh, and Pete Eisenbrown) it was determined this process was not applicable to an agricultural project.***

5. *Section 19-305.A. The post-construction total runoff volume shall not exceed the predeveloped runoff volume for the 2-year storm. This water quality and runoff volume shall be captured and permanently retained or infiltrated on the site. The concrete weir crest elevation for the Wet Pond and the concrete weir elevation for the Infiltration Basin indicate that all runoff for storms up to a 2-year frequency will be directed first to the Wet Pond, subject to release through the outlet structure and not retained in the Infiltration Basin. The elevation needing to be reached for runoff to spill into the area labeled Infiltration Basin is not attained until a 100-year frequency rainfall is encountered. This defeats the purpose of the ordinance section and infiltration designed to capture small storms and return the runoff to the ground. The weir crest elevation tributary to the Infiltration Basin shall be revised to be lower than the weir crest elevation tributary to the Wet Pond to allow the smaller storms (more frequent) to access the Infiltration Basin prior to the Wet Pond.*

***The revised plan has the weirs going to the infiltration basin, wet pond and discharging off-site all set at elevation 389.0. The weir going to the infiltration basin is 24.6' feet long and the weir going to the wet pond is 5.4 feet long. As a result, 82% of all runoff entering the forebay is diverted to the infiltration berm and 18% to the wet pond. Once the wet pond is full, runoff will be released to the downstream wetlands and intermittent stream mimicking the pre-development conditions. As a result, the difference between the 2-year post-development runoff and the pre-development runoff will be retained on site and infiltrated.***

6. *Section 306.B. For regulated activities involving new development, the volume of a minimum of one inch of runoff volume from all proposed impervious surfaces shall be infiltrated. For DA#1, DA #2 & DA #3, provide calculations to determine the required runoff volume for each drainage area (1" of runoff from all proposed impervious areas) and compare the required runoff volume to the provided runoff volume.*

***The revised configuration infiltrates more the 1" of runoff from all impervious areas. The infiltration basin infiltrates approximately the equivalent of the delta in the runoff generated by the 2-year post-development storm minus the 2-year pre-development storm. A table is provided in the stormwater narrative on Page #56 that presents the pre-development, post-development, infiltrated, and reuse volumes for all 3 drainage areas.***

7. *Section 19-306.I.(3) states that the design of the infiltration facility for the required retention (infiltration) volume shall be based on field-determined infiltration capacity (and apply safety factor as per applicable design guidelines) at the elevation of the proposed infiltration surface. For the Infiltration Basin, infiltration testing was completed at two*

locations at elevation 390.00. For the Infiltration Basin, the bottom of the amended soils is at elevation 387.00. For the Infiltration Basin, the infiltration testing is required to be completed at elevation 387.00 (3 ft. lower).

***New testing was performed on 8 August 2016. The results of this testing on contained in the SW report and shown on Sheet #7.***

8. *Section 19-306.J.(1). Infiltration BMPs shall be selected based on suitability of soils and site conditions and shall be constructed on soils with a minimum depth of 24 inches between the bottom of the BMP and the top of the limiting zone. For the Infiltration Basin, a test pit was completed at one location to elevation 388.00. For the Infiltration Basin, the bottom of the amended soils is at elevation 387.00. For the Infiltration Basin, the test pit is required to be completed to elevation 385.00 (3 ft. lower) to verify that a minimum depth of 24 inches between the bottom of the BMP and the top of the limiting zone.*

***New testing was performed on 8 August 2016. The results of this testing on contained in the SW report and shown on Sheet #7.***

9. *Section 19-306.J.(3). The infiltration facility shall completely drain the retention (infiltration) volume within 3 days (72 hours) from the end of the design storm. On page 61 of the Post-Construction Stormwater Management Narrative, the dewatering calculations shall be revised to calculate the dewatering time from the 1 ft. weir crest elevation within the Wet Pond (elevation 389.00) to the bottom of the amended soils within the Infiltration Basin (elevation 387.00).*

***Dewatering calculations as provided in the report, illustrate the time for the basin to dewater 2.0'. This already takes into account the depth of the amended soils (bottom of amended soils, 387.0, to the top of the weir, 389.0.***

10. *To ensure the overall features function as intended, both the outlet structure tops [infiltration basin and wet pond] should match.*

***The 2x2 inlet in the infiltration basin is a solid top for access to a valve to be opened only for maintenance purposes if needed. To provided uniformity, this inlet top was raised to 391.0***

11. *Section 19-307.B. To the maximum extent practicable, and unless otherwise approved by the Municipal Engineer, the post-construction 1-year, 24-hour storm flow shall be detained for a minimum of 24 hours and a maximum not to exceed 72 hours from a point in time when the maximum volume of water from the 1-year, 24-hour storm is stored in a proposed BMP (i.e., when the maximum water surface elevation is achieved in the facility). Provide the required dewatering calculations for the 1-year, 24-hour storm within the Infiltration Basin.*

***This requirement is inconsistent with the requirement to retain (infiltrate) the difference between the 2-year post-development storm and the 2-year pre-development storm. If you release the entire 1-year storm between 24 and 72 hours, then it is impossible to infiltrate the above reference difference.***

12. *Section 19-311.E. Based upon a site visit, there is an existing offsite drainage problem related to this project. An eroded channel is present, starting at the common property line [with both adjoiners Smith/Austin and Masha] that has been created from runoff leaving the existing farmland of Gourmet. The developer should review this area and offer measures to improve same.*

*We also have concerns for the potential impact from the change in runoff characteristic as a result of this project. While runoff to this area is currently in the form of sheet flow, the resulting basin construction will result in concentrated pipe flow discharge.*

*As our initial investigation was limited to the lands of Smith/Austin and only a small portion of the lands of*

*, further downstream investigation will need to occur. We suggest a field meeting with the Conservation District, applicant, and the Township to review and discuss the area in detail, along with possible solutions. The plans do not show any improvements or remediation to the existing eroded channel.*

***A field visit was conducted on 9 August 2016 with Mike Zuk, CCCD, John Auerbach, Joan McVaugh and Pete Eisenbrown, with Franklin Township, Gabe Valentino and Ron Ragan, Gourmet. It was determined that this was not an area of concern.***

13. *Section 312.1.A.(2). Basins shall meet the following minimum setbacks measured from the top and/or toe of slope (whichever is closer): 50 ft from any property line. The Wet Pond is located less than 50 ft. from the property line to the north [other lands of Gourmet's Delight Mushrooms, LP, located in the adjoining Township].*

***At a meeting with the Applicant (Gabe Valentino and Ron Ragan) and the Township (John Auerbach, Joan McVaugh, and Pete Eisenbrown) it was determined this limitation was not applicable to an agricultural project with adjacent lands.***

14. *Section 312.1.F. Easements shall be provided for all basins and shall meet the applicable requirements of §19-704. Drainage easements shall be provided for the Wet Pond, the Infiltration Basin and Drywell #1 along with a 20 ft. wide access easement to the Auburn Road right of way area.*

***The Applicant is requesting to use a blanket easement.***

15. *Section 19-312.2.A. For basins that combine rate and volume controls, the infiltration "discharge" should not be taken into consideration when routing the peak discharge*

*amounts, nor shall the infiltration volume be used in the routing. For Drywell #1, revise the routing calculations to exclude the infiltration component (0.5 inches/hour).*

***The infiltration component has been completely removed from the inputs.***

16. *Section 19-312.2.D.(6). The outlet structure shall be cast as one-piece. No detail or note could be located on the plan to verify this requirement is met.*

***Note #1 has been added to the outlet detail specifying this requirement.***

17. *Section 19-312.2.E. A trash rack shall be provided for all above ground orifices. Provide a trash rack for the 12" orifice for the 4 ft. x 6 ft. Outlet Box within the Wet Pond.*

***A trash rack is now specified for the 12" orifice in the outlet box.***

*On Sheet 8, the chart within the Permanent Wet Pond detail shall be revised to list a low flow orifice diameter of 1 ft. (0.83 ft. provided in chart) and to list a low flow orifice invert of 385.00 (386.00 provided in chart).*

***The above revisions have been made to the Wet Pond detail.***

*The 12" orifice is not included in the routing calculations for the Wet Pond. Can the 12" orifice and the weir wall within the 4 ft. x 6 ft. Outlet Box be eliminated? The 1 ft. wide weir could be moved to the outside of the 4 ft. x 6 ft. Outlet Box.*

***The 12" orifice set at invert 385' insures that the release is not limited to skimming water off of the top of the pond. The water is drawn from a cooler depth of 4' below the weir elevation and moves up and over the weir at the control elevation of 389'. The 12" orifice at invert 385' has a larger capacity than the, now 1.25', weir at elevation at invert 389'.***

18. *Section 312.2.G.(2). Basins shall be designed to accommodate the 100-year post-development storm such that the maximum water surface elevation is a minimum of 6 inches below: The top of facility for underground-basins. For Drywell #1, the top of the facility is at elevation is 404.50 and the 100-year peak elevation is 404.11. A freeboard of 0.39 ft. has been provided. A minimum freeboard of 0.50 ft. is required to be provided.*

***The depth of the drywell has been increased to ensure that the 0.5' of freeboard is maintained.***

19. *Section 19-312.3.H.(3). Basin embankments are required to be constructed of suitable material and compacted to a minimum of 95 percent of maximum dry density as established by ASTM D-1557. The plan needs to specify this requirement being met. Also, the requirements of Section 19-312.3.H(4) and (4)(a), that testing be done and observed by the site inspector, will need to be specified by the plan. On Sheet 8, the required compaction*

*notes shall be added to the Permanent Infiltration Basin detail.*

***The required compaction notes have been added to the Permanent Infiltration Basin detail.***

20. *Section 19-312.3.J. When deemed necessary by the Municipality, stormwater basin facilities shall be enclosed with a fence of a type, size, location and character acceptable to the Municipality. The applicant should discuss this with the Township.*

***Need guidance from BOS.***

21. *Section 313.1.E. Easements shall be provided for all conveyance and collection systems that are not located within street rights-of-way and shall be a minimum of 20 feet in width. Easements shall meet the applicable requirements in §19-704. Drainage easements (20 ft. wide) shall be provided for all proposed storm sewer pipes.*

***The Applicant is requesting to use a blanket easement.***

22. *Section 19-313.3.B. All pipes shall be reinforced concrete Class III or better, meeting PennDOT's 100-year life criteria. On Sheets 10 & 11, a note shall be provided stating "All RCP shall be Class III concrete meeting PennDOT's 100-year life criteria".*

***At a meeting with the Applicant (Gabe Valentino and Ron Ragan) and the Township (John Auerbach, Joan McVaugh, and Pete Eisenbrown) it was determined that High Density Polyethylene Pipe (HDPEP) could be substituted for reinforced concrete pipe (RCP).***

23. *Section 19-313.3.E. The minimum cover of stormwater pipe shall be 24 inches. This minimum cover shall be provided and maintained during construction in order to protect pipe from damage. Provide 24 inches minimum of cover for pipe runs HW-1 to I-27, I-40 to I-39 & I-1 to EW-1. For pipe run I-1 to EW-1, shorten the pipe length and move the double pipe winged endwall up the slope to provide 24 inches minimum cover over the pipe.*

***The pipe inverts have been revised as needed to provide a minimum of 24 inches of cover.***

24. *Section 19-313.3.J.(2). Underdrains shall be provided in areas deemed necessary by the Municipality's Engineer as may be encountered during construction. A note to this effect shall be placed on the plan.*

***Note #8 has been added to the E&S sequence of construction specifying the above requirement.***

25. *Section 19-313.4.N. Inlets in paved areas shall be equipped with bicycle safe grates. The cast-iron grate shown is not the Bicycle-Safe type required. The plans need to indicate*

*compliance with the ordinance. Add a construction detail for bicycle safe grates.*

***At a meeting with the Applicant (Gabe Valentino and Ron Ragan) and the Township (John Auerbach, Joan McVaugh, and Pete Eisenbrown) it was determined this requirement was not applicable to an agricultural project.***

26. Section 19-313.4.S. Adjustment rings shall only be made of a single pre-cast concrete structure, a maximum of 6 inches in height. The plans need to indicate this, and not masonry. On Sheet 8, the Standard Rolled Curb Inlet Details and the Manhole Adjusting Rings detail need to be revised to remove all references to masonry or brick adjustment rings and replace them with precast concrete adjustment rings. On Sheet 9, the Standard Rolled Curb Inlet Details detail is repeated and may be deleted.

***Notes have been added to the inlet and manhole details specifying this requirement.***

27. Section 19-313.4.U. All backfill around inlets shall be PennDOT 2A stone compacted in accordance with PennDOT standards. On Sheet 9, the Pavement Restoration Detail and the Lawn Restoration Detail shall be revised to add a note stating “the 2A stone shall be compacted in accordance with PennDOT standards”.

***Notes have been added to the inlet, manhole, lawn restoration and pavement restoration details specifying this requirement.***

28. Section 19-313.5.D. Manhole covers shall have the word “STORM” cast on the top of the cover. On Sheet 8, add a note to the Precast Manhole detail stating “manhole covers shall have the word “STORM” cast on the top of the cover”.

***A note has been added to the manhole detail specifying this requirement.***

29. Section 19-313.5.J. Manholes with a depth greater than 4 feet must be provided with anti-slip ladder rungs. On Sheet 8, note #5 within the Precast Manhole Detail shall be revised to list “manholes” instead of “inlets”.

***A note has been added to the manhole detail specifying this requirement. Note #5 has been revised per the above.***

30. Section 19-313.6.D. Acceptable energy dissipation devices shall be installed per PADEP’s Erosion and Sedimentation Pollution Control Program Manual at every end treatment. On Sheet 8, show the proposed rip rap apron at EW-3 and delete the rip rap apron near I-8. On Sheet 7, a rip rap apron is shown on the downstream end of the Infiltration Basin outlet pipe. The rip rap apron on the downstream end of the Infiltration Basin outlet pipe shall be added to the Standard Construction Detail #9-1 on Sheet 8.

***The plans have been revised per the above. However, it should be noted that EW-3 has been replaced with a level spreader.***

31. *Section 19-402.1.A note on the maps shall refer to the associated computations and erosion and sediment control plan by title and date. This needs to be added to Sheet 7.*

***Note #15 on General Notes on Sheet #7 has been added referencing the associated computations and plans.***

32. *Section 19-402.2.A.(3). A statement, signed by the applicant, acknowledging that any revision to the approved SWM site plan shall be submitted to and approved by the Municipality, and that a revised erosion and sediment control plan shall be submitted to, and approved by, the Conservation District or Municipality (as applicable) for a determination of adequacy prior to construction of the revised features. The required signature block has been added and shall be signed, prior to plan recording.*

***The Applicant agrees and will sign the plan prior to recording.***

33. *Section 19-402.2.A.(4).(a). The required signature block shall be signed and sealed, prior to plan recording.*

***Comment noted.***

34. *Section 19-402.2.B.(11).(d)&(e). The total areas of the new or additional impervious surfaces, along with the percentages of the existing and proposed impervious coverages as it relates to the overall site, need to be placed on the plans.*

***This information has been added to the zoning table on Sheet #1.***

35. *Section 19-402.2.B.(13). All BMPs, conveyances and other stormwater management facilities shall be located on the plan sheets, including design drawings, profile drawings, construction details, materials to be used, description of function, etc.*

- a. *Show all roof drain related items, including pipes [type, size, and slopes], manholes, etc.*

***The architectural drawings for the buildings are not available as of this submittal so we cannot provide the exact roof drain system design. We have provided calculations that show that 8" square gutters spaced every 40' with 6" downspouts connected to 8" PVC collection pipe discharge directing to the stormsewer system will handle the 100-year storm. A Typical schematic is shown on Sheet #9.***

- b. *Details need to be added for the following:*
- SNOUT Oil/Water Debris Separator
  - Manhole/Inlet Ladder Rungs

- Type M Inlet
- Type M Inlet Top Unit
- Trash Rack for 12" Orifice
- Basin Fence (if required).

***The above details have been added to the plan set.***

36. *Section 19-402.2.B.(14). Complete delineation of the flow paths used for calculating the time of concentration for the predevelopment and post-construction conditions shall be included.*

*The following review comments are provided for the time of concentration flowpaths:*

- For DA #1 Pre on Sheet 3, the upslope end of the flowpath shall be extended to the junction of the DA #1/DA #2/DA #3 drainage areas to provide the maximum flow length to POI #1.

***The calculations were based on the drainage area within the limit of disturbance only, therefore the TC lines only extend to the upper limit of the limit of disturbance boundary.***

- For DA #2 Pre on Sheet 3, the upslope end of the flowpath shall start along Auburn Road (similar to the flowpath for DA #1 Post Basin Non LD) to provide the maximum flow length for POI #2.

***The calculations were based on the drainage area within the limit of disturbance only, therefore the TC lines only extend to the upper limit of the limit of disturbance boundary.***

- For DA#1 Post Uncontrolled on Sheet 7, the delineated flowpath is tributary to a point downstream of POI #1. Utilize a flowpath that is tributary to POI #1 or upstream of POI #1.

***The uncontrolled TC was revised to be tributary to POI #1.***

- For DA #2 Post Uncontrolled on Sheet 7, the flowpath length delineated on the plans is 165 ft. On page 32 of the Post-Construction Stormwater Management Narrative, a flowpath length of 125 ft. was utilized in the time of concentration calculations. Revise the flowpath length utilized in the time of concentration calculations to match the flowpath length delineated on the plans.

***The TC line as drawn matches the TC measurements used in the calculations.***

37. *Section 19-402.2.B.(18)(c)(6). Sufficient vehicular ingress to and egress from any BMP needs to be provided. It is recommended to identify one location for vehicular access to the Wet Pond and one location for vehicular access to the Infiltration Basin. The Wet Pond/Infiltration Basin grading should be revised to provide a reasonably graded vehicular path to the bottom of each section to facilitate maintenance.*

***At a meeting with the Applicant (Gabe Valentino and Ron Ragan) and the Township (John Auerbach, Joan McVaugh, and Pete Eisenbrown) it was determined that the 4:1 side slopes provide adequate access to the Infiltration basin and wet pond.***

38. *Section 19-402.2.C.(8). The project shows the two (2) main buildings with designation "Phase 1" and "Phase 2/3". As the plans move forward, a plan that clearly indicates the construction that is related to Phase 1 will be required, and how same relates to the stormwater aspects of the project.*

***The phases refer to the composting process, not the construction sequencing.***

39. *Section 19-402.2.F.(1)-(4). An Operations & Maintenance plan will need to be executed.*

***An Operations & Maintenance Agreement (O&M) containing the elements of an O&M plan will be provided under separate cover.***

40. *Section 19-402.2.G. The plan needs approval from the Chester County Conservation District and/or PaDEP for an NPDES permit.*

***The Applicant has submitted the Notice of Intent (NOI) for the project to the Chester County Conservation District (CCCD) and is awaiting their review. A copy of the NPDES permit will be provided to the Township upon receipt.***

41. *Section 19-403.A. Any required permit approvals or letters of adequacy need to be submitted to the Township prior to, or as a condition of, plan approval.*

***Permits and letters of adequacy will be furnished upon receipt.***

42. *According to Section 19-404.7 Stormwater Management plan approvals are valid for a two-year period.*

***Comment noted.***

43. *Section 19-502. As-built plans, certified and sealed by a licensed professional, will need to be provided to the Township, according to the requirements. A note to this effect should be put on the plans.*

*Please reference Note #21 on Sheet #1 of the plan set.*

44. *Section 19-703. An O&M agreement will be required.*

*An Operations & Maintenance Agreement (O&M) containing the elements of an O&M plan will be provided under separate cover.*

45. *Related to the proposed lagoon:*

- As the lagoon is within the watershed for POI #2, all credits and calculations also need to be associated with POI #2. The current design is taking various credits for the lagoon that are related to POI#1.

*The calculations have been revised for DA #1 & #2 per the above.*

- The plan/report does not offer any details on the lagoon in terms of how much runoff this feature will hold, excess capacity, discharge point, etc. The plan should determine the runoff from the contributory area to the lagoon for the 100-year storm, and compare same the proposed volume.

*The gray water lagoon storage tank sizing calculations are provided in the appendices of the stormwater report.*

- The plans do not offer and details about the construction of the lagoon [grading, materials, piping elevations, depth, fencing, covering, etc.]

*If required, this information will be provided to the Township at the time of construction. The design will be coordinated with Natural Resources Conservation Service (NRCS).*

- Appears an overflow pipe could easily be installed that connects to nearby inlet I-7

*The gray water lagoon/tank is designed for the 100-year storm. In the event that this volume is not sufficient, gray water will back up out of the lagoon/tank onto the wharf, ponding on the wharf to elevation 412.0 and eventually overflowing to Inlet I-7 which connects to the wet pond. It is likely that the wet pond will have some freeboard, but in the event it doesn't the weir can easily be blocked to provide additional capture volumes. Therefore, no direct pipe connection is required.*

46. *Pipe run I-1 to EW-1 has a pipe diameter of 42 inches and pipe slope of 0.99%. Pipe run I-8 to EW-1 has a pipe diameter of 42 inches and a pipe slope of 8.54%. For pipe run I-8 to EW-1 reduce the pipe slope to approx. 1% to reduce the discharge velocity.*

***The pipe connecting I-8 to EW-1 has been lowered to match the adjacent pipe run from I-1 to EW-1.***

47. *For each discharge pipe location, provide calculations to determine the discharge velocity so the rip rap size can be verified.*

***Velocity calculations can now be found in the report.***

48. *Due to the proposed peak discharge rate at EW-1 (85 cfs), the entire bottom and side slopes of the Forebay shall be lined with rip rap.*

***The rip-rap has been extended across the bottom and up the sides of the forebay.***

49. *For the concrete weir into the Infiltration Basin and the concrete weir into the Wet Pond, provide calculations to show that each concrete weir can convey the 100-year peak discharge.*

***Capacity calculations have been included in the resubmittal.***

50. *Specify expanded riser boxes for I-1, I-2, I-3, I-4, I-5, I-6, I-8, I-9, I-10, I-11, I-12, I-13, I-14, I-15, I-16 & I-17. Provide construction details for the larger inlet boxes.*

***A detail for an expanded inlet box can now be found in the plan set.***

51. *Provide storm sewer calculations for pipe run I-35 to I-34 to I-33 to I-32 to I-31 to DIP pit, pipe run I-40 to I-39 to I-38 to I-37 and pipe run I-41 to I-37.*

***The storm sewer calculations for the dirty/gray water system can now be found in the revised report.***

52. *We have noted the following elevation/sizing/labeling type discrepancies that should be clarified:*

- *For pipe run I-21 to I-18 on Sheet 10, revise the invert in for I-18 to elevation 414.64.*
- *For pipe run I-25 to MH8 on Sheet 10, the rim elevation for I-25 is listed as 410.50 in the PCSM Narrative and 410.25 in the profile view. Please revise.*
- *For pipe run I-22 to I-17 on Sheet 10, pipe diameter is listed as 24" in the PCSM Narrative and 18" in the profile view. Please revise.*
- *For pipe run I-22 to I-17 on Sheet 10, reverse the values for the invert in (elevation 402.67) and the invert out (elevation 403.17) for inlet 22.*
- *For pipe run MH8 to I-23 on Sheet 10, the pipe diameter is listed as 18" in the PCSM Narrative and 15" in the profile view and the pipe slope is listed as 1.53% in the PCSM Narrative and 1.66% in the profile view.*
- *For pipe run I-30 to I-28 on Sheet 11, pipe diameter is listed as 15" in the PCSM*

*Narrative and 24" in the profile view.*

- *While the plan view grading is correct, the detail on Sheet for the infiltration basin must be revised to show 4:1 slopes*
- *Is the erosion control matting on Sheet 7 intended to read P-300 instead of S-300 as currently labeled?*

***The above discrepancies have been revised.***

53. *On page 5 of the Post-Construction Stormwater Management Narrative, verify the discharge value for DA #2 – DA to Drywell (1 year storm).*

***The discharge value for DA #2 – DA to Drywell has been revised.***

54. *For the Drywell #1 Detail on Sheet 9, revise the detail to provide a plan view of the proposed infiltration bed.*

***A plan view of the drywell has been added to the detail.***

55. *For the Drywell #1 Detail on Sheet 9, a note stating " all PVC pipe shall be schedule 40 pipe with all joints primed and glued".*

***The above note has been added to the drywell detail.***

56. *For the Drywell #1 Detail on Sheet 9, clarify the SNOUT dimensions. Label the distance between the bottom of the SNOUT and the bottom of the inlet and label the distance the SNOUT extends below the 8" PVC pipe.*

***Additional dimensioning has been added to the drywell detail.***

57. *Related to the wet pond:*

- *What testing has been performed to verify the depth to rock, natural water table, etc?*

***We did a test boring at a depth above the current design bottom and did not encounter rock or water. We would like to differ any further testing at the new depth until such time as the wet pond is excavated.***

- *What type of lining will be installed to ensure the basin holds water [does not allow infiltration]?*

***At the time of construction, the soils will be evaluated by a soil scientist and the design adjusted if necessary to line the basin. If we encounter springs, we may not want to line it to take advantage of the springs. Notes have been added to the sequence of construction addressing this issue.***

- *The detail for the basin appears to be missing information regarding the gate valve location.*

***The gate valve is only for the infiltration basin – reference the detail on Sheet #8.***

- *We understand that water from the wet pond is to be used as process water – any piping and or pumping features that are needed for this to occur should be reflected on the plans.*

***A pad, pump location, and piping have been added to the plans. This design will be coordinated with NRCS.***

58. *The calculations must be modified as same cannot consider the storage volume available that will be ‘occupied’ by the permanent water elevation of the wet pond.*

***The wet pond has been modeled with a starting elevation of 389.0, which is the elevation of the outlet weir and the permanent pool water elevation.***

59. *London Grove should review and comment on the proposed stormwater improvements [inlets, piping, etc.,] that are located within same.*

***Comment noted.***

#### **IV. GENERAL COMMENTS**

1. *We recommend Input from the local fire department be obtained. Important considerations would likely include providing adequate turning areas for fire apparatus, internal circulation, etc.*

***Comment noted.***

2. *We note a dry hydrant feature is shown on the plans:*

- *Is this feature intended for firefighting purposes? If yes, the details for connection should be reviewed with the local fire company to ensure compatibility.*

***Comment noted.***

- *We note that the elevation of the pipe that feeds the hydrant only provides only limited amount of water, given is vertical position in the wet pond. If possible, we suggest the pipe be lowered to maximize the amount of water that can be utilized. This aspect becomes more important if the wet pond is also providing process water to the facility, as this will create fluctuations in water levels.*

***It is our understanding that the pumps utilized by the fire companies can only handle a ~25' vertical lift, therefore limiting our ability to lower the piping any further.***

3. *The plan lists the existing spray irrigation system as to be removed. The plan should reflect the supply lines from the London Grove facility and the disposition of same.*

***The supply lines have been added to Sheet #3 and are shown to be removed.***

4. *The applicant should be in contact with the Township Building Code Official to review and discuss various zoning and building code aspects that are applicable to this project.*

***Comment noted.***

5. *Regarding proposed retaining walls we note the following:*

- *retaining walls over 4' will require building permits*
- *retaining walls over 4' tall will also require guards along the top of said wall.*
- *The plan should provide top and bottom of wall elevations for walls 2 and 3*

***A design will be submitted prior to construction.***

6. *As the plans move forward, a stand alone Phase 1 Plan should be generated to clearly depict what features are associated with same, such as stormwater related features.*

***Again, phasing refers to composting process not construction.***

7. *The plan should contain information regarding the need for back up generator[s], if any, and the locations of same.*

***A back-up generator is shown north of the proposed storage building adjacent to the parking area.***

8. *We note that a 300' +/- length of electrified horse fence encroaches onto the adjoining lands of Smith and Austin. Will all existing fencing on the tract be removed?*

***The fence is now shown to be removed.***

9. *The plan legend should be revised to read "moderately steep slope 15%-25%" for the shading shown.*

***Revision to the slope notation has been made.***

10. *As the plan moves forward, the applicant should be aware that financial security will be required to be posted for the stormwater related aspects of the project, including, inlets,*

*pipng, basins, E&S controls, etc.*

***Comment noted.***

11. *Given the private nature of this project, we have not commented on various items, such as pavement design, internal circulation, truck turning, as the applicant has design professional who can advise on same.*

***Comment noted.***

12. *We suggest that the plan note that no new wells or septic systems are being proposed as part of this plan – we assume this to be the case as none are depicted on the plans.*

***Note #22 on Sheet #1 addresses this comment.***

13. *It would seem prudent that a stop sign be added at the intersection of the proposed driveway with Auburn Road.*

***A stop sign has been added at the new entrance to Auburn Road.***

14. *While the plan appears to list the available sight distance for the proposed driveway on Sheet 4, the required sight distance should also be provided.*

***Sight distance information is provided on Sheet #3.***

We trust that the revised plans/reports and this letter adequately address your engineer's comments. However, should you need any additional information, please do not hesitate to contract me.

Very truly yours,

RAGAN ENGINEERING Associates, Inc.



Ronald I. Ragan, PE  
Project Engineer

Attachment

Cc: G. Valentino, Gourmet's Delight Mushrooms