

**Climate Change, Energy, and Environment Commission (C2E2)**  
Draft

Summary of November 15, 2021 Meeting  
Virtual Meeting

Members Present: Liliana Duica, Carrie Thompson, Jonathan Morgenstein, John Bloom, Joan McIntyre, Kevin Vincent, Stephen D'Alessio, Emily Emery, Jonathan Morgenstein, Joshua Griset, Mikaila Milton, Majdi Shomali

Members Absent: Gilbert Campbell, Timothy Effio, Shawn Norton,  
Guests: Doug Brenner, Greg Shipley, Brian Balchunas, Parul Jain, Ramos Osvaldo, Samira Zare, Judy Collins

Staff Present: Adam Segel-Moss (DES), Mike Collins (DES) Demetra McBride (DES), Rich Dooley (DES), Stephen Burr (DES), Charles Njoku (DES), George May (DES), Mary Strawn (DES), Pierre Holloman (DES), Lynn Rivers (DES), John Mir (DES), John Lawson (DES), Myron Richardson (DES)

**1. Public Comment on General Topics**

-None-

**2. ART Bus Operations and Maintenance Facility (AOMF) Environmental Assessment**

Greg Shipley provided an overview of the AOMF.  
Some overview highlights included:

Scope

- operations/dispatch and administration facility
- maintenance facility
- structured parking for personal vehicles
- surface parking for buses
- infrastructure for potential future electric-powered buses
- approximately 250 employees supporting the facility

Goals

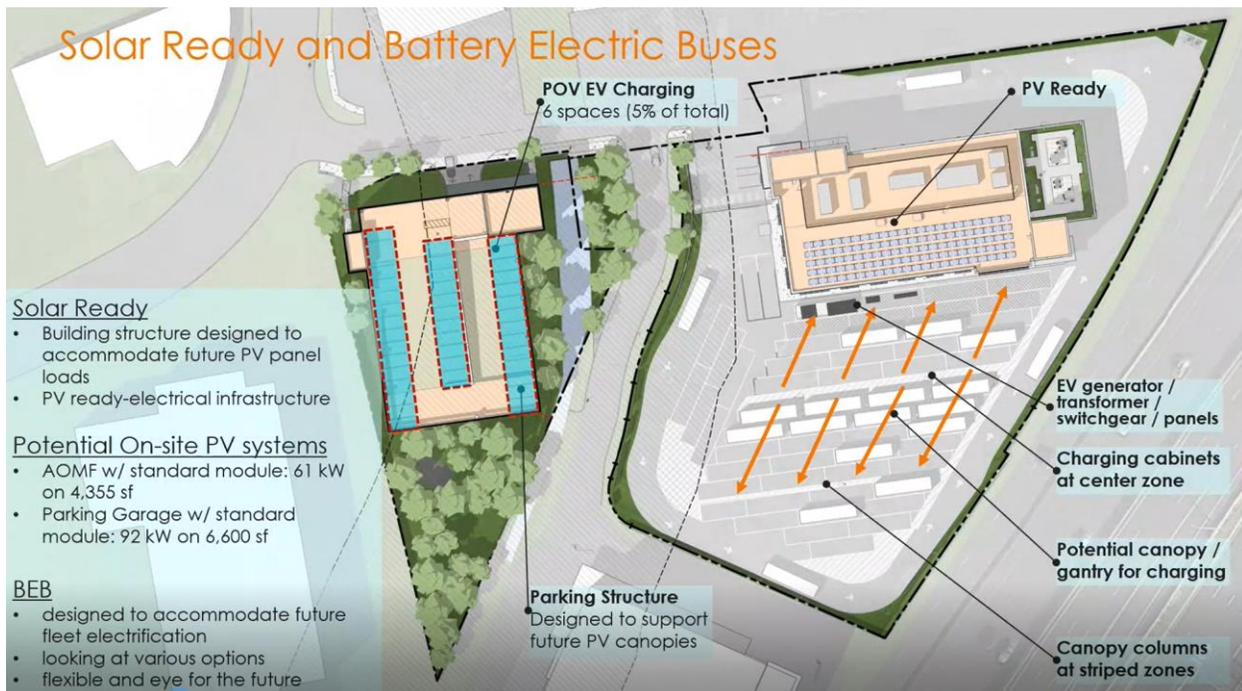
- meet the needs of the community
- state of the art long-term facility
- operationally efficient
- sustainable and energy efficient
- aesthetics
- stormwater management to minimize flooding
- resiliency in materials – low maintenance

The project is targeting LEED silver certification of the project. There is a chance that several 'maybe' points may be achieved that will push the project into the Gold threshold.

The project is designed to be 25% better than code. Passive design strategies were also employed that include high wall-to-window ratio, passive design to use daylight, and daylight heat during the winter. Some active strategies include low-maintenance HVAC, solar-ready design, and fleet electrification.

Doug detailed the generator design. The facility requires use of the space 24 hours – 7 days a week. Generators have been designed for the facility to ensure continuity of operations. Battery backup will not be possible as the facility requires 1MW of energy for operations.

Solar, electric bus charging, and associated infrastructure locations are noted in the diagram below.



Due to the energy intensive nature of the facility, staff noted that it isn't possible to make this a net-zero facility.

The project is also working to improve the site through stormwater management and increased perviousness. The stream channel will be improved, and numerous trees will be planted. Overall the site will be much more natural as compared to the current state.

The project is working on numerous items such as the LCA analysis, HVAC equipment, CMAR package.

Joan McIntyre asked why the project isn't targeting LEED Gold as stated in the County's Facility Sustainability Policy. Greg noted that the project is targeting Silver but that there are numerous opportunities to reach Gold certification. As an example, the solar will be installed but not as part of the project. That is due to the contracting mechanism and timing. If the solar were installed as part of the project, there is no doubt that this would be solidly in the Gold certification level.

John Bloom asked what the electric capacity of the entire site is. Specifically, he asked if the site will be upgraded for a fully electric fleet and when that might happen. John asked if it was a final decision to have natural gas heat the bays as well as water.

Greg noted that the project has been in contact with Dominion. They noted that there is sufficient power at the site as designed. The load for the facility is about 1MW. Dominion can serve that with the current electric lines. The bus electric loads to charge are almost 3 times the amount of power that the building uses. This requires electricity be brought in additional from another line from the south of the site.

The project selected natural gas for unlimited run time on the generators. Diesel was infeasible due to resilience, storage of fuel, and that if an outage occurred in inclement weather it might not be possible to deliver it.

Natural gas is also being used for water heating. An air-to-water system was explored but there were several factors that made it infeasible. The size of the system would need to work constantly and store it in tanks. That means that massive storage tanks would be required and don't fit in the building. Gas is being used for backup generators and water heating. Two separate HVAC systems are being explored. Currently, the air-to-water system is being explored but it is unclear if that would be possible. Geothermal was ruled out since cooling doesn't happen during summer and would cause an imbalance in the system with too much heat.

Kevin Vincent noted that charging systems and processes should be analyzed. Sometimes worst-case charging was designed for sizing and electric feed needs. It was noted that staff are aware of this and are looking at smart charging and other technology to maximize charging and demand response.

Carrie asked why the project isn't reaching for a full net zero project. It was noted that the project doesn't have enough area for the energy use of the site. It is an industrial facility and solar is being explored for the roof, parking canopy, and possible other canopies as well.

Jonathan asked if the project is considering low carbon cement and concrete. Jonathon noted that the Energy Committee will be meeting with the cement plant parent company next door. He suggested that staff join and that the project explore low-carbon concrete options.

Staff agreed to provide additional information on the mechanical systems, EUI, consider low-carbon concrete, and other elements of the project. Staff noted that the project is looking toward permitting in the spring.

### 3. Solids Master Plan (SMP) Update

Mary Strawn provided an update about upgrades to the Water Pollution Control Plant.

Mary provided an update and noted that staff are committed to coming back to the Commission in December or January with specific answers to Commission questions.

HDR was selected as their owner's advisor on the project. They are not eligible for design and construction of future implementations of the project.

The project allows for the plan to make upgrades to keep the facility in a state of good repair/operation. Additionally, it allows for the plant to take advantage of new technologies to meet energy and carbon reduction goals.

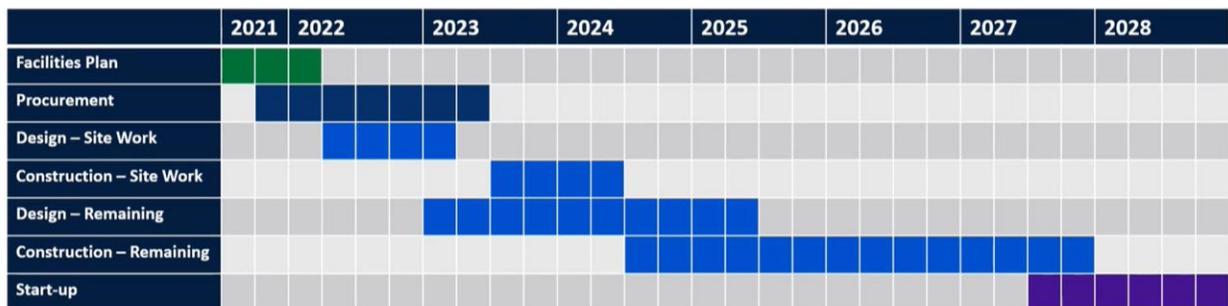
The SMP process began in 2015 and was completed in 2018. Mary thanked those that have engaged on this issue for numerous years.

Benefits of the updates include a higher quality class-A biosolids product, less odorous, new equipment, the thermal hydrolysis allows the footprint of the digesters to shrink, and results in the production of biogas.

The current program has been rebranded as Re-Gen.

The last major decision is the gas utilization which they are working through right now.

The project timeline is below:



Brian detailed the different processes. This includes thermal hydrolysis, anaerobic digestion, biosolids, and biogas generation.

Brian noted there is a working group and staff and the group continue to work through numerous outstanding items. The final decision on gas utilization is expected in mid-2022.

Jonathan asked why the project would sell the renewable natural gas and buy other natural gas from Washington Gas? Brian noted that the on-site biogas could be used on site. It would just mean less renewable natural gas would be generated. Natural gas will be needed onsite as a backup anyway. Net natural gas reduction will be the same if it is used or sold.

Joan noted that it makes more sense to keep things in a circular process. To that end, using what is on-site instead of generating something to ship out and buying something from elsewhere doesn't seem like an optimal process.

John asked if there was an update on how they can both sell their environmental benefit and account for them as ours. Brian noted that it deserves some additional materials to explain it. The renewable fuel standard is a different program than carbon offsets. There could be a discussion on the claim of carbon reductions as the project moves forward. The economics still favor alternative 1 vs. alternative 2. Brian noted that he would provide more details on that the next time that they met.

Staff agreed to provide a draft report in January and come back to the Commission in January or February. Commissioners will draft questions and send them on to staff for review for answers. Answers are expected by the Commission in advance of the next SMP agenda item.

#### **4. 2022 Priorities Roundtable**

The Commission discussed numerous items for considering in 2022. These will be woven into an updated Work Plan and Priorities for 2022 that will be approved in January.

#### **5. Update on the Community Energy Plan Roadmap**

The Roadmap is being vetted through staff and departments. Rich Dooley provided an update that 63 strategies have been reduced to 42. Half of those strategies will be in the 1–2-year timeframe bucket.

Rich noted that staff have heard from the community to act and act quickly. That is why nearly half of those strategies are in the 1–2-year priority timeframe.

Rich noted that staff plan to have a draft ready in Q4 of this year, likely in early to mid-December. That will be sent out to Commissioners for their review and input.

#### **6. October Meeting Summary**

The Commissioner reviewed, amended, and approved the October meeting summary unanimously.

## **7. Old / New Business**

Jonathan Morgenstein put forth a new candidate for the Energy Committee. Greg Brosac is an Arlington resident and has significant experience in the areas of finance. As the EC looks at Green Banks and other mechanisms to incentivize the private sector for electrification – additional finance background is needed. Mr. Brosac was put forth and unanimously approved by the C2E2.

Joan McIntyre noted that she would be speaking at the County Board meeting on the ARPA funding. She would be making suggestions that are consistent with the act and as a down payment of Board investment in climate change.

Meeting ended at 9:29 p.m.