

Impact Report of Montgomery County Solar Collection Systems in the AR Zone

ZTA 20-01 required an impact report to provide a recommendation to the County Council on whether the solar program should be contained, expanded, or discontinued based directly on any measurable and substantive impacts.

December 28, 2023

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SECTION 1: BACKGROUND

Between 2018 and 2021, the Montgomery County Council sought to further support the renewable energy goals of the County and State of Maryland by allowing larger Solar Collection System facilities in certain zones and refining processes and standards for Solar Collections Systems in Montgomery County.

- Zoning Text Amendment 18-01 (Ordinance 18-43) revised the Solar Collection System use standards to allow larger facilities in certain zones; and generally amended the provisions for Solar Collection Systems.
- Zoning Text Amendment 20-01 (Ordinance 19-14) revised the Solar Collection System use standards to allow larger facilities in the AR Zone; amended provisions for Solar Collection Systems in other zones; and amended provisions for site plan approval in the AR Zone.

The solar initiatives were discussed and analyzed for two years through a public process, with input from multiple stakeholders, committees, and working groups, which resulted in applicable standards for solar projects in the AR Zone and other zones. Per [Chapter 59 Section 3.7.2](#) of the Montgomery County Zoning Ordinance, Solar Collection Systems are permitted as either a limited use or conditional use in certain zones provided certain criteria are met.

Given the desire to further support solar as a viable renewable energy source in Montgomery County, while also ensuring that agriculture remains the primary economic use on primary agricultural soils in the Agricultural Reserve, ZTA 20-01 directed the Planning Department to prepare an impact report by December 31, 2023, which would assess the impacts of approved and constructed solar projects on the Agricultural Reserve subsequent to the approval of the ZTAs and cover topics such as: agricultural practices on land beneath panels; impacts on forests, streams, wetlands; impacts on the ability of diverse communities to access farming or remain in farming; how solar has generally impacted agriculture, including any impacts on operations of lease or tenant farmers and land prices; any impacts on local food production; and any impacts of solar on carbon emissions in Montgomery County and the electricity grid generally.

Lastly, ZTA 20-01 required the impact report to provide a recommendation to the County Council on whether the solar program should be contained, expanded, or discontinued based directly on any measurable and substantive impacts.

This report and this solar program are important, because in 1980, the Montgomery County Council made one of the most significant land-use decisions in county history by approving and adopting the [Preservation of Agriculture and Rural Open Space Functional Master Plan](#), which established the 93,000-acre [Agricultural Reserve](#). Heralded as one of the best examples of farmland preservation policies in the country, the Agricultural Reserve encompasses almost a third of the county's land resources along the county's northern, western, and eastern borders.

The Agricultural Reserve and its accompanying Master Plan, zoning elements, and the 2020 [Agritourism Study](#) were designed to protect and promote farmland and agriculture. Along with a sustained commitment to agriculture through the county's Office of Agriculture, this combination of tools helps retain more than 500 farms that contribute nearly \$300 million to Montgomery County's annual economy. This is a notable achievement in an area so close to the nation's capital, where development pressure remains perpetual and intense.

SECTION 2: SOLAR PROJECT APPLICATIONS IN THE AR ZONE BETWEEN 2018 AND PRESENT

Since the passing of the Solar Collection System ordinances and expansion of solar facilities in the AR Zone, there have been two relevant projects. One project, CU202305 Riggs Road/Free Rein Solar, was recommended for approval by the Planning Board and approved by the Hearing Examiner, and one project, CU202404 Gregg Road Solar, has been recommended for approval by the Planning Board with the Hearing Examiner holding the public hearing to consider the application soon. Neither project has been constructed. If both projects were constructed, combined, they would equate to 4 megawatts of energy production, with about 13.67 acres of solar arrays, on approximately 20.57 acres of conditional use area.

RIGGS ROAD/FREE REIN SOLAR (CU202305)

Riggs Road/Free Rein Solar, CU202305 is located at 5011 Riggs Road, within the 2005 *Olney Master Plan* area. The applicant is approved to construct a 2-megawatt Solar Collection System on approximately 7.73 acres (4.9 acres for the solar array and 2.8 acres for the access drive). The 7.73-acre area for the Solar Collection System is shown in the image below with a yellow, dashed line, and the larger 82-acre property is shown with a red, solid line. The project will be located on Category III, IV, and V soils according to the USDA soils map, and will include solar arrays, fencing around the compound, and associated landscaping and a driveway access from the equestrian buildings to the compound. The applicant is proposing pollinator plantings under and around the Solar Collection System.

A Forest Conservation Plan has been approved by the Planning Board for the project, and the project did not require removal of any trees or forest within a flood plain, stream buffer, wetland or steep slope. A small portion of forest clearing was required to allow for the access drive. The afforestation and reforestation requirements for this project result in a 1.5-acre planting requirement, which will be planted within the stream buffers on the parent tract. The project also results in the removal of one variance tree to allow for the emergency access drive to be installed, and that replanting requirement will result in a mitigation planting of four 3-inch caliper trees. The existing stream and wetland onsite are otherwise undisturbed with the installation of this facility.



Image 1 – Riggs Road/Free Rein Solar, CU202305

The solar array and associated compound are more than 200 feet from any neighboring house; therefore, no screening is required. However, the applicant is still providing landscaping along the uphill side of the compound to help screen from the neighboring house to the east.

Approval and construction of this solar project will have little to no impact on agriculture in the Agricultural Reserve, as it was not located on Category I or II soils, it does not impede or prohibit the existing equestrian facilities and uses, and the applicant will be installing pollinator plantings below and around the solar arrays.

This solar project will have little impact on the environment. While the applicant will be removing 0.3 acres of forest, the applicant will be providing 1.5 acres of planting onsite and within stream buffers. The applicant will also be planting four 3-inch caliper trees to replace the one variance tree to be removed. As noted above, the existing stream and wetland onsite are otherwise undisturbed with the installation of this facility.

It is likely this solar project will have little to no impact on the ability of diverse communities to access farming or remain in farming given this approval did not impact the ability to continue the existing equestrian uses of the property. Any impacts on operations of lease or tenant farmers and land prices is likely either unchanged or immeasurably changed. The project has not resulted in any known impact on local food production. This project will add up to 2-megawatts of solar energy to our electrical grid, which aides in reducing carbon emissions and contributing towards our larger renewable energy and solar production goals, while ensuring agriculture remains the primary use within the Agricultural Reserve.

GREGG ROAD SOLAR (CU202404)

Gregg Road Solar CU202404 is located at 4434 Gregg Road, also within the 2005 *Olney Master Plan* area. The Planning Board recommended approval of the conditional use application to construct a 2-megawatt Solar Collection System on approximately 12.84 acres (8.77 acres for the solar array and four acres for a Forest Conservation area). The area for the Solar Collection System and associated Forest Conservation area is shown in the northwest corner of the larger 53.95-acre property. The project will be located on Category III and IV soils according to the [USDA soils map](#), and will include solar arrays, fencing around the compound, associated landscaping along Zion Road, Gregg Road, and Riggs Road, and driveway access from Zion Road. The applicant is proposing pollinator plantings under and around the Solar Collection System.

A Forest Conservation Plan has been approved by the Planning Board for the project, which did not require removal of any trees or forest onsite. The afforestation and reforestation requirements for this project result in a 1.47-acre planting requirement, which will be planted within the stream buffer. The existing stream and four wetlands onsite are otherwise undisturbed with the installation of this facility. The solar array and associated compound are less than 200 feet from neighboring houses to the north of the property; therefore, the applicant is providing the required screening on the west, north, and east sides of the property.

Approval and construction of this solar project will have little to no impact on agriculture in the Agricultural Reserve, as it was not located on Category I or II soils, and it does not impede or prohibit the existing agricultural uses on the more productive soils on the property, and the applicant will be installing pollinator plantings below and around the solar arrays.

This solar project will have little impact on the environment. While the applicant is not removing any forest, the applicant will be providing 1.47 acres of planting onsite and within stream buffers. As previously noted, the existing stream and wetland onsite are otherwise undisturbed with the installation of this facility.

It is likely this solar project will have little to no impact on the ability of diverse communities to access farming or remain in farming given this approval did not impact the ability to continue the existing agricultural uses of the property, while better utilizing the less productive soils on the property. Any impacts on operations of lease or tenant farmers and land prices are likely either unchanged or

indiscernibly changed. The project has not resulted in any known impact on local food production. This project will add up to 2-megawatts of solar energy to our electrical grid, which aides in reducing carbon emissions and contributing towards our larger renewable energy and solar production goals, while ensuring agriculture remains the primary use within the Agricultural Reserve.

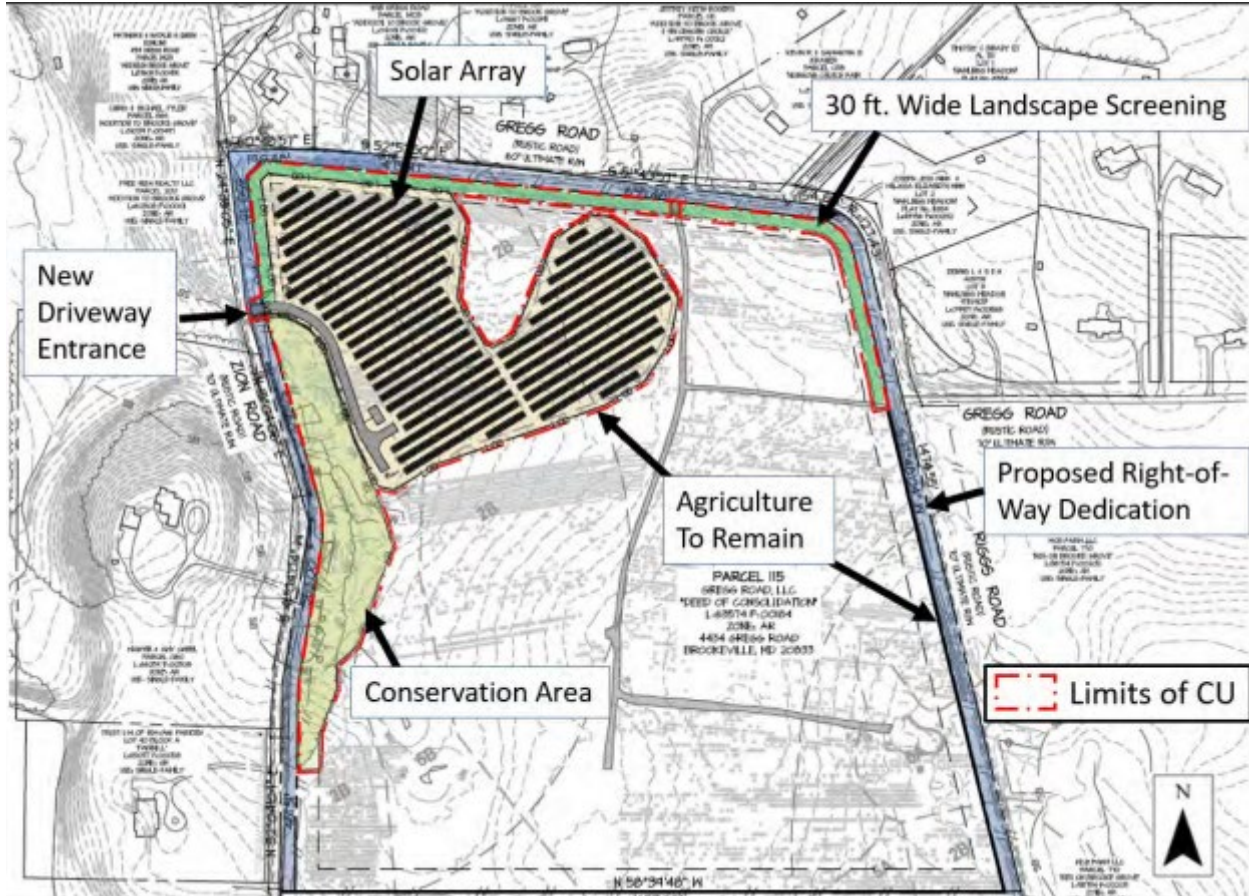


Image 2 – Gregg Road Solar, CU202404

CONCLUSION

The two solar projects in the Agricultural Reserve result in a deduction of approximately 20 acres of the 1,800 acres anticipated for solar use. The solar projects have not negatively impacted (and are not anticipated to impact) agriculture, land values, access to agriculture from diverse communities, food production, and environmentally sensitive features. While this demonstrates a modest start to the solar program in agricultural lands of Montgomery County, it also demonstrates it is possible to promote solar projects on agricultural lands, aiding in reducing carbon emissions and contributing towards our larger renewable energy and solar production goals, while ensuring agriculture remains the primary use within the Agricultural Reserve.

SECTION 3: PUBLIC SERVICE COMMISSION AND CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY

A series of recent legislative changes at the state level have indirectly impacted the approval process for solar projects in the Agricultural Reserve in Montgomery County and other communities in the State of Maryland. First, as a reminder, ZTA 20-01 required conditional use approval for solar facilities generating less than 2 megawatts of energy in Montgomery County. The 2-megawatt limit is result of a court decision that found the county is preempted from deciding the location of projects that require a Certificate of Public Convenience and Necessity (CPCN). A CPCN is triggered at 2 megawatts.

- HB 440 (<https://mgaleg.maryland.gov/2022RS/bills/hb/hb0440T.pdf>) increased the maximum generating capacity for community solar to 5 megawatts, but still concluded a solar energy generating system that exceeds 2 megawatts (in other words, between 2 and 5 megawatts) is a “generating station.”
- HB 1188 (<https://mgaleg.maryland.gov/2023RS/bills/hb/hb1188E.pdf>) further defined a generating station. A generating system does not include a combination of 2+ facilities that individually are under 2 megawatts but cumulatively exceed 2 megawatts (as well as being separately metered and not exporting electricity under an agreement with Pennsylvania – New Jersey – Maryland (PJM)).
- HB 692 (<https://mgaleg.maryland.gov/2023RS/bills/hb/hb0692T.pdf>) prohibits a county from conditioning the approval of a permit required under CPCN on certain zoning approvals, such as conditional use or a master plan.
- HB 908 (<https://mgaleg.maryland.gov/2023RS/bills/hb/hb0908E.pdf>) makes changes to the Community Solar Energy Generating Systems Pilot Program, which provides benefits for low- and moderate-income customers. For the purposes of our zoning ordinance, the major impact is the same as HB 440 – the change in definition of community solar from 2 megawatts to 5 megawatts.

Based on the above recent legislation, a CPCN is required for generating stations. Currently, solar projects under 2 megawatts are not considered generating stations. Nor are systems with a combination of 2+ facilities that individually are under 2 megawatts but cumulatively exceed 2 megawatts as well as being separately metered and not exporting electricity under an agreement with PJM. The current zoning ordinance limits Solar Collection Systems to under 2 megawatts, so Montgomery County is still in compliance, but preempted from increasing to 5 megawatts except when combining 2+ facilities as described above, but not to exceed a total of 14 megawatts of energy, per HB1188.

The Planning Department was provided notice from Chaberton Solar of their intent to file two projects in Montgomery County, both in the AR Zone and on prime agricultural soils. While the two projects would preempt the Montgomery County Zoning Ordinance standards and process for review, including conformance with any applicable master plan, the projects appear largely in conformance

with otherwise applicable standards. The applicant has indicated the use of agrivoltaic practices, including planting of a pollinator mix, meeting screening, setback, and height standards, and intent to comply with Stormwater Management and Forest Conservation Law. While we will review the official application when submitted, at this point it appears, other than the 2-megawatt limitation, the only county zoning requirement that will not be met on either project is that both appear to be located on Class II soils.

CHABERTON SOLAR RAMIERE

The Ramiere solar project is located at 17600 Whites Ferry Road in Poolesville, within the 1980 *Preservation of Agriculture & Rural Open Space Functional Master Plan* area. The project proposes to install a 3-megawatt generating station on approximately 11 acres of prime agricultural soils within the 116-acre parent tract.

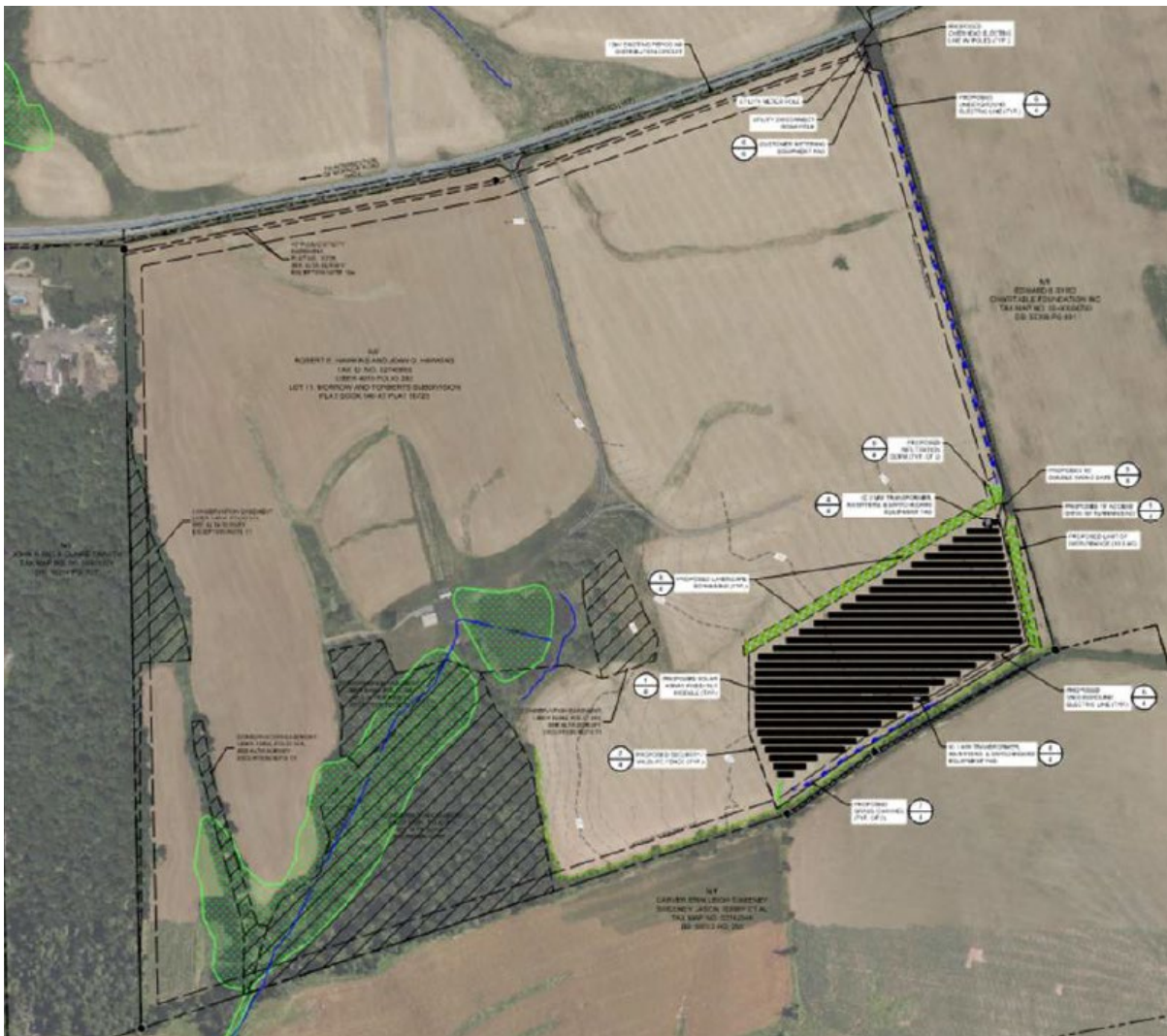


Image 3 – Applicant Graphic of Anticipated Ramiere Solar Project at 17600 Whites Ferry Road

CHABERTON SOLAR SUGARLOAF

The Sugarloaf solar project is located at 20507 Darnestown Road in Dickerson and is also located within the 1980 *Preservation of Agriculture & Rural Open Space Functional Master Plan* area. The project proposes to install a 4-megawatt generating station on approximately 18 acres of prime agricultural soils within the 52-acre parent tract.

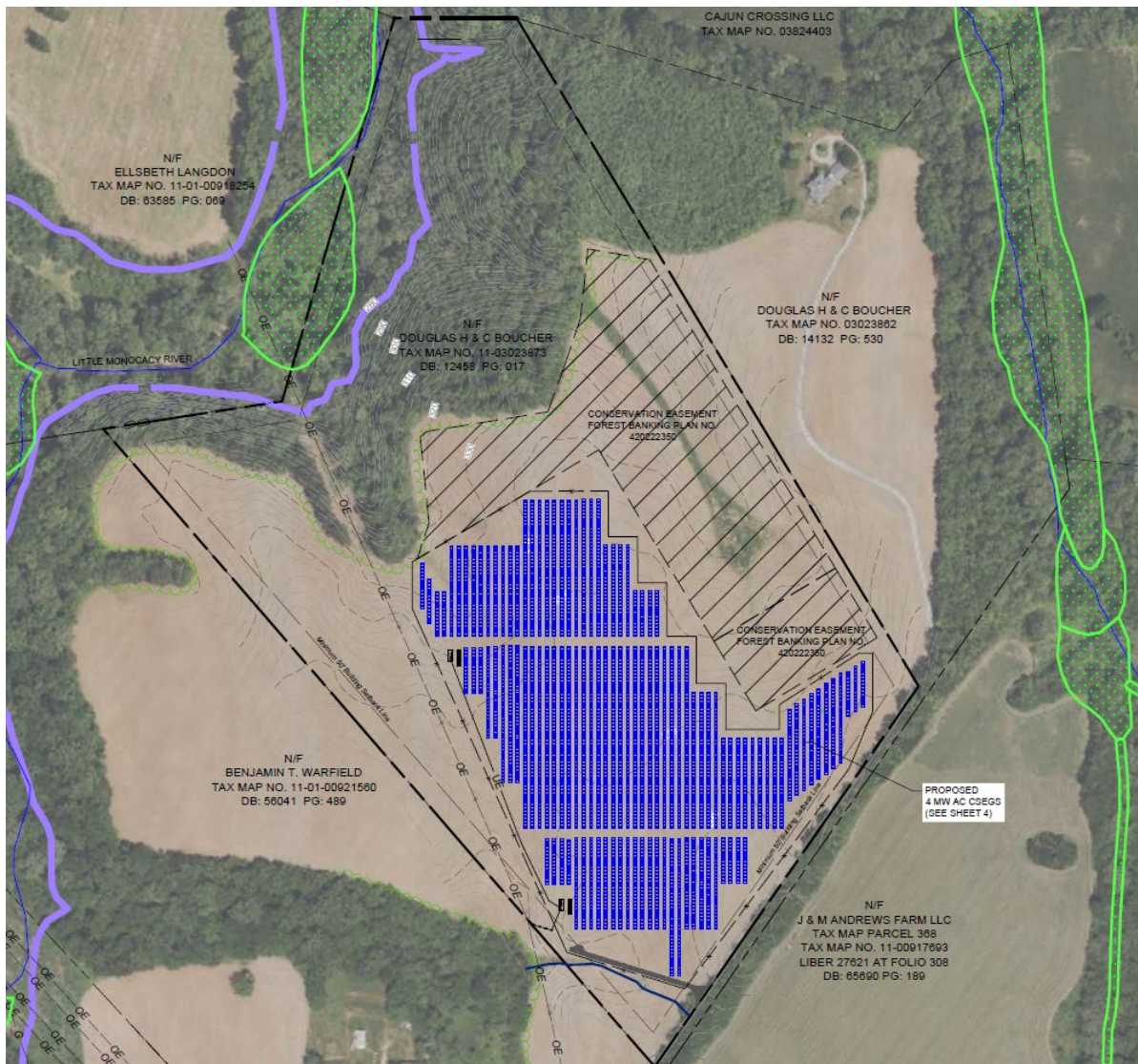


Image 4 – Applicant Graphic of Anticipated Sugarloaf Solar Project at 20507 Darnestown Road

CONCLUSIONS

STANDARDS

The proposed projects appear to meet all established standards except for being greater than 2 megawatts and being located on prime agricultural soils. The Public Service Commission (PSC)

recently sent [notice](#) (Docket Item No. 1) to initiate Public Conference 58, and solicited written comments from the public on the current CPCN process for projects greater than 2 megawatts, and Montgomery Planning transmitted the following [letter](#) (Docket Item No. 17).¹ In summary, the letter reiterated the importance and significance of Montgomery County’s Agricultural Reserve as a prized and valuable resource. It is a significant economic driver in terms of commodity farming, food systems, and agritourism, and provides opportunities for diverse communities to access and remain in farming. Montgomery Planning emphasized that the community solar zoning standards were developed after a lengthy public process and are intended to promote up to 1,800 acres, which equates to approximately 2% of agricultural land in Montgomery County for Solar Collection Systems, while also promoting and preserving agriculture as the primary use and industry within the Agricultural Reserve. That the standards also ensure conformance with our land use plans including the 2002 [Montgomery County Heritage Area Management Plan](#), [Thrive Montgomery 2050](#), and the 1980 *Preservation of Agriculture and Rural Open Space Functional Master Plan*. Thus, Montgomery Planning respectfully requested the PSC to consider applying all Montgomery County standards, including the prohibition on prime agricultural soils.

PROCESS

Regarding the process for review of CPCN solar applications, Montgomery Planning respectfully requested that the PSC require applicants to go through the Mandatory Referral application process, to allow county agency review of applicable standards and master plan guidance and to allow for adequate public input. This would also allow the Montgomery County Planning Board to hold a public hearing and transmit recommendations and testimony to the PSC when considering such applications.

SECTION 4: HURDLES FOR SOLAR COLLECTION SYSTEMS IN THE AR ZONE

The Montgomery County Planning Department is hearing from potential solar project applicants that utility approval is one of the largest hurdles to effectively implementing community solar in the county. Cooperation with the power distribution companies and the ability to connect to the grid are the two primary drivers for not receiving timely approvals and construction of approved projects. Planning staff have been told there are issues with responsiveness, communication, and overall desire to implement additional solar from utility companies in general. Even with the state mandates for renewable energy, the utility companies are able to find the necessary capacity in other jurisdictions, which dissuades them from working with smaller projects locally.

¹ Additionally, Montgomery Planning has heard from the Maryland Association of Counties, that state delegates are considering preemption of all solar projects, meaning any solar project in Maryland would be eligible to apply for approval with the PSC through the CPCN process.

Grid interconnection is the other major obstacle impacting utility approvals in the county. The local power circuits need to have the available capacity to absorb new electric generation and, in many areas, that capacity does not exist. Upgrades or new circuit connections to regional power substations could be a solution, but are very costly, especially to these smaller non-utility scale facilities. The county's Agricultural Reserve is also at the edge of the service areas for all three electricity providers (PEPCO, BG&E, and Potomac Edison) exacerbating capacity shortcomings.

Montgomery Planning believes these hurdles that delay or deny utility approvals represent the largest obstacle to implementing our collective solar goals, and zoning and land use regulation may likely have little if any ability to remedy these issues.

Additionally, we have heard from the solar industry that the 2-megawatt limitation and the prohibition of solar projects on USDA Class I and II Prime Agricultural Soils are also obstacles to implementing more solar projects in Montgomery County.

SECTION 5: RECOMMENDATIONS

As stated previously, ZTA 20-01 required the impact report to provide a recommendation to the County Council on whether the solar program should be contained, expanded, or discontinued based directly on any measurable and substantive impacts.

While the Planning Board has only reviewed two solar projects in the Agricultural Reserve to date, both projects had no problem meeting any of the zoning code's required standards. In fact, community solar projects are generally simple projects to review compared to other mixed-use, commercial, residential, and other Conditional Use applications. Montgomery Planning remains very excited to work on solar projects and assist with meeting local and state renewable and sustainable energy goals.

IMPROVE COORDINATION WITH UTILITY COMPANIES

Before the state enacts further changes to the review and approval process or to standards for community solar projects (and potentially allow solar projects on prime agricultural soils), Montgomery Planning strongly urges more coordination with and better responsiveness and infrastructure from utility companies to allow additional connections and capacity to the utility grid. Again, Montgomery Planning believes that is the real obstacle to implementing our collective solar goals.

That being said, in an attempt to streamline the review process and incentivize the local process, Montgomery Planning recommends the County Council consider the following two additional significant modifications.

INCREASE SOLAR SIZE LIMITATION

Montgomery Planning recommends exploring the removal of the 2-megawatt size limitation for community solar projects. The 2-megawatt size limitation was included due to the state cap for community solar projects at the time. Since creation of these standards, the state has increased the cap for community solar projects to 5 megawatts. If all other standards are met, including maintaining the prohibition of community solar projects on Class I and II soils, Montgomery Planning does not see the need to restrict the size of solar projects to 2 megawatts. This would provide potential applicants the option of going through our local process and standards or the state process and standards for community solar projects of up to 5 megawatts.

CONVERT SOLAR COLLECTION SYSTEMS TO LIMITED USE

Currently, Solar Collection Systems that are rated at more than 200% of on-site energy use and that generate less than 2 megawatts are a Conditional Use in the AR zone, which is a rather costly and lengthy process, requiring public hearings with both the Planning Board and the Hearing Examiner. Given the limited amount of applicable standards in the Montgomery County Zoning Ordinance for Solar Collection Systems, Montgomery Planning recommends that the County Council explore making this use a Limited Use, with review by the Department of Permitting Services at building permit in coordination with the Office of Agriculture and Montgomery Planning to ensure that the applicable development standards are adhered to and the Forest Conservation Law is followed. An applicant would still be required to obtain approval of a Forest Conservation Plan or Exemption. When all applicable standards are adhered to, these applications have not been contentious or complicated reviews. This change in process would equate to less time, money, and process for these incredibly important solar projects, while still upholding applicable zoning standards and preserving agriculture as the primary use on prime agricultural soils in the Agricultural Reserve.

If applicants are permitted to pursue solar projects generating up to 5 megawatts and advance straight to building permit while adhering to all relevant standards, including the prohibition on Class I and II Soils and adhering to the Forest Conservation Law, that may make the local process much more attractive to prospective applicants. Planning staff believes additional exploration of the options identified in this report is needed before considering allowing solar projects on Class I and II soils. Thus, we do not recommend expansion of the solar program in that respect at this time.

SECTION 6: CONCLUSION

Montgomery County takes its responsibility to contribute to the state's solar goals seriously and will continue to aggressively strive to assist the state in meeting our collective renewable energy goals by promoting solar projects on up to 1,800 acres, which equates to approximately 2% of all land in the county's precious Agricultural Reserve. The standards and process for solar facilities in the AR Zone

and other zones reflect that commitment, while preserving agriculture as the primary use in the Agricultural Reserve.

As stated previously, Montgomery County's Agricultural Reserve is a prized and valuable resource. It is a significant economic driver in terms of commodity farming, food systems, and agritourism, and provides opportunities for diverse communities to access and remain in farming.