



July 7, 2023

Ms. Alison Giles  
Upper Dublin Township  
370 Commerce Drive  
Fort Washington, PA 19034

Re: Upper Dublin Township  
Municipal Building  
Environmental Protection Advisory  
Board (EPAB) Review  
Project No. 23015

Dear Ms. Giles

We are submitting the following responses to an email from Michael Haas dated June 23, 2023 subject: EPAB comments to Planning Commission re. Proposed Township Building Reconstruction. These responses are presented in **bold** in the same order as the June 23, 2023 email.

1. We commend the Commissioners and the design team for making Commissioners Resolution 21-2446, pledging the adoption of renewable power for Township operations, a key guiding principal in their work. At the least, this led to the proposals to use geothermal energy for heating and cooling, the installation of EV charging stations at various locations onsite, and the incorporation of solar-capable design elements in the planned structure.
2. We also commend the Commissioners for their substantial efforts to create functional and sustainable structures meeting Township needs in a cost-effective manner.
3. We applaud the inclusion of energy consultant Paul Spiegel in the process.

Specific comments:

4. Sewer and Sanitary piping:

Plans, sheet 21 of 22.

- Building Sewer Detail - Shows pipe as either Sch 40 PVC or SDR 35. Strongly suggest using only SDR 35, since it is a gasketed joint and better than a solvent weld PVC joint. It also offers some deflection without serious problems. **The sanitary sewer cleanout detail on C803 indicates SDR-26 pipe, which is stronger than SDR-35 and has gasketed joints.**
- Sanitary Clean-Out Detail - Recommend a two-way cleanout instead of using a one-way clean-out as shown. **The sanitary sewer cleanout detail on C803 has been revised to show a two-way cleanout.**

- General - Suggest using a gasketed SDR 26 or SDR 35 for onsite piping. If any lateral needs to be replaced in the street, recommend using DR 18, C900 or ductile iron pipe. It is not shown if the existing lateral connections beyond the curb are going to be used or not. **All sanitary piping is SDR 26. We are not replacing the laterals into the street.**

5. Landscaping:

Tree choices: We advise against the planting of American Beech, since a beech disease is moving into our region. **The American Beech has been changed to the Sycamore.**

It appears that no sugar maples are included in the plan, which is good, since the warming climate threatens their survival here. **No Sugar Maples are proposed.**

Good effort is shown, in the plan, to desirably maximize the installation of trees. We suggest that consideration be given to the replacement of the planned grass over the geothermal field with trees, shrubs, wildflowers or other cover acceptable in that location. In addition to increasing the beauty and wildlife value of the site, all these suggested options reduce the need for mowing, whose reduction was a target identified in the 2021 Clean Energy Transition Team report to the Township. Reduced use of mowers translates to (desirable) reduced carbon emissions. The Township Forester should be able to give guidance on appropriate plants for this site. **Due to the well grid trees and shrubs cannot be planted in the geothermal field. Wildflowers or other low mow “meadow” seed mix can be proposed in the geothermal field disturbance area. The plan currently shows lawn grass.**

6. Brine for road de-icing: Site maps show the salt storage shed on the southeast side of the property. Brine storage tanks are located at the west side of the property, near the Public Services building. We presume that the stored salt is used to create brine solutions. Locating the brine tanks near the salt storage shed might desirably concentrate all salt operations in the S.E. corner of the property, reducing traffic, congestion, distances driven and etc. However, we know little of the details of the brine operation and realize that the existing layout may be somehow optimal or not economically amenable to alteration. **This issue should be addressed with the Public Works staff. We are not changing the location of the salt shed or brine tanks.**

7. Backup generator:

This topic came up at the June 20 meeting. The engineering design team stated that a rather large generator is required. Since a rooftop solar array may be chosen for the facility, we are puzzled that a notably large generator seems needed, since, presumably, even during a power outage, onsite solar would meet much of the facility's power needs during daylight hours, the time of greatest demand. We recommend that two generator-size calculations be made: one for a no-solar campus, and one for a solar campus, and that the Commissioners be presented the estimated costs for fuel storage tanks and generator in both situations. Presumably the generator size and cost will be lower in the with-solar situation. This cost reduction may bear on the Commissioners decision

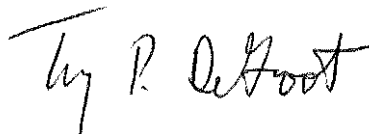
re: the adoption solar power. **The generator is sized to provide full power to the building.**

Fuel choice: A diesel fuel generator has been chosen by planners. At the June 20 meeting there was considerable discussion as to the wisdom of this. Planning Commission members stated that a natural gas-fired system would have lower particulate matter emissions, less odor, and lower carbon emissions. Our reading of the current EPA emissions control requirements for stationary diesel engines suggests that there may not be a substantial difference between the particulate emissions and odor of a diesel vs. a natural gas system. **No comment.**

In a diesel generator system, we advise that consideration be given to the use of biobased fuels such as biodiesel and renewable diesel in place of petroleum diesel fuel. These have a carbon footprint lower than that of natural gas, along with reduced odor and particulate emissions relative to petroleum diesel. The biobased diesel fuel industry is experienced in the use of these fuels in genset systems, and they may be applicable here. We are aware of the negative perception re. biobased diesel fuels among some Township staff. Given ample guidance from the biofuel industry we believe that past negative experiences could be eliminated in the future. In the end it may be costs that argue against the use of biofuels, but the matter seems worth exploring. **No comment.**

Should you have any questions, or require additional information, please contact me at (484) 895-4632.

Sincerely,



Terry P. DeGroot, P.E.  
Principal

cc: Kurt Ferguson, UDT Township Manager  
Jesse Conte, UDT Assistant to the Township Manger  
Kevin Godshall, GKO Architects  
Arif Fazil, D'Huy Engineering  
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