

**ENVIRONMENTAL REVIEW DOCUMENT
PROJECT NO. 23005.00
DECEMBER 20, 2024**

**JADE MEADOW III
300 MWAC SOLAR PROJECT
GARRETT AND ALLEGANY COUNTIES, MARYLAND**



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INTRODUCTION

Jade Meadow III LLC (the “Applicant”) proposes to develop a three hundred (300.0) megawatt (“MW”) alternating current (“ac”) fixed-tilt solar photovoltaic (“PV”) system. The Applicant is applying to the Maryland Public Service Commission (“PSC”) for a Certificate of Public Convenience and Necessity (“CPCN”) to construct the Jade Meadow III Solar Project (the “Project”).

The Project does not anticipate impacts to other applicable state, regional, and local plans or programs. Further, references to each appropriate agency with authority to review, evaluate, or comment on behalf of the plan or program are shown in **Table 1** below. There are no other known review agencies anticipated for the Project.

SECTION 1 – GENERAL APPLICATION INFORMATION

A. NAME AND ADDRESS OF APPLICANT

Jade Meadow III LLC
c/o Mr. David W. Beugelmans
1001 Fleet Street
Baltimore, MD 21202

B. PERSON AUTHORIZED TO RECEIVE NOTICES AND COMMUNICATIONS

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St. Louis, MO 63141
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C. COMMUNITY LIAISON OFFICER

Mr. Michael Svedeman
Sr. Director, Project Development – East
520 Maryville Centre Drive, Suite 400
St. Louis, MO 63141
Phone 917.842.7805
msvedeman@revrenewables.com

D. LOCATIONS AT WHICH A COPY OF THE APPLICATION MAY BE INSPECTED BY THE PUBLIC

Garrett County
Department of Community Development
Planning & Land Management Division
203 South Fourth Street-Room 207
Oakland, MD 21550

Allegany County
Department of Planning and Zoning
701 Kelly Rd.
Cumberland, MD 21502

E. LOCAL, STATE, OR FEDERAL GOVERNMENT AGENCY AUTHORITY APPROVAL

Table 1 – Matrix of Local/State/Federal Permits and Approvals

Agency	Permit/Approval	Regulatory Citation (s)	Required For		Status			Waiver, Variance, or Exemption		Comments
			Construction	Operation	Application Contained Herein	Application to be Filed	Permit Approval/ Obtained	Yes	No	
State of Maryland Public Service Commission	Certificate of Public Convenience and Necessity	COMAR 20.79	√		√				√	This document partially satisfies the CPCN Application.
PJM Interconnection, LLC	Interconnection	Condition for Issuance of CPCN		√			√		√	PJM Feasibility Study - January 2021, System Impact Study - August 2021, Facility Study Agreement - October 2024 (see Appendix 10).
Federal Aviation Administration	Glare Analysis	COMAR 11.03.05	√				√		√	FAA Notice Criteria Tool confirmation included in Appendix 25 .
Maryland Aviation Administration	Obstruction to Air Navigation	COMAR 11.03.05	√				√		√	MAA determination of no obstruction or hazard to air navigation included in Appendix 26 .
Maryland Department of the Environment	NPDES General Permit for Construction Activity	COMAR 26.08, Clean Water Act Section 401, 40 CFR 122	√			√			√	Applications to be submitted at the time Construction Documents have been completed.

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Agency	Permit/Approval	Regulatory Citation (s)	Required For		Status			Waiver, Variance, or Exemption		Comments
			Construction	Operation	Application Contained Herein	Application to be Filed	Permit Approval/ Obtained	Yes	No	
Maryland Department of the Environment	Joint Federal/State Application for the Alteration of Any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland	COMAR 26.24	√			√			√	Field visit with MDE conducted on April 22, 2024. MDE's confirmation of wetland avoidance is included in Appendix 15 .
Maryland Department of the Environment	Application to Appropriate and Use Waters of the State	COMAR 26.17.06.07 and 26.17.07	√				√	√		Permit to appropriate groundwater during construction to authorize dewatering activities. Exemption from MDE was obtained (see Appendix 17).
Maryland Department of the Environment	Bureau of Mines Reclamation Plan Approval and Release	COMAR 26.04.10.06	√				√		√	Mine reclamation approvals for active permits to be obtained as part of the CPCN process.
Maryland Department of the Environment	Tier II Compliance	COMAR 26.08.02	√						√	Project is located outside of any Tier II streams and/or Catchment Areas (see Figure 8 and Figure 10).

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Agency	Permit/Approval	Regulatory Citation (s)	Required For		Status			Waiver, Variance, or Exemption		Comments
			Construction	Operation	Application Contained Herein	Application to be Filed	Permit Approval/ Obtained	Yes	No	
Maryland Department of the Environment	Air Permit	COMAR 26.11	√							Currently, the Project does not anticipate emitting any air pollutants. If storing and using diesel generators onsite, the Engineering, Procurement, and Construction (“EPC”) contractor will obtain.
Maryland Department of Natural Resources	Forest Conservation Act Forest Conservation Plan Forest Conservation Easement	Natural Resources Article 5-1602(b)(5)	√			√			√	FCA is not applicable in Garrett and Allegany Counties. However, a simplified FSD was completed by ECS and is included in Appendix 16 .
Maryland DNR Wildlife and Heritage Service	Rare, Threatened, and Endangered Species Review	Natural Resources Article, COMAR 08.02.12	√				√		√	DNR review/response is included in Appendix 13 .
US Fish & Wildlife Service	Threatened, Endangered, Proposed, and Candidate Species Review	Section 7 (c) Endangered Species Act of 1973, as amended (16 U.S.C 1531 <i>et seq.</i>)	√				√		√	USFWS review/response is included in Appendix 19 .

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Agency	Permit/Approval	Regulatory Citation (s)	Required For		Status			Waiver, Variance, or Exemption		Comments
			Construction	Operation	Application Contained Herein	Application to be Filed	Permit Approval/ Obtained	Yes	No	
Maryland Historical Trust	Cultural Review	COMAR 34.04.02	√				√		√	MHT's review/response is included in Appendix 22 .
State Highway Administration	Entrance Permits	COMAR 11.04.05	√			√			√	To be obtained during the local site plan approval, if needed.
State Highway Administration	Hauling Permit	COMAR 11.04.01	√			√			√	To be obtained by the EPC contractor, if needed.
Garrett County Site Plan Approval	Stormwater Management Sediment & Erosion Control Landscape Buffer	Applicability varies according to Local and State Requirements	√			√			√	The County may participate in the CPCN process and provide input regarding the site plan, stormwater management, and sediment and erosion control.
Garrett County Construction Document Approval	Timbering, Grading, Electrical, and Building Permits	Applicability varies according to Local and State Requirements	√			√			√	EPC contractor to prepare construction documents and obtain associated permit.
Garrett County Legal Documents	Bonds, Easements, and Agreements	Applicability varies according to Local and State Requirements	√			√			√	FCE, SWM bond, SWM maintenance agreement, landscape buffer surety and maintenance agreement, decommissioning plan documents, etc. as required by the County.

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Agency	Permit/Approval	Regulatory Citation (s)	Required For		Status			Waiver, Variance, or Exemption		Comments
			Construction	Operation	Application Contained Herein	Application to be Filed	Permit Approval/ Obtained	Yes	No	
Garrett County	Project's impacts, if any, on other applicable State, regional, and local plans or programs	COMAR 20.79.03.04B(8)	√				√		√	See County confirmation of no impacts included in Appendix 2 and a letter of support provided in Appendix 4 .
Allegany County Site Plan Approval	Stormwater Management Sediment & Erosion Control Landscape Buffer	Applicability varies according to Local and State Requirements	√			√			√	The County may participate in the CPCN process and provide input regarding the site plan, stormwater management, and sediment and erosion control.
Allegany County Construction Document Approval	Timbering, Grading, Electrical, and Building Permits	Applicability varies according to Local and State Requirements	√			√			√	EPC contractor to prepare construction documents and obtain associated permit.
Allegany County Legal Documents	Bonds, Easements, and Agreements	Applicability varies according to Local and State Requirements	√			√			√	FCE, SWM bond, SWM maintenance agreement, landscape buffer surety and maintenance agreement, decommissioning plan documents, etc. may be required by the County.

Agency	Permit/Approval	Regulatory Citation (s)	Required For		Status			Waiver, Variance, or Exemption		Comments
			Construction	Operation	Application Contained Herein	Application to be Filed	Permit Approval/ Obtained	Yes	No	
Allegany County	Project's impacts, if any, on other applicable State, regional, and local plans or programs	COMAR 20.79.03.04B(8)	√				√		√	See County confirmation of no impacts included in Appendix 2 .

F. PRE-APPLICATION CONSULTATION

In accordance with Code of Maryland Annotated Regulation (“COMAR”) 20.79.01.05, the Applicant consulted with Garrett County (the “County”), where the proposed solar Project is located, and Allegany County regarding the potential installation of a small segment (approximately 3,500’) of the overhead collector line, more than ninety (90) days prior to filing this application for a CPCN.

The Draft Environmental Review Document (“Draft ERD”) was prepared in accordance with COMAR 20.79.02.02-.04 and submitted to Garrett County and Allegany County on May 15, 2024 for the purpose of preliminary engagement and consultation prior to filing the CPCN application with the PSC. These documents are included in **Appendix 1** (Draft ERD Appendix file available upon request).

As part of the pre-application consultation, the Applicant requested a preliminary report from Garrett County and Allegany County in accordance with COMAR 20.79.01.05B and COMAR 20.79.03.04B(8). Garrett County has advised that *“County regulations and concerns have been addressed in the review. The project is located in an unzoned area of the County where there are no specific use regulations”*. Allegany County has advised that *“any site development, grading or forest harvest will have to adhere to the land development standards of Allegany County to acquire permitting”* (See **Appendix 2**). Any additional comments will be provided as the Project proceeds through the local site plan process.

A conceptual site plan for the Project is included as **Appendix 3**.

G. PUBLIC OUTREACH

The Applicant has conducted local outreach efforts as summarized below. The Applicant will notify neighboring property owners as part of the standard County local site plan process.

Representatives from Jade Meadow III LLC have met with the Garrett County Board of Supervisors, County Administrator, Director and assistant Director of Community Development, Permits & Zoning Administrator and other officials in various meetings since early 2024. Through this early engagement process, support for the Project was obtained and a letter of support from Garrett County is included as **Appendix 4**.

In addition, the Project has a website through which the public may learn more about the Project. This is found at www.revrenewables.com/jademeadowiii.

A map of all occupied residential structures within one-half mile of the Project perimeter is included in **Appendix 5**.

SECTION II – DESCRIPTION OF THE PROPOSED GENERATING STATION

The Project as proposed by the Applicant is located primarily in Garrett County on various properties in proximity to Westernport and Barton along Route 36/Route 135 (see **Figure 1**). A small segment (approximately 3,500') of the overhead collector line may be located in Allegany County. Shown in **Appendix 3**, the proposed generating station proposes two (2) collector line routes known as Option A and Option B. The Project will consist of twenty-six (26) parcels, many of which are contiguous. Portions of six (6) parcels will be needed for easements to accommodate the various collector lines. As proposed by the Applicant, the Project will be approximately three hundred (300.0) MWac fixed-tilt solar PV.

The Project parcels are shown in **Table 2** below and comprise approximately four thousand five hundred seven (4,507.60) acres (see **Appendix 6** for more detail on each Property).

Table 2 –Parcels

Property #	County	Tax Map	Grid	Parcel
1	Garrett	0062	0004	0002
2	Garrett	0062	0010	0029
3	Garrett	0062	0009	0010
4	Garrett	0062	0013	0030
5	Garrett	0062	0022	0033
6	Garrett	0062	0006	0006
7	Garrett	0062	0008	0007
8	Garrett	0062	0010	0011
9	Garrett	0062	0011	0012
10	Garrett	0062	0014	0013
11	Garrett	0062	0003	0028
12	Garrett	0062	0020	0014
13	Garrett	0062	0022	0015

Property #	County	Tax Map	Grid	Parcel
14	Garrett	0062	0016	0017
15	Garrett	0062	0007	0022
16	Garrett	0070	0010	0031
17	Garrett	0062	0018	0040
18	Garrett	0062	0016	0016
19	Garrett	0062	0017	0018
20	Garrett	0055	0001	0014
21	Garrett	0054	0012	0018
22	Garrett	0054	0006	0012
23	Garrett	0046	0024	0042
24	Garrett	0055	0001	0015
25	Garrett	0055	0007	0003
26	Garrett	0062	0022	0032

The Easement Only parcels are shown in **Table 3** below and comprise approximately one thousand three hundred twenty-two (1,322.59) acres (see **Appendix 6** for more detail on each Property). Less than four percent (4.0%) of the Properties designated for easement only purposes will be used for the Project.

Table 3 – Easement Only Parcels

Property #	County	Tax Map	Grid	Parcel
27	Garrett	0062	0006	0031
28	Garrett	0054	0018	0006
29	Garrett	0054	0024	0007
30	Garrett	0047	0019	0010
31	Allegany	0068	0007	0209
32	Allegany	0068	0001	0226

The Parcels and Easement Only Parcels are collectively known as the “Project Parcels”. Although the total acreage evaluated is five thousand nine hundred thirty-three (5,933.07) acres, not all will be used for Project facilities, as appropriate areas have been excluded based on environmental constraints mapping and construction feasibility, and for others only a small portion of the Parcel is being used. As currently proposed, the Project would include a Limit of Disturbance (“LOD”) of approximately one thousand eight hundred fifty-two (1,852) acres. Approximately one thousand eight hundred thirty-two (1,832) acres will be located in Garrett County associated with the solar array layout as well as easement areas for Project interconnection purposes. An additional twenty (20) acres may potentially be located in Allegany County strictly for overhead collector line purposes.

The Applicant has contracted to lease the underlying parcels associated with the Project, via Option to Lease Agreements (see **Figure 1** and **Appendix 6**). The Project is not located within a zoned district per Garrett County Zoning Maps. A small portion of the Project may be located within a zoned area of Allegany County and the Applicant will adhere to the land development standards of Allegany County to acquire the necessary permits. The majority of the Project is on land that has been previously mined, reclaimed, and had bond releases issued.

According to the Maryland Department of Environment (“MDE”) Bureau of Mines, and to the best of MDE’s knowledge, most parcels associated with the proposed Project were permitted and mined (deep and surface) for coal starting in the 1970’s. However, mining activities took place prior, most notably surface mining between the 1940’s and 1950’s before State permitting laws and regulations were in place for mining activities. In addition, deep mines were prevalent in Garrett County, including this area, dating back to the 1800’s with little official documentation. **Appendix 7** includes various permits, reclamation status reports, and permit closure/bond release documents that the Bureau of Mines currently has on record. In addition to the fact that deep mines predated current Maryland mining laws, the archive location in Western Maryland had a fire many years ago and archives onsite were lost.

According to available Bureau of Mines records, the mines were generally reclaimed, permits closed, and bonds released from approximately 1976 to 2023 (see **Appendix 7**). However, for the above reasons, the entirety of the documentation associated with permit closure, reclamation, and bond releases is not available. Based on property visits and visible remains of the reclaimed areas, it can be assumed the Project Parcels were significantly disturbed and altered such that very little remains in natural condition. The Department of Natural Resources (“DNR”) Power Plant Research Program (“PPRP”) previously indicated that surface mine reclamation sites are ideal locations for solar generation facility projects, similar to favored redevelopment on brownfield sites.

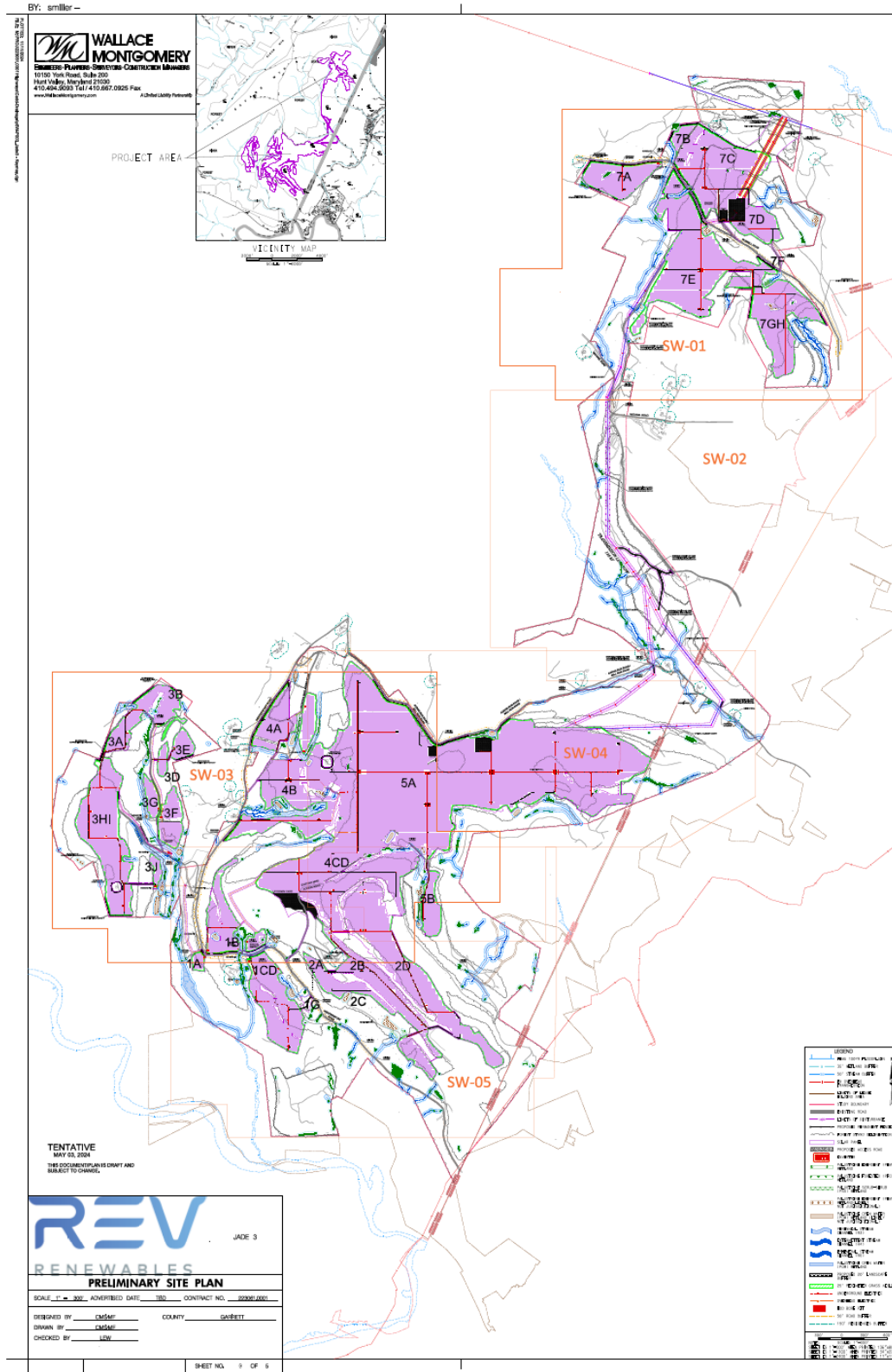
As mentioned above, the total generating capacity for the Project is anticipated to be three hundred (300.0) MWac output. The Project will consist of approximately eight hundred eighty-six thousand three hundred sixty-six (886,366) ZXM6-NHLDD144 440W solar modules (or similar) as shown in the Solar Array Layout (see **Figure 1** and **Appendix 3**). The array will be installed using a driven or screwed pile supported racking system, utilizing galvanized steel posts with galvanized steel or aluminum structures for mounting the modules. Where necessary, pre-drilling of pile locations or other alternative methods of installation may be performed.

A typical Solar Panel Racking Detail is depicted in **Figure 2**. The panels are not considered impervious if the disconnection length is the same as or greater than the perpendicular width of rows. The solar arrays will be fixed with rows running east to west and panels facing to the south. In this configuration, the minimum leading-edge height (bottom edge of the modules) will be approximately one-and one-half feet (1.5') from grade, and the maximum (top-edge height of the modules) will be approximately twelve feet (12'); final spacing will be determined during final design. Although other feasible configurations are possible, top-edge heights will not exceed a height of sixteen feet (16'). Per Garrett County International Building Code (“IBC”) 2015 structural requirements include a snow load of forty (40) pounds per square foot (“psf”) and wind resistance of one hundred fifteen (115) miles per hour (“mph”). Per Allegany County IBC 2006 structural requirements include a snow load of forty (40) pounds psf and wind resistance of ninety (90) mph. Since Jade Meadow III is a solar project, not a commercial building, the Applicant may request a reduction variance consistent with industry accepted standards and practices.

As currently configured, there will be approximately one hundred fifteen (115) inverters where the direct current from the arrays will be converted to alternating current as transmitted by the electric grid. Each inverter skid will include an inverter pad with one (1) inverter and one (1) liquid AC transformer. Each inverter skid will generally represent approximately three and fifteen hundredths (3.15) MWac with smaller or larger capacity equipment utilized where appropriate. The nameplate capacity of the facility will be three hundred and ninety (390.0) MW direct current (“dc”) and three hundred (300.0) MWac. The onsite facilities will also include a Project substation and interconnection substation.

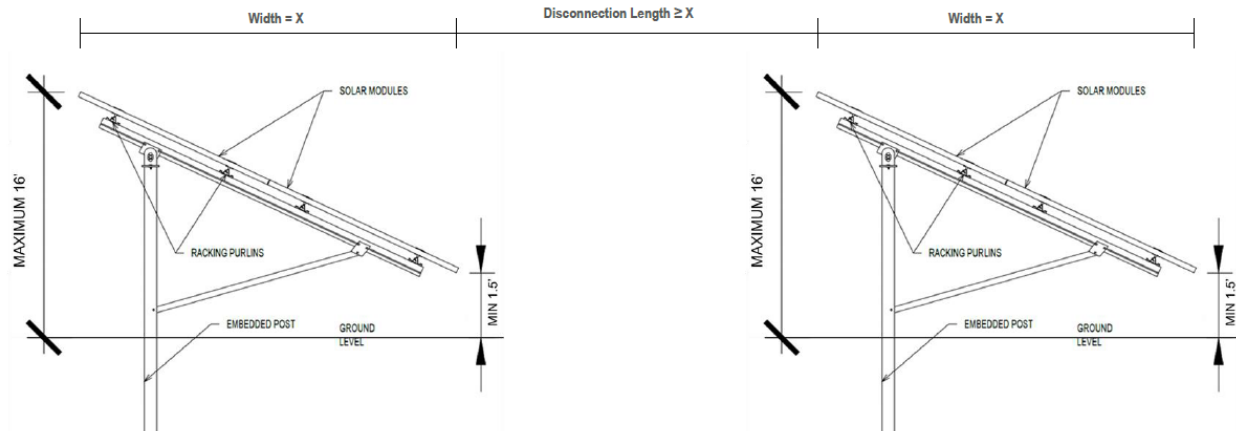
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Figure 1 – Design Concept and Solar Array Layout



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Figure 2 – Solar Array Section [Typical]



1. SYSTEM SPECIFICATIONS:
MAXIMUM FACILITY OUTPUT: 300.0 MW_{ac}
DC/AC RATIO: APPROXIMATELY 1.30
2. FIXED-TILT: APPROXIMATELY 50% GROUND COVERAGE RATIO
3. FENCE LAYOUT - 8' HIGH CHAIN LINK, OR SIMILAR, FENCE

886,366 ZXM6-NHLDD144 440W SOLAR MODULES OR SIMILAR CONFIGURATION

APPROXIMATELY 130,000 POSTS

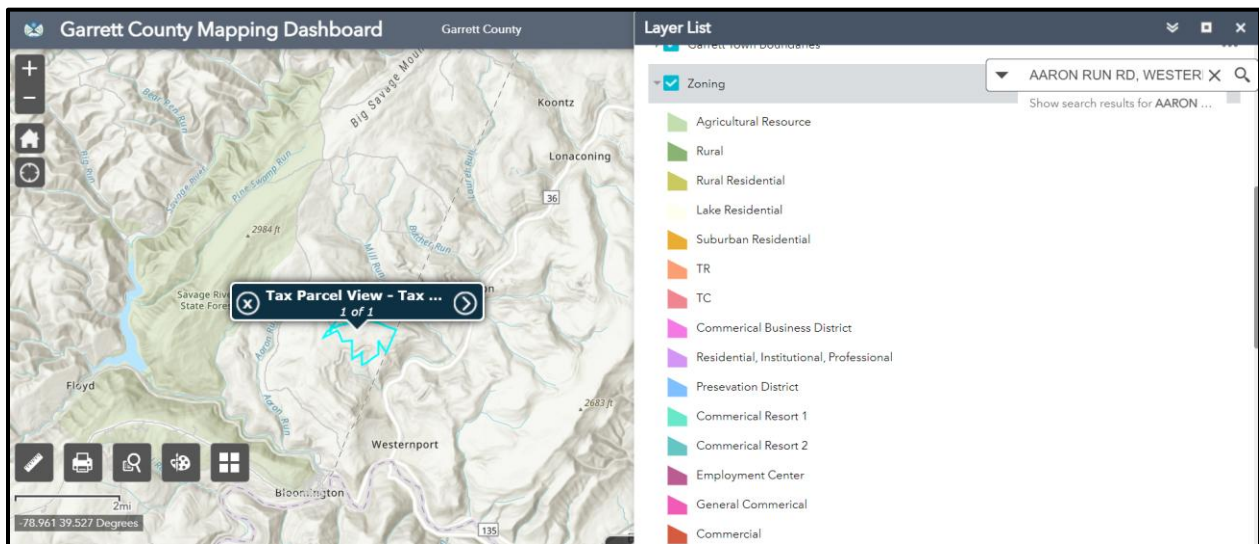
115 SUNGROW SG3150U-MV 3.15 MW INVERTERS, 12'X25' CONCRETE PADS PER INVERTER

1 INVERTER AND 1 TRANSFORMER PER PAD

A. MUNICIPAL CONFIRMATION OF CONSISTENCY WITH GARRETT COUNTY COMPREHENSIVE PLAN & ZONING ORDINANCE

As shown in **Figure 3** below, the Project is not located within a zoned district of the County; therefore, a Special Exception is not required, and the Project is permitted by right. As noted above, Garrett County confirmed “County regulations and concerns have been addressed in the review. The project is located in an unzoned area of the County where there are no specific use regulations” (see **Appendix 2**).

Figure 3 – Garrett County Zoning Map



1. Zoning and Comprehensive Plan Consistency

Garrett County will process this Project as a major site plan for commercial use. It will require a three (3) step process using engineered site plans signed by a licensed Maryland Professional Engineer.

Allowing a use by right (i.e., as a permitted use) is absolute and establishes consistency with the jurisdiction’s comprehensive plan: “[a]n expressly permitted use by zoning designation is tantamount to a legislative finding that the use [is] in harmony with the general zoning plan.”¹

The principal review process for Garrett County leading to site plan approval rests within the Permits & Inspection Division of the Department of Community Development. The Project will be reviewed for consistency with regulations governing site plan review and approval, sediment and erosion control, stormwater management, Fire Marshal approval, access/entrance permits if needed, etc.

¹ S.E.W. Friel v. Triangle Oil Co., 76 Md. App. 96, (1988) (internal citations omitted).

The Permits & Inspection Division provides the information needed to submit permit applications and plans, distributes permit applications and plans to agencies responsible for review, issues permits, and performs required inspections for approved applications.

The Permits & Inspection Division is also responsible for ensuring compliance with all applicable Building Codes and to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to control adverse impacts associated with land disturbance, increased stormwater runoff, and encroachment by development onto floodplains.

2. Site Plan Review / Approval and Local Permitting

Site plan requirements may include, but may not be limited to, ingress/egress, setbacks and buffers, screening, internal drive aisles and access ways, Fire Marshal conditions/requirements, electric code requirements, building code requirements/references, sediment and erosion control, stormwater management, solar panel layouts including inverter locations and switchyards, gen-tie alignment and specifications, and a number of other requirements that parallel the Maryland Environmental Article and associated Annotated COMAR as may be delegated to local jurisdictions for implementation.

As shown on **Figure 1** and included in **Appendix 3**, the Project fence will be setback from public roads one hundred feet (100') or more in most locations but no less than a minimum of fifty feet (50'). An eight-foot (8') fence, which may include an additional one-foot (1') of three (3) strand barbed wire, will be located around the perimeter of the Project. The Project LOD will include a thirty-five-foot (35') setback from field located wetlands and a fifty-foot (50') setback from streams.

Preliminary timbering/clearing, site grading, and phasing plans will be provided for the Project to the Garrett Soil Conservation District Office ("SCD") and Garrett County Permits & Inspection Division for preliminary review. As currently proposed, it is anticipated that the timbering activities will need to occur in accordance with U.S. Fish & Wildlife Services ("USFWS") seasonal limitations. Clearing and grading will most likely occur in the spring grass growing season using grading units aligned with micro-drainage areas that will average approximately twenty-five (25) to forty (40) acres in size, not to exceed forty (40) acres. This plan will identify proposed grading units, acreage that can be open at one time, and stabilization requirements. Consistent with the MDE sediment and erosion control regulations, fifty percent (50%) of cleared areas will need to be stabilized using MDE temporary stabilization methods before additional acreage can be cleared. Specifically, eighty percent (80%) of cleared areas will need to have vegetative cover or ninety-five percent (95%) of the area will need to be seeded and mulched prior to moving into another grading unit, depending on whether it is within the grass growing season or not, respectively.

The sediment and erosion control plans which will be reviewed and approved by the Garrett SCD will include phasing and sequencing plans per MDE regulations. These plans will maximize the use of gravel laydown areas, grass laydown areas, other temporary laydown areas, minimize truck traffic throughout the construction area, and sequence contractors so that work on solar modules and wiring is preceded by completion of work installing posts and racking.

Phasing and sequencing will consist of the following:

1. Timbering Phase (Initial) – installation of perimeter controls prior to timbering.
2. Timbering Phase (Final) – timber harvesting (leaving the stumps in the ground for the clearing and grading phase).
3. Phase I – modification of existing perimeter controls, and installation of remaining perimeter controls, as necessary.
4. Phase II – clearing and grading activities.
5. Phase III (Initial) – installation of solar arrays and related appurtenances, and installation of approved stormwater management practices.
6. Phase III (Final) – removal of perimeter controls and final adjustments to stormwater management facilities.

As previously noted, the Garrett County site plan review and approval process is managed by the Department of Community Development, Permits & Inspection Division. The Permits & Inspection Division will coordinate with the other departments to complete their review of the site plan, including the State Fire Marshal, Environmental Health Services, Department of Public Works – Utilities Division, Department of Public Works – Roads Division, to include services associated with timbering, grading, building, electrical, plumbing, stormwater management, and floodplain, Department of Community Development to include services associated with zoning consistency, State Highway Administration (“SHA”), and MDE.

In summary, the County has a tiered review process including preliminary site plan, final site plan, and construction document approval associated with major site plans. These approvals in part are prerequisite to the issuance of any building permit, timbering permit, grading permit, or electrical permit.

3. Timbering, Grading, Electrical, and Building Permits

A Timbering Permit, Grading Permit, Electrical Permit, and Building Permit will be obtained following construction document approval. Following the site plan and related approvals, final construction documents will be prepared. These plans and specifications will be part of the application to obtain the Timbering, Grading, Electrical, and Building Permits as required by Garrett County and the local SCD Office as may be required. It should be noted that sediment and erosion control plans are required to support both the clearing and grading associated with tree removal in addition to the construction of the solar project.

4. Property Easements

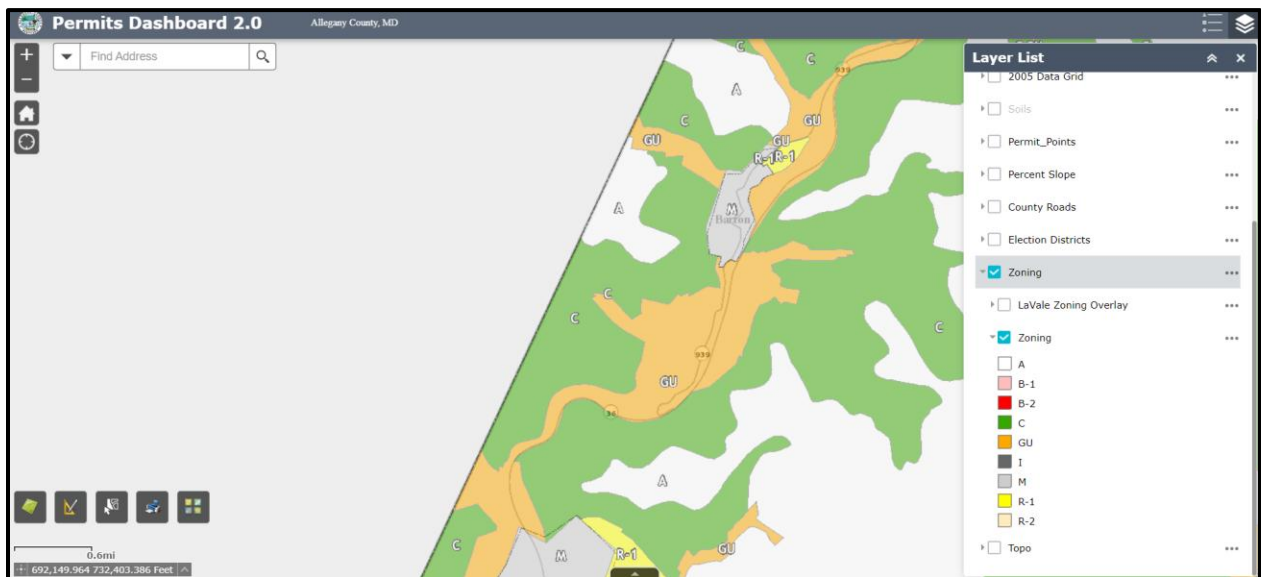
Appendix 8 includes an exhibit detailing easements and infrastructure in the Project area as currently understood. A full ALTA survey is currently in process, and the Project will avoid any impacts to existing easements or other rights-of-way.

B. MUNICIPAL CONFIRMATION OF CONSISTENCY WITH ALLEGANY COUNTY COMPREHENSIVE PLAN & ZONING ORDINANCE

As shown in **Figure 4** below, the underlying zoning for the Project, if the overhead collector line is built in Allegany County, is Conservation ("C"). The principal purpose of the nonurban districts (A and C) as it relates to a solar generation facility is *"Nonurban districts are designed to accommodate a number of nonurban land uses, including agriculture, forestry, mining, extractive industries, wildlife habitat, outdoor recreation and communication, transmission and transportation services, as well as to protect floodplain areas, steep slope areas, designated wetlands and habitat areas and public supply watersheds from intense urban development."*

With respect to the potential for a portion of the overhead collector line to be located in Allegany County, the Applicant will complete the local County reviews, if any, required by PPRP's licensing conditions prior to the start of construction. As noted above, Allegany County has advised that "any site development, grading or forest harvest will have to adhere to the land development standards of Allegany County to acquire permitting". (see **Appendix 2**).

Figure 4 – Allegany County Zoning Map



1. Zoning and Comprehensive Plan Consistency

If constructed, this portion of the Project would be located within a zoned district of Allegany County; therefore, Allegany County may require a Special Exception. However, since the Project is pursuing a CPCN license from the PSC, local zoning requirements are preempted such that the Special Exception is not required.

The Project may be reviewed by Allegany County as a Major Site Plan. All major site plans will be reviewed by the Major Site Plan Review Committee composed of the following: the Public Works Director, the County Engineer, the Utilities Division head, the Roads Division head, the Environmental Health Director, the Land Development Services Division Chief, the Planning Coordinator, the Land Use and Planning Engineer, the District Manager of the Soil Conservation District and a member of the Planning Commission or their designees. Major site plans shall not be considered approved until they receive approval from the Land Use and Planning Engineer, the County Engineer, and the District Manager of the Soil Conservation District or their designees.

Similar to the process in Garrett County, the Allegany County Soil Conservation District may need to review and approve the sediment and erosion control plans to include phasing and sequencing associated with construction activity within the overhead collector line route.

The Project will be reviewed for consistency with regulations governing site plan review and approval, sediment and erosion control approval, stormwater management approval, Fire Marshal approval, access/entrance permit as needed, etc.

2. Site Plan Review/Approval and Local Permitting

Site plan requirements may include, but may not be limited to, ingress/egress, setbacks and buffers, screening, access ways, Fire Marshal conditions/requirements, electric code requirements, building code requirements/references, sediment and erosion control, stormwater management, gen-tie alignment and specifications, and a number of other requirements that parallel the Maryland Environmental Article and associated COMAR as may be delegated to local jurisdictions for implementation.

The Allegany County site plan review and approval process is managed by the Department of Planning and Zoning. The Land Development Services Section will coordinate with the other departments to complete their review of the site plan associated with the overhead collector line (if located within Allegany County), including Environmental Health Services, Department of Public Works – Utilities Division, Department of Public Works – Roads Division, to include services associated with timbering, land use, stormwater management, and floodplain, Department of Planning and Zoning to include services associated with zoning consistency, SHA, and MDE.

In summary, Allegany County has a tiered review process including preliminary site plan, final site plan, and construction document approval associated with major site plans. These approvals in part are prerequisite to the issuance of any building permit, or timbering permit.

3. Timbering, Grading, Building, and Electrical Permits

A Timbering Permit, Grading Permit, Electrical Permit, and Building Permit will be applied for after site plan approval as part of the construction document review and approval process. The construction documents will provide the detailed engineering and specifications required to

implement the approved site plan leading to necessary Grading, Electrical, and Building Permits. It should be noted that sediment and erosion control plans are required to support both the clearing and grading associated with tree removal in addition to the construction of the overhead collector line (if located within Allegany County).

4. Property Easements

Appendix 8 includes an exhibit detailing easements and infrastructure in the Project area as currently understood. A full ALTA survey is currently in process, and the Project will avoid any impacts to existing easements or other rights-of-way.

C. HIGH RESOLUTION CONCEPT PLAN

Figure 1 above includes the Concept Plan as proposed by the Applicant. **Appendix 3** includes various high-resolution plans as listed below.

- Overall Concept Plan (**Figure 1**).
- Overall Concept Plan with no aerial with topographic lines.
- Overall Concept Plan with no aerial or topographic lines.
- Overall Concept Plan with aerial and no topographic lines.

D. OPERATIONAL FEATURES

The operational features will be controlled through a Project Operations & Maintenance Agreement to track performance and monitor the health and safety of the Project. Typical duties and features of this plan are:

- Local and remote control over key features of the electrical system to assure compliance with the Interconnect Agreement and safety of the plant.
- Scheduling, control, and reporting of all onsite maintenance activities.
- Operations center with remote monitoring of performance data (including a capacity factor of nineteen and seventy-seven hundredths of a percent (19.77%)) and physical systems 365 days a year.
- Prompt dispatch of fire, police, or contractors in the event of emergency.

E. SCHEDULE FOR ENGINEERING, CONSTRUCTION, AND OPERATION

Site plan documents are being prepared for submittal as part of the CPCN review process with Garrett and Allegany County representatives. The engineering and construction documents will include pertinent information regarding the solar modules, inverter pads, construction methods, electrical requirements,

ingress and egress, stormwater management, sediment and erosion control, electrical connections, fencing, landscaping and screening, and grading. Following CPCN and local site plan approval, construction is anticipated to be initiated in the second half (H2) of 2025 with completion and operational startup prior to the end of second half (H2) of 2027.

The Project schedule includes the following approximate milestones:

- Engineering and Permitting: October 2023 through H2 2025
- Start of Construction: Approximately H2 2025
- Start of Commercial Operation: Approximately H2 2027

F. LIFE EXPECTANCY OF THE GENERATING STATION

The Project's life cycle is expected to be approximately thirty (30) years. The equipment to be installed is expected to efficiently and effectively meet capacity requirements throughout the Project term by employing industry standard operation and maintenance procedures.

G. DESIGN AND SITE SELECTION

The Applicant selected this site for the following reasons:

- Proximity to transmission infrastructure reduces offsite impacts and the overall system costs.
- Most parcels associated with the proposed Project were permitted and mined (deep and surface) for coal starting in the 1970's. As such, this Project would be a beneficial reuse of these brownfield sites and construction of the Project would also serve as the necessary reclamation for several parcels.
- Environmental constraints have been avoided such that no habitats, wetlands, or other environmental resources are impacted.
- The Project is not within the Chesapeake Bay Critical Area or Tier II watersheds and/or Catchment Areas.
- The Project is consistent with the character of the surrounding area as most adjacent properties are mining/industrial in nature.

1. Project Design

The design and associated energy output at the Project were modeled using PVsyst v7.4.8 shown in **Table 4** below. PVsyst is a photovoltaic solar project modeling software that is widely used in the solar power industry to stimulate energy output. The energy output simulated by PVsyst is based on local area meteorological data, models of the system equipment such as the inverter and the solar modules, and project design specifications such as the number of solar modules in series (string sizing), system DC size, array type (fixed tilt or tracking), rack orientation, including azimuth and tilt, DC and AC wiring length, transformer losses, etc. PVsyst v7.4.8 was used to simulate the predicted energy output from the Project at approximately 519,646 MWhr in the first full year of operation. The complete PVsyst report is included in **Appendix 9**.

Table 4 – PVsyst Inputs

Location:	Frostburg, MD (39.65 -78.95)
Time Zone:	UTC-5
Nominal DC Rating (STC):	390 MWdc
Nominal AC Rating:	362.25 MWac
Maximum Facility Output:	300 MWac
Array Tilt:	25°
Array Azimuth:	0°
Inverters:	115 SMA Sungrow SG3150UD-MV-US (or similar)
Modules:	886,366 Znshine Solar ZXM6-NHLDD144 Bifacial (or similar)
Stringing:	34,091 strings x 26 modules in series

2. Solar Resource Data

A key input in simulating the power output from the Project is the local solar resource data or insolation. Solar resource data is typically obtained from third party resources that provide long-term average meteorological data.

The weather file used in the production analysis was a Typical Meteorological Year (1998-2021) dataset from Solar Anywhere. This dataset was chosen as it is a serially complete collection of hourly of the two most common measurements of solar irradiation—global horizontal and diffuse horizontal irradiance—and meteorological data. This data has been collected at a sufficient number of locations and temporal and spatial scales to accurately represent regional solar radiation climates. It covers the United States and a growing subset of international locations.

3. Modeling

PVsyst v7.4.8 uses manufacturer-provided models for the panel, inverter, and other components to simulate the output of the plant given racking orientation, row spacing, and other design variables. This output simulation degrades over the lifetime of the plant due to degradation in panel performance. The main design variables and related settings are described in **Table 5** and **Table 6**.

Table 5 - PVsyst Modeling Assumptions

Weather Data:	Solar Anywhere, TMY
Thermal Loss Factor (Uc) (const):	25.0 W/m ² K
Thermal Loss Factor (Uv) (wind):	1.2 W/m ² K
Wiring Ohmic Loss (DC):	-0.94% at STC
Array Soiling Loss:	-1.99%
Module Quality Loss:	-0.0% at STC
Module & String Mismatch Loss:	-2.1% at STC
Light Induced Degradation:	-0.5%
AC Losses (wires):	-1.1% at STC
AC Losses (HV Tx):	-2.0% at PNom
Incidence effect (IAM), Points as per PV Module manufacturer	See Table 6 below.

Table 6 – Incidence Effect Profile

0°	25°	45°	60°	70°	75°	80°	90°
1.000	1.000	0.995	0.962	0.903	0.851	0.754	0.000

a. Soiling and Albedo Losses

Dust, snow, and other particles that settle on the array can attenuate the radiation that arrives at the panel and are referred to as soiling. Rainfall of greater than one half (0.5) inch per month is generally accepted as adequate to remove dust from the array and to prevent significant losses due to soiling. Given temperature ranges and anticipated rain on the site, the continued dirt/dust soiling of the panels is not expected to be very heavy, and it is assumed the effect of soiling is negligible. In the event that the plant does not receive rainfall over an extended period, the panels may be washed to ensure that soiling is not exacerbated.

The albedo is the fraction of sunlight that is reflected from the ground and other surfaces surrounding the PV array. Albedo contributes slightly to the diffuse irradiance incident. The design currently features bifacial modules, so the impact of albedo reflection on the backside of the modules is an important consideration. Monthly irradiance-weighted albedo factors were estimated using historical satellite imagery and irradiance data. These monthly input values were used in the PVsyst simulation.

b. Shading

If any structure blocks the sunlight falling on the panels in the array, output from the shaded panel can be significantly attenuated due to the electrical characteristics and design of the panels. Blockage may arise from objects such as hills or undulating terrain in the distance, transmission structures, trees, and buildings. The array can also create mutual shading between the rows of panels, particularly when the sun is low in the sky, i.e., in the morning or evening. Given site constraints, array design can minimize the impact of mutual shading. However, location-specific factors will result in near and horizon shading from other objects. PVsyst includes built-in, sophisticated modeling of mutual shading between rows given the size of the panels and spacing between rows. For locations in which near and horizon shading are unavoidable, the impact of this shading should be taken into account.

4. Production Estimate Results

PVsyst Energy production results with estimated solar irradiation are included in **Table 7** and **Table 8** below. **Table 7** summarizes total plant production for Year 1. **Table 8** summarizes the detailed production statistics for the first year of operations.

Table 7 – Total Plant Production Estimate Results in Year 1

Parameter	Preliminary Estimate
Annual Generation	519,646 MWh/year
Specific Yield	1,332 kWh/kWp/year

Table 8 - Detailed Production Statistics for a Full System in Year 1



PVsyst V7.4.8
 VDO, Simulation date:
 09/12/24 14:40
 with V7.4.8

Project: MD_Jade Meadow 3
Variant: MD_Jade Meadow 3_2024_9_12_RN-009

REV Renewables (United states)

Main results

System Production

Produced Energy

519645694 kWh/year

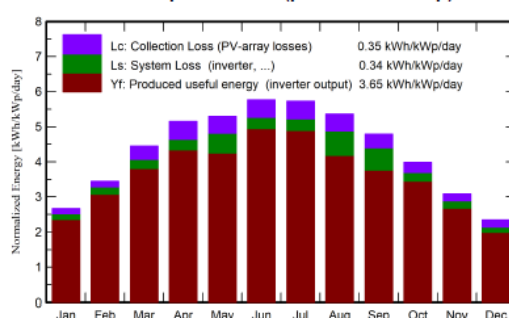
Specific production

1332 kWh/kWp/year

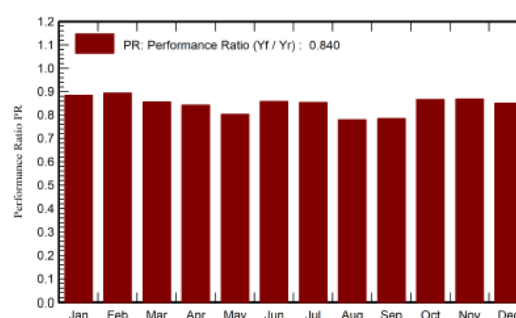
Perf. Ratio PR

84.02 %

Normalized productions (per installed kWp)



Performance Ratio PR



Balances and main results

	GlobHor kWh/m²	DiffHor kWh/m²	T_Amb °C	GlobInc kWh/m²	GlobEff kWh/m²	EArray kWh	E_Grid kWh	PR ratio
January	59.2	35.31	-5.61	82.7	73.5	30518785	28543688	0.885
February	75.2	43.70	-0.44	96.6	88.7	35965306	33665395	0.894
March	116.9	57.63	3.28	138.1	128.6	49232514	46086384	0.856
April	143.2	61.80	9.16	154.6	145.9	54363026	50825924	0.843
May	162.9	72.69	15.71	164.0	156.0	58270782	51389283	0.803
June	176.3	87.18	19.19	172.9	164.4	61703826	57926206	0.859
July	179.9	72.75	19.21	177.7	169.2	63199033	59222301	0.855
August	158.4	72.88	20.40	166.4	158.4	59021338	50644790	0.780
September	125.0	59.07	16.38	143.8	136.7	51512363	44052548	0.786
October	95.1	39.26	9.87	123.7	116.5	44694770	41785131	0.866
November	63.6	25.48	6.05	92.8	85.9	33773957	31404898	0.868
December	48.6	26.20	1.24	72.6	64.5	25893105	24099145	0.851
Year	1404.3	653.95	9.58	1585.8	1488.4	568148805	519645694	0.840

Legends

GlobHor Global horizontal irradiation
 DiffHor Horizontal diffuse irradiation
 T_Amb Ambient Temperature
 GlobInc Global incident in coll. plane
 GlobEff Effective Global, corr. for IAM and shadings

EArray Effective energy at the output of the array
 E_Grid Energy injected into grid
 PR Performance Ratio

H. IMPACTS ON THE ECONOMICS OF THE STATE

There will be significant economic benefits resulting from the Project which includes a capital cost of approximately five hundred and forty-four million dollars (\$544M). During construction, this investment will create approximately one thousand two hundred and sixty-nine (1,269) new local jobs in the State of Maryland. Five hundred forty-eight (548) of which are direct jobs, four hundred and six (406) of which are indirect jobs, and three hundred fifteen (315) of which are induced jobs. Construction will also have a significant one-time impact on the regional and state economy. Over fifty-four million dollars (\$54.7M) in new local output during construction for Garrett County is expected, and over two hundred thirty-four million dollars (\$234M) in new local output during construction for the State of Maryland.

During the thirty (30) year operating life of the Project, approximately forty-eight (48) new local long-term jobs for the State of Maryland are expected to be created, including twenty-two (22.6) new local long-term jobs for Garrett County. Approximately seventeen million dollars (\$17M) annually in ongoing economic impact is expected for the state of Maryland, including seven million dollars (\$7M) annually in ongoing economic impact in Garrett County. In addition, the Project is also expected to contribute at least seventy-five million dollars (\$75M) in Payment in Lieu of Taxes ("PILOT") revenue over the life of the Project.

The construction schedule is estimated to be eighteen (18) to thirty (30) months and is expected to be completed during the second half of (H2) 2027. Significant local resources are being employed as part of the design, entitlement, construction, and startup process. The tax revenue yield for a project of this size and type will also be beneficial. This Project will contribute to the local economy as well as the State's commitment to more in-state renewable energy generation. As noted above, PPRP reports that Maryland imports approximately forty-one percent (41%) of its required energy generation. This Project will help to reduce this reliance of power generated out of state. Given the nature of solar power generation, it will also lead to reduced and more certain costs of electricity produced.

By connecting with the electric distribution system serving Maryland, the Project will contribute towards compliance with the Renewable Portfolio Standard ("RPS"), which mandates that all suppliers that sell electricity at retail in Maryland accumulate solar renewable energy credits in an incrementally increasing percentage.

The Project is responsibly sited, will feature vegetative screening, and it will produce no noise or vibration perceptible on neighboring properties. As a result, the Project will not have a material negative impact on neighboring property values.

The environmental and health benefits of the Project's operation include, but are not limited to, displacement of pollutants, contaminants, toxins, and pathogens (such as pesticides, herbicides, exhaust fumes, organic wastes, etc.) in water, soil, and air resulting from various alternative commercial operations (such as commercial farming); displacement of greenhouse emissions (such as CO₂, NO_x, SO₂, etc.) resulting from traditional electricity generation using fossil fuels. As a result, the Project also contributes to the general welfare and health of the public, in addition to economic benefits as specifically

calculated by the CO-Benefits Risk Assessment (“COBRA”) Health Impacts Screening and Mapping Tool of the U.S. Environmental Protection Agency (“EPA”).

I. IMPACT ON THE STABILITY AND RELIABILITY OF THE ELECTRIC SYSTEM

As noted above, the Applicant has submitted an interconnection request and the PJM Generation Interconnection Feasibility Study and System Impact Study. The draft Facility Study, Generator Interconnection Agreement and Construction Services Agreement have recently been tendered and the final language of the agreements are being negotiated. All available information to date is included in **Appendix 10**.

J. LOCATION AND MAJOR DESIGN FEATURES OF ELECTRIC SYSTEM UPGRADE

The Project will interconnect to the Potomac Edison/FirstEnergy transmission system by tapping into the Black Oak – Hatfield 500 kilovolt (“kV”) line with a new three-breaker ring bus interconnection substation and looping the Black Oak – Hatfield 500 kV line into the Point of Interconnection (“POI”). The Applicant will be responsible for constructing all of the facilities on its side of the POI as well as acquiring all easements, properties, and permits that may be required to construct both the new interconnection line tap, collector substation, switchyard, and associated facilities/appurtenances.

The interconnection transmission line tap will be located approximately eight and two-tenths (8.2) miles from the Black Oak substation. It will be installed using approximately one-half (0.5) miles of 500kV overhead transmission lines. All available information to date is included in **Appendix 10**.

See **Appendix 11** for more details on the onsite substation and switchgear.

K. INTERCONNECTION

As noted above, the Applicant has submitted an interconnection request and has been assigned Queue Position AG1-363. The PJM Generation Interconnection Feasibility Study and System Impact Study have been completed and are included in their entirety in **Appendix 10**. The draft Facility Study, Generator Interconnection Agreement and Construction Services Agreement have recently been tendered and the final language of the agreements are being negotiated.

The Project will interconnect to the Potomac Edison/FirstEnergy transmission system by tapping into the Black Oak – Hatfield 500 kV line with a new three-breaker ring bus interconnection substation and looping the Black Oak – Hatfield 500 kV line into the POI. The Applicant will be responsible for constructing all of the interconnection facilities as well as acquiring all easements, properties, and permits that may be required to construct both the new interconnection line tap, collector substation, interconnection substation, and any associated facilities/appurtenances.

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The interconnection transmission line tap will be located approximately eight and two tenths (8.2) miles west of the Black Oak substation. It will be installed using 500kV over-head transmission lines to connect back to a new three-breaker ring bus interconnection substation located in Garrett County.

SECTION III – ENVIRONMENTAL REQUIREMENTS

A. GENERAL INFORMATION

As noted above, the Project as proposed by the Applicant is located primarily (and possibly entirely) in Garrett County on various properties in proximity to Westernport and Barton along Route 36/Route 135 (see **Figure 1**). A small segment (approximately 3,500') of the overhead collector line may be located in Allegany County, subject to additional engineering studies. The solar Project will consist of twenty-six (26) parcels, many of which are contiguous. Portions of six (6) parcels will be needed for easements to accommodate the various collector lines. As proposed by the Applicant, the Project will be approximately three hundred (300.0) MWac fixed-tilt solar polycrystalline PV. In addition, the Applicant will be constructing a new substation within the LOD at Property #24.

The Project parcels are shown in **Table 2** above and comprise approximately four thousand five hundred seven (4,507.60) acres with an anticipated LOD of one thousand eight hundred fifty-two (1,852) acres (see **Appendix 6** for more detail on each Property). The Easement Only parcels are shown in **Table 3** above and comprise approximately one thousand three hundred twenty-two (1,322.59) acres (see **Appendix 6** for more detail on each Property). Less than four percent (4.0%) of the Properties designated for easement purposes will be used for the Project.

Although the total acreage of the parcels evaluated is five thousand nine hundred thirty-three (5,933.07) acres, not all will be used for Project facilities as appropriate areas have been excluded based on environmental constraints mapping, and for others only a small portion is being used for interconnection purposes. As currently proposed, the Project would include a LOD of approximately one thousand eight hundred fifty-two (1,852) acres.

1. Physical and Biological Features

As noted above, most parcels associated with the proposed Project were permitted and mined (deep and surface) for coal starting in the 1970's. According to available Bureau of Mines records, the mines were generally reclaimed, permits closed, and bonds released from approximately 1976 to 2023 (see **Appendix 7**). Based on property visits and visible remains of the reclaimed areas, it can be assumed the Project Parcels were significantly disturbed and altered such that very little remains in natural condition. Since areas have been reclaimed, there is a combination of open fields, groupings of immature trees, and low-quality forest where timbering has occurred. In addition, parcels may include abandoned buildings and ancillary farm buildings/structures to support previous and ongoing farm operations.

The Project is not located in the Critical Area (see **Figure 10**) or within a Tier II watershed and/or Catchment Area (see **Figure 8**). No grading is proposed during the various Timbering Phases of the Project. With average slopes across the Project less than thirteen percent (13%), the vast majority of the LOD will not require mass grading. However, some grading will be required to ensure that localized slopes are within the buildable tolerances for solar panel installation and stormwater

management guidelines. Minor grading will also be associated with installation of equipment pads, stormwater management facilities and associated drainage systems, and all-weather access roads.

According to the NRCS soils maps, the slopes onsite range from zero percent (0%) to thirty-five percent (35%). As noted above, the majority of the Project area was used for various mining purposes and has since been reclaimed. Due to previous mining and reclamation activities many of the steeper grades onsite were reduced in severity. The soils onsite range from very deep to moderately deep and excessively drained soils to somewhat poorly drained soils. However, based on the previous mining operations onsite, and based on the geotechnical report (**Appendix 12**), it is anticipated the NRCS soil and slope classifications are not completely representative of actual field conditions.

The Project will be designed consistent with the MDE guidelines for stormwater management that govern Environmental Site Design ("ESD") for utility scale solar projects. The specific ESD practices to be employed on the Project will be non-rooftop disconnection in drainage areas containing average overland slopes of eight percent (8%) or less consistent with Garrett County policy and non-rooftop disconnection with the use of level spreaders for drainage areas that average between eight percent (8%) and thirteen percent (13%). Slopes over fifteen percent (15%) have not been included in the solar panel LOD.

The majority of site disturbance for the Project will be associated with site preparation. Specifically, earthwork will be required for clearing and trimming of trees, in addition to grading, and the construction of the concrete pads for the transformers, and inverters. Other property improvements that will have only moderate impact/disturbance to in-situ conditions involve grading improvements and roadbed stabilization to support ingress and egress of construction vehicles, delivery trucks during the construction phase, and for operation and maintenance needs of the Project.

2. Environmental Constraints, Avoidance, and Mitigation

Site information contained in this report has been reviewed with various regulatory agencies including the MDE, DNR, USFWS, and Maryland Historical Trust ("MHT") as part of the CPCN process. These agency reviews have confirmed and/or provided comments on the Project's ability to avoid and minimize environmental impacts. The Agency reviews confirmed the Applicant's identification of wetland avoidance, status of rare, threatened, and endangered species, and confirm the cultural and architectural characteristics of the Project area.

More specifically, where resources were identified the following actions have been taken:

- A thirty-five-foot (35') buffer has been established around field located wetland resources.
- A minimum fifty-foot (50') buffer has been established from blueline streams, ephemeral streams, and intermittent streams.
- A minimum of fifty-foot (50') buffer has been established from potential Virginia Mallow habitat (see **Appendix 13** for more detail).

- A two hundred fifty-foot (250') buffer has been established for the Allegheny Woodrat habitat found in Savage River State Forest (see **Appendix 13** for more detail).
- Additional LOD modifications were made as part of the Project design to preserve potential habitat for the Appalachian Cottontail, Low Rough Aster, and Stiff Gentian. Further, the Applicant will provide dedicated wildlife and pollinator habitats to improve habitat for various species (see **Appendix 13** for more detail).

3. Environmental Assessments | Studies

ECS Mid-Atlantic, LLC ("ECS") conducted field investigations to locate wetland and waterway features. The result of this field work and resource mapping are included in **Appendix 14**. The Applicant's representatives and MDE conducted a field visit to review the ECS wetland findings. MDE concurred the constraints map has avoided and minimized impacts to environmental features. **Appendix 15** includes MDE's written confirmation of the Project's avoidance of these features.

In addition, ECS performed a Simplified Forest Stand Delineation ("FSD") for submittal to Garrett County as part of its local review process (see **Appendix 16**).

As noted above, the Project maximizes buffers in order to minimize impacts to environmental features. The property was assessed relative to soils, drainage, flood plains, Tier II Streams and/or Catchment areas, Chesapeake Bay Critical Area, wetland, streams, environmental features, and characterization of biological habitats.

4. Consistency with Applicable Environmental Standards

The Project's design and construction will require review by State and local authorities through the CPCN process. The Project will also comply with various Federal and State environmental regulatory requirements as applicable. Based on preliminary analysis the Project has avoided identified environmental constraints and it is expected that the final design will meet applicable Federal, State, and local regulations.

B. AIR QUALITY

1. Compliance with Federal or State Air Quality Standards

As a solar generation facility, the Project will emit no pollutants, and the below listed standards, provisions, and requirements will not be applicable.

- State or Federal ambient air quality standards.
- State or Federal emission standards.
- Federal new source performance standards.
- Federal emission standards for hazardous air pollutants.

- Prevention of significant deterioration and new source review provisions.
- Any requirements to obtain emission offsets, allowances, and reduction credits.

a. Air Quality During Construction

The primary air-quality consideration during construction will be dust from non-point sources such as earthwork, chipping associated with tree clearing activities, and construction traffic on unpaved roads. This type of dust is described as fugitive dust. Fugitive dust is expected during construction and any necessary controls will be included in the sediment and erosion control plans. Other potential sources of pollutants during construction are mobile internal combustion engines from earthwork equipment and an increase in vehicle traffic by workers. Emissions from these sources will be minimized.

b. Air Quality During Operation

The Project, like all solar generation facilities, will not generate air pollution.

2. Impact on Deterioration Areas and Nonattainment Areas

The Project will have no impact on any attainment or nonattainment areas of the State.

3. Requirements Under COMAR 26.11

The provisions of COMAR 26.11 will not be applicable to the Project as the facility will not emit air pollutants.

4. Annual and Long-term Statewide Greenhouse Gas Emissions Impact

The United States EPA maintains an online calculator called the Avoided Emissions and generation Tool ("AVERT"), which serves this exact purpose.² According to the EPA, "AVERT is a free tool with a simple user interface designed to meet the needs of state air quality planners and other interested stakeholders. Non-experts can use AVERT to evaluate county, state and regional emissions displaced at fossil-fueled power plants by EE/RE policies and programs."³

Further information about AVERT and its methodology is available in a public user guide, available here: <https://www.epa.gov/avert/avert-user-manual>. In addition to other pollutants, AVERT calculates the reduction of carbon dioxide ("CO₂") emissions in a selected state and regional grid area based on the generating capacity of additional renewable generation, including specifically new utility-scale solar PV generating capacity. According to the best available scientific information

² <https://www.epa.gov/avert>

³ <https://www.epa.gov/avert/avert-overview-0>. According to EPA, "reductions in fossil load ... are corrected to account for avoided grid (transmission and distribution) losses, using region-specific, year-specific grid loss factors."

recognized by the Intergovernmental Panel on Climate Change, anthropogenic CO₂ emissions are the leading cause of human-induced climate change.⁴

AVERT allows the user to select a state or regional grid area and input an amount of a specific kind of renewable generation in a particular state to determine the annual impact on CO₂ emissions both in the state and the regional grid area from which the state imports electricity. Inputs to the model included the state “Maryland” and indicated that an approximately three hundred (300.0) MWac of solar PV would be constructed in the state, corresponding to the Project. This then produced predicted yearly emissions reductions both in Maryland and the PJM network, the regional grid from which Maryland imports electricity generated out of state.

As shown in **Figure 5** and **Figure 6** below, AVERT estimated that the addition of a three hundred (300.0) MWac solar PV project in Maryland would result in a reduction of approximately 20,430 tons of CO₂ emissions in Maryland per year and a reduction of approximately 11,379 tons of CO₂ emissions in the PJM network per year. Extrapolated to a projected thirty (30) year life of the Project, this equates to a reduction of approximately 612,900 tons of CO₂ emissions in Maryland and a reduction of approximately 341,370 tons of CO₂ emissions in PJM. According to PPRP, Maryland imports about forty-one percent (41%) of its electricity each year from the PJM grid⁵, which equates to almost three percent (2.97%) of the total generation capacity produced by the PJM. Applied to AVERT’s projected decrease in CO₂ emissions in the PJM area, this means the Project will reduce yearly CO₂ emissions from imported electricity from the PJM area by approximately 11,379 tons and by approximately 341,370 tons over a thirty (30) year Project life.

Maryland consumes sixty-one (61.8) terawatt hours (“TWh”), generates thirty-seven (37.8) TWh and imports twenty-four (24) TWh. PJM’s annual generation is equal to 806,546 gigawatt hours (“GWh”) or 806.546 TWh.

Figure 5: AVERT Results – Annual State Emissions Changes in Mid-Atlantic Region From A 300.0 MWac Solar PV Project in Maryland

Annual Emissions Changes By State
Mid-Atlantic Region

Maryland x ☐ All states

State		SO ₂ (lb)	NO _x (lb)	CO ₂ (tons)	PM _{2.5} (lb)	VOCs (lb)	NH ₃ (lb)
Maryland	From Fossil Generation	-15,470	-18,530	-20,430	-2,590	-1,730	-1,070
	From Vehicles	0	0	0	0	0	0
	Net Change	-15,470	-18,530	-20,430	-2,590	-1,730	-1,070

⁴ Intergovernmental Panel on Climate Change, *Climate Change 2021, The Physical Science Basics, Summary for Policymakers*, SPM-5, available at https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.

⁵ PPRP Electricity Factbook, 5, available at https://dnr.maryland.gov/pprp/Documents/Electricity_in_MD_Fact_Book.pdf.

Figure 6: AVERT Results – Annual Regional Displacements in Mid-Atlantic Region From A
 300.0 MWac Solar PV Project in Maryland

Annual Emissions Changes • Power Sector Only
Mid-Atlantic Region

	Original	Post Change	Change
Generation (MWh)	467,528,680	466,941,980	-586,700
Total Emissions from Fossil Generation Fleet			
SO ₂ (lb) i	208,740,160	208,406,770	-333,390
NO _x (lb)	180,544,490	180,252,720	-291,770
Ozone season NO _x (lb) i	73,733,760	73,582,310	-151,450
CO ₂ (tons)	282,355,380	281,972,240	-383,140
PM _{2.5} (lb)	35,603,560	35,553,760	-49,800
VOCs (lb)	7,180,440	7,168,430	-12,010
NH ₃ (lb)	9,602,760	9,587,040	-15,720
AVERT-derived Emission Rates:	Average Fossil		Marginal Fossil
SO ₂ (lb/MWh)	0.446		0.568
NO _x (lb/MWh)	0.386		0.497
Ozone season NO _x (lb/MWh) i	0.341		0.529
CO ₂ (tons/MWh)	0.604		0.653
PM _{2.5} (lb/MWh)	0.076		0.085
VOCs (lb/MWh)	0.015		0.020
NH ₃ (lb/MWh)	0.021		0.027

C. PUBLIC UTILITIES ARTICLE SECTION 7-207

1. Higher Average and Extreme Air Temperatures (1-2°C)

The Project design has considered potential climate-change factors. The Project will be designed in accordance with the State and national codes, as well as widely adopted industry best-practices. In addition, the Project will be designed to operate as per historic local-weather conditions such as temperature, wind speed, precipitation, etc., as well as the relevant weather-data provided by the National Renewable Energy Laboratory of the U.S. Department of Energy, and consistent with geotechnical survey data.

It is not expected that climate-change effects (over the lifetime of the Project) would significantly impact this Project. Renewable energy projects provide various environmental benefits, and the Project will have positive impacts on climate change as well. These impacts will contribute towards reduction of greenhouse gas emissions (see Section-III.B.4).

2. More Extreme Temperature Days Per Year

As noted above, the Project design has considered potential climate-change factors. The Project will be designed in accordance with the State and national codes, as well as widely adopted industry best-practices. It is not expected that climate-change effects (over the lifetime of the Project) would significantly impact this Project.

3. An Increase in the Frequency or Intensity of Severe Storms

As noted above, the Project design has considered potential climate-change factors. The Project will be designed in accordance with the State and national codes, as well as widely adopted industry best-practices. It is not expected that climate-change effects (over the lifetime of the Project) would significantly impact this Project.

D. WATER QUALITY AND APPROPRIATION

1. Stormwater Management / Environmentally Sensitive Design

As noted above, earthwork will be required for the removal of forested areas, which is essential to provide for the necessary grades to support the beneficial reuse of these previously mined and abandoned areas, reclaiming this brownfield site. The environmental outcome from these efforts will provide better drainage, stormwater management and sediment and erosion control designs that improve site runoff, long-term managed vegetative cover, etc.

Due to previous mining activity many of the steeper grades onsite have been reduced in severity. For slopes greater than eight percent (8%) which average thirteen percent (13%) or less within the

Project LOD, a combination of level spreaders and non-rooftop disconnection credits will be used to meet ESD requirements. Slopes over fifteen percent (15%) have been avoided for the solar array areas, and the array area predominantly averages thirteen percent (13%) or less. The need for additional grading and land disturbance in order to accommodate the solar array installation has been minimized. The majority of grading proposed for the Project is associated with the access roads, inverter pads, and improvements to entrances.

The perimeter road and internal aisles will be unpaved grass roads except for select all-weather roads to support construction equipment and long-term maintenance using gravel or rock. The twenty-one (21) new or improved entrances will be constructed with impervious material to stabilize this area for construction traffic to the Site and new entrances will be included in the impervious calculation for the stormwater management report. There will be approximately four percent (4%) of impervious surface added (approximately 2,974,456SF). See **Table 9** – Impervious Area Tabulation below.

Table 9 – Impervious Area Tabulation

Impervious Area Description	Length (FT)	Width (FT)	Area (SF)	Quantity	Total Area (SF)	Comments
Invert/Equipment Pads (Concrete/Gravel)	32	22	704	115	80,960	Inverter Pad Site
Substation Areas (Concrete/Gravel)	-	-	498,629	-	498,629	Dedicated Area for substations
Entrance & Array Field Access Ways (Gravel)	-	-	1,960,401	-	1,960,401	Conceptual / Approximate - Assumes 12' wide roadways. Excludes Grass Access Ways
Racking Posts	-	-	0.20	124,476	24,895	Conceptual / Approximate
Laydown Areas (Gravel)	-	-	409,571	-	409,571	Temporary** Gravel Areas during construction
Total Impervious Area					2,974,456	SF
					68.28	Acres
**Some Laydown Areas may be permanent, so all Laydown Areas have been included in total to be conservative						

a. Impacts to Stormwater During Construction

COMAR 26.17.02.01-1B (1) requires that stormwater quality and quantity controls be implemented for the Project. Guidelines for Water Quality and Quantity through ESD techniques and Best Management Practices (“BMPs”) are included in the 2000 Maryland Stormwater Design

Manual, Volumes I and II (2000) with Supplement No. 1 and Technical Memo #8 dated March 30, 2018.

The specific ESD practices to be employed on the Site will be non-rooftop disconnection in drainage areas containing average overland slopes of eight percent (8%) or less consistent with Garrett County policy and non-rooftop disconnection with the use of level spreaders for drainage areas that average between eight percent (8%) and thirteen percent (13%). Slopes over fifteen percent (15%) have not been included in the solar panel LOD.

It is also anticipated that some SWM BMPs may be needed to address remaining ESD requirements and/or management of peak discharges. These practices would primarily consist of SWM basins with underdrains that outflow to areas where sheet flow can be achieved. If necessary, MDE approved matting and/or plunge pools may be used to reduce velocities and achieve sheet flow at the discharge locations.

During site preparation (timbering, clearing, and grading/smoothing), sediment and erosion controls will be installed and may also include the need for temporary sediment traps/ponds in combination with the use of silt fences or equivalent devices.

b. Impacts to Stormwater During Operations

COMAR 26.17.02.01-1B(1) requires that stormwater quality and quantity controls be implemented for the Project. Guidelines for Water Quality and Quantity through ESD techniques and BMPs are included in the 2000 Maryland Stormwater Design Manual, Volumes I and II with Supplement No. 1 (2007) and Technical Memo #8 dated March 30, 2018.

The specific ESD techniques to be employed as referenced above in more detail will consist of non-rooftop disconnection credits, level spreaders, stormwater management basins with underdrains, and sheet flow to outfall locations.

For the ESD Storm Event, the site will mimic a forested site in good conditions for the one (1) year storm by meeting the target volume under the post-development scenario. The installation of the solar array in this geographic area may dictate a combination of standard post installation as well as pre-drilled post installation, with inverters located on small concrete pads. As a result of the proposed design and elevated panel system, vegetation will grow under the panels and essentially the entire field will remain in previous vegetative cover.

2. NPDES General Permit for Construction Activity

National Pollutant Discharge Elimination System ("NPDES") General Permit coverage is required for planned construction activities with a planned total disturbance of one (1) acre or greater. Coverage under the General Permit is obtained by filing a completed Notice of Intent ("NOI") form with the MDE, Water Management Administration. The completed NOI form is considered a formal application for coverage and intent to comply with the terms of the General Permit. Stormwater

NPDES NOI permit coverage will be required for multiple phases of the project and will be obtained prior to construction for each respective phase. The NOI Permit authorizes both stormwater management associated with construction activities and the temporary discharge of site dewatering during construction. NOI coverage will be obtained prior to the start of construction.

Both the Applicant and the construction contractor will obtain coverage through the NPDES NOI General Permit for the timbering and construction phases.

3. Construction Dewatering Appropriation Needs

As part of construction associated with underground electrical cabling, and based on the geotechnical report, it is anticipated that dewatering will be needed. In addition to perched water, groundwater was encountered between five feet (5') and approximately fifteen (14.7') in only three (3) of the one hundred fifty (150) geotechnical boring sample profiles. Where groundwater is encountered during construction, it is expected to be mostly associated with perched water and de-minimis in nature. However, since groundwater removal will take longer than thirty (30) consecutive days, the Applicant submitted a Groundwater Appropriation Permit Exemption to MDE/WMA. **Appendix 17** includes the exemption permit approval.

4. Affected Streams, Non-Tidal Wetlands, Watersheds, and Aquifers

Non-tidal wetlands, streams (perennial, intermittent, ephemeral), and associated waterways have all been field located and are avoided in the design (see **Appendix 14** and **Appendix 15**). As mentioned above, the Project will be located thirty-five feet (35') from field located wetlands and fifty feet (50') from streams.

The Project parcels are located mostly within the George's Creek and Savage River watershed which both drain to the North Branch Potomac River. The source of the North Branch Potomac River is at the Fairfax Stone located at the junction of Grant, Tucker, and Preston counties in West Virginia. Confluence of the North and South Branches of the Potomac River is just southeast of Cumberland. From the Fairfax Stone, the North Branch Potomac River flows twenty-seven (27) miles to Jennings Randolph Lake. The North Branch cuts a serpentine path through the eastern Allegheny Mountains. George's Creek flows into the North Branch Potomac River just downstream of the jurisdictional boundary between Allegany and Garrett Counties.

All Maryland stream segments are categorized by sub-basin and are given a "designated use" in the Code of Maryland Regulations 26.08.02.08. The North Branch Potomac River is protected as a Class Use III-P (Use III-P: nontidal Cold Water and Public Water Supply). Tributaries to the North Branch Potomac are also protected as Class Use III-P. This part of the North Branch Potomac River is located within the Appalachian Plateau physiographic province. The Project is not located in the Chesapeake Bay Critical Area or within a Tier II Stream and/or Catchment Area. Other than the tree clearing proposed, which will be needed prior to project construction, there is no other activity

proposed on the Site which would contribute to the impairment of these waterways and receiving streams.

The Project is within the Appalachian Plateau of Maryland which is located between the Central lowlands to the west and the Ridge and Valley Province to the east. Rock layers in the Appalachian Plateau are virtually horizontal. Both anthracite and bituminous coal are extracted by common mining practices in this area.

A large portion of the Appalachian Plateau is a coal field, which was formed approximately three hundred twenty (320) million years ago during the Pennsylvanian Age. The topography of the rest of the Appalachian Plateau was created mainly from stream erosion. The result is a rugged landscape, unlike many other plateaus, which includes many narrow stream valleys surrounded by steep ridges.

5. Tier II Information Per COMAR 26.08.02

All waters of the State are assigned a “Designated Use” in regulation, COMAR 26.08.02.08, which is associated with a set of water quality criteria necessary to support that use. These designated uses may or may not be currently compliant; however, the Code requires that standards should be attainable.

As noted above, all Maryland stream segments are categorized by sub-basin and are given a “designated use” in the Code of Maryland Regulations 26.08.02.08. The North Branch Potomac River is protected as a Class Use III-P (Use III-P: nontidal Cold Water and Public Water Supply). Tributaries to the North Branch Potomac River are also protected as Class Use III-P. This part of the North Branch Potomac River is located within the Appalachian Plateau physiographic province.

Other than the tree clearing proposed, which will be needed prior to project construction, and potential stream crossings to support overhead electrical transmission lines, there is no other currently anticipated activity proposed on the Project which would contribute to the impairment of these waterways and receiving streams. The Project is not located in the Chesapeake Bay Critical Area or within a Tier II Stream and/or Catchment Area.

6. A Description of Mitigation and Minimization Techniques

The Applicant selected the site since it is proximate to the POI and the LOD can be oriented to avoid environmental impacts. Generally, it is a conversion of previously mined and timbered lands, to a fully vegetated solar generation facility.

As noted above, field assessments and constraints mapping further demonstrate protection of various environmental features/resources. Appropriate buffers and setbacks for wetlands and Rare, Threatened and Endangered Species (“RTE”) areas have been established within the design as defined above. Phasing and sequencing will also be established as part of the sediment and erosion control plans to minimize disturbances within the LOD at any one time.

7. Maryland Wild and Scenic Rivers

According to the Department of Natural Resources, Land Acquisition and Planning, the Potomac River located in Garrett and Allegany Counties is not designated in the State Scenic and Wild River System. For more detail see **Figure 7** below.

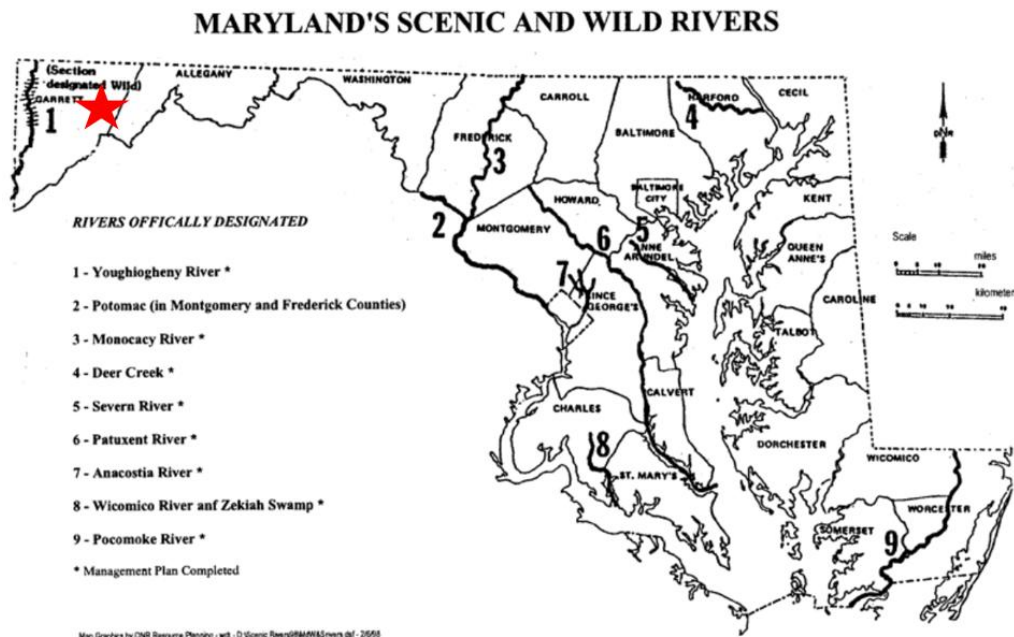
The State of Maryland created the Scenic and Wild Rivers System Legislation in 1968. DNR defines these Rivers as follows:

"A Scenic River is a "free-flowing river whose shoreline and related land are predominantly forested, agricultural, grassland, marshland, or swampland with a minimum of development for at least 2 miles of the river length" [Natural Resources Article, 8-402(d)(2)].

A Wild River is a "free-flowing river whose shoreline and related land are undeveloped, inaccessible except by trail, or predominantly primitive in a natural state for a least 4 miles of the river length" [Natural Resources Article, 8-402(d)(3)].

The following nine rivers have officially been designated "Scenic" by the Maryland General Assembly: Anacostia, Deer Creek, Monocacy, Patuxent, Pocomoke, Potomac (Frederick and Montgomery Counties), Severn, Wicomico-Zekiah, and Youghiogheny. The section of the Youghiogheny between Millers Run and the southern corporate limits of Friendsville has been officially designated a "Wild" River."

Figure 7 – Maryland Scenic and Wild Rivers Map



8. Impact on Other Water Users

No impact to other water users is anticipated as a result of the Project since the amount of dewatering is de-minimis. Any site dewatering during construction would be temporary. However, since groundwater removal will take longer than thirty (30) consecutive days, the Applicant submitted a Groundwater Appropriation Permit Exemption to MDE/WMA. **Appendix 17** includes the exemption permit approval.

Localized impacts to water levels immediate to the Project will not be sustained beyond the construction phase of the Project, and thus, will not have a negative impact to the aquifer or current groundwater uses in the area. Following construction, there is no other need for the use of freshwater resources; therefore, a reduction in the water supply demand is not anticipated.

a. Impacts to Other Water Users During Construction

It is assumed that minimal water will be needed during construction. If water is needed to control dust, a tanker truck may be provided.

b. Impacts to Other Water Users During Operation

Stormwater facility approvals, sediment and erosion control permits, and grading permits will all be obtained as controls on the water quality leaving the Site. As an unmanned facility, there will be no regular water consumption. Water consumption required during operation will be intermittent as identified above.

9. Mitigation and Minimization Techniques Evaluated

No impacts to water quality or appropriation are anticipated. During field assessments and constraints mapping environmental impacts were avoided. Appropriate buffers and setbacks have been established within the design. Project phasing and sequencing to minimize disturbances within the LOD at any one time will be established as part of the sediment and erosion control plans.

10. Requirements Under COMAR 26.17.06.07 and COMAR 26.17.07

As a stand-alone, unmanned facility, the Project will be monitored remotely. There will be limited water and no sewer requirements for the Project. It is assumed permits regulated under COMAR 26.17.06.07 and 26.17.07 are not needed since there will be no ongoing water use for the Project following construction. Unlike gas or coal burning facilities which require extensive amounts of cooling water daily, solar generating facilities do not require ground or surface water for any ongoing purpose. Normal rain events will keep manual cleanings of the solar modules to a minimum. Occasional water for quarterly/semi-annual cleanings may be required. Water tank trucks may be used to manage dust during construction, if necessary, per the sediment and erosion control plans.

As noted above, any site dewatering during construction would be temporary. However, since groundwater removal will take longer than thirty (30) consecutive days, the Applicant submitted a

Groundwater Appropriation Permit Exemption to MDE/WMA. **Appendix 17** includes the exemption permit approval.

E. STREAM BUFFERS AND FLOODPLAINS

The Project Parcels are located within three (3) Federal Emergency Management Agency (“FEMA”) Flood Insurance Rate Maps (“FIRM’s”) as shown in **Table 10** below. For more details on each individual parcel please see **Appendix 18**.

Table 10 – FEMA FIRM Information

FEMA FIRM Number	Panel	Map Date
24023C0215D	215 of 450	10/2/2013
24023C0225D	225 of 450	10/2/2013
24023C0350D	350 of 450	10/2/2013

Select Project Parcels along Mill Run Creek and Aaron Run Creek are partially located within either a FEMA Flood Zone A or Flood Zone X. Mill Run Creek will be crossed by the overhead collector line. Aaron Run Creek will be bored underneath by an underground collector line. All other Project Parcels are located outside of any FEMA Flood Zones. FEMA Flood Zone A is classified as “*The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood.*” In Zone A, no base flood elevations were determined. Per FEMA Flood Zone definitions, this zone is a high-risk area. FEMA Flood Zone X is classified as “*Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood*”. Per FEMA Flood Zone definitions, this zone is a moderate to minimal risk area.

The Project Parcels are located mostly within the George’s Creek and Savage River watershed which both drain to the North Branch Potomac River. The source of the North Branch Potomac River is at the Fairfax Stone located at the junction of Grant, Tucker, and Preston counties in West Virginia. The confluence of the North and South Branches of the Potomac River is just southeast of Cumberland. From the Fairfax Stone, the North Branch Potomac River flows twenty-seven (27) miles to Jennings Randolph Lake. The North Branch cuts a serpentine path through the eastern Allegheny Mountains. George’s Creek flows into the North Branch Potomac River just downstream of the jurisdictional boundary between Allegany and Garrett Counties.

All Maryland stream segments are categorized by sub-basin and are given a “designated use” in the Code of Maryland Regulations 26.08.02.08. The North Branch Potomac River is protected as a Class Use III-P (Use III-P: nontidal Cold Water and Public Water Supply). Tributaries to the North Branch Potomac are also protected as Class Use III-P. This part of the North Branch Potomac River is located

within the Appalachian Plateau physiographic province. The Project is not located in the Chesapeake Bay Critical Area or within a Tier II Stream and/or Catchment Area. Other than the tree clearing proposed, which will be needed prior to project construction, there is no other activity proposed on the Site which would contribute to the impairment of these waterways and receiving streams.

As mentioned above, the Project is outside the Chesapeake Bay Critical Area and Tier II streams and/or Catchment Areas (see **Figure 8** and **Figure 10**) and contains soils which range from very deep to moderately deep and excessively drained soils to somewhat poorly drained soils. The specific ESD practices to be employed on the Project will be non-rooftop disconnection in drainage areas containing average overland slopes of eight percent (8%) or less consistent with Garrett County policy and non-rooftop disconnection with the use of level spreaders for drainage areas that average between eight percent (8%) and thirteen percent (13%). Slopes over fifteen percent (15%) have not been included in the solar panel LOD.

ECS conducted field investigations during October and November 2023 to locate wetland and waterway features. The result of this field work and resource mapping are included in **Appendix 14**. ECS observed approximately twenty-five (25.20) acres of potentially jurisdictional wetlands and approximately ninety-two thousand eight hundred forty-one (92,841) linear feet of potentially jurisdictional streams within the subject property. Additionally, ECS identified a total of forty (40) presumed manmade features associated with onsite mining activities and agricultural practices totaling approximately ten (10.21) acres. A thirty-five-foot (35') buffer has been placed around wetland features. A fifty-foot (50') buffer has been placed around all streams. **Appendix 15** includes MDE's confirmation of ECS's finding and the Project's avoidance of these features.

The environmental outcome from these efforts will provide stormwater management and sediment and erosion control designs that improve site runoff per MDE Guidelines, long-term managed vegetative cover, etc.

1. Public Health and Welfare

The Project's operation will not produce, emit, or discharge any significant noise, air pollutants, or water pollutants, which would negatively impact public health or welfare. Additionally, the Project will not generate, transport, store, treat, and/or dispose of hazardous waste.

2. Marine Fisheries

According to USFWS (see **Appendix 19**) there are no refuge lands or fish hatcheries within the Project area. Therefore, marine fisheries will not be impacted.

3. Shell Fisheries

According to USFWS (see **Appendix 19**) there are no refuge lands or fish hatcheries within the Project area. Therefore, shell fisheries will not be impacted.

4. Wildlife

As noted in the USFWS review (see **Appendix 19**), seasonal clearing restrictions will apply. For these reasons, the Applicant will implement the following Time of Year Restrictions ("TOYR"):

- The northernmost Project area will implement a TOYR for tree clearing associated with the Northern Long-Eared Bat ("NLEB") pup season from May 15th to July 31st. See **Appendix 19** for more details.
- The central Project area will implement a TOYR for tree clearing associated with the NLEB acoustic buffer from April 1st to September 30th. See **Appendix 19** for more details.
- The southern Project area will implement a TOYR for tree clearing associated with the NLEB hibernacula buffer would be in place for the active season from April 1st to July 30th and the inactive season from October 1st to March 30th. See **Appendix 19** for more details.

As part of the CPCN process, the Applicant contacted DNR for an official site-specific review and consultation for formal determination of no impact to threatened and endangered species prior to Project construction. Their review identified several RTE species requiring further field studies. While the Applicant's experts and DNR have not yet agreed as to proper mitigation (as described in **Appendix 13**), the Applicant will continue to work with the DNR to see if further progress can be made. See **Appendix 13** for more details regarding habitat areas, avoidance, and mitigation. The Applicant will continue to assess opportunities for habitat preservation while ensuring the Project generating capacity can be met within the limited area available for development.

5. Protection of Life and Property from Flood, Hurricane, or other Natural Disaster

Solar projects are unique in that during a natural disaster, and for the most part, only destruction to the panel array itself would occur. Total destruction of the panel array and the transformers would not release harmful gases or liquids and would have no adverse effects on surrounding property or life. All components of the Project will be designed per the local and state building codes. The Project is not located within a FEMA Flood Zone and the design takes into consideration the existing drainage patterns so not to contribute to natural drainage system impacts.

6. Mitigation and Minimization or Replacement Land Acquisition

Mitigation and minimization or replacement land acquisition is not applicable to the Project.

7. License for Use of State Tidal or Nontidal Wetlands

The information and forms required by the MDE regulations relating to a license for use of State tidal wetlands or nontidal wetlands under COMAR 26.23 and 26.24 are not required for this Project for the reasons stated above.

a. Routine Wetlands Delineation Study

As noted above, ECS conducted field investigations during October and November 2023 to locate wetland and waterway features. The result of this field work and resource mapping are included in **Appendix 14**. ECS observed approximately twenty-five (25.20) acres of potentially jurisdictional wetlands and approximately ninety-two thousand eight hundred forty-one (92,841) linear feet of potentially jurisdictional streams within the subject property. Additionally, ECS determined a total of forty (40) presumed manmade features associated with onsite mining activities and agricultural practices totaling approximately ten (10.21) acres. A thirty-five-foot (35') buffer has been placed around wetland features. A fifty-foot (50') buffer has been placed around all streams.

MDE's Mr. Matt Radcliffe of the Nontidal Wetlands Program and representatives from ECS and H&B Solutions conducted a joint Site visit on April 22, 2024, to confirm the details of ECS's Wetland Field Assessment Report. During a site visit MDE concurred with the majority of ECS's jurisdictional field determinations and requested a few modifications. The report was updated (see **Appendix 14**) as well as the constraints plan (**Figure 1**) and provided to MDE for their final review. **Appendix 15** includes MDE's written confirmation that *"the Jade Meadows 3 solar project does not impact nontidal wetlands, nontidal wetland buffers, regulated streams, or their associated 100-year floodplain."*

b. Requirements Under COMAR 26.23 – Nontidal Wetlands

As noted above, wetlands onsite have been field located and avoided in the design through application of appropriate buffers that exceed minimum standards. MDE's confirmation of ECS's finding and the Project's avoidance of these features can be found in **Appendix 14**.

c. Requirements Under COMAR 26.24 – Tidal Wetlands

A license from the Maryland Board of Public Works associated with impacts described in COMAR 26.24 is not required for this Project (see **Appendix 14** and **Appendix 15**). The Project is not adjacent to tidal waters and the streams onsite do not immediately drain to tidal waters.

d. Requirements Under COMAR 26.24 – Tidal Waterways and Floodplains

A tidal wetland license from the Maryland Board of Public Works associated with impacts described in COMAR 26.24 is not required for this Project since there are no tidal water crossings (see **Appendix 14** and **Appendix 15**). However, Garrett County may require a Floodplain Management Permit for development in any designated floodplain area.

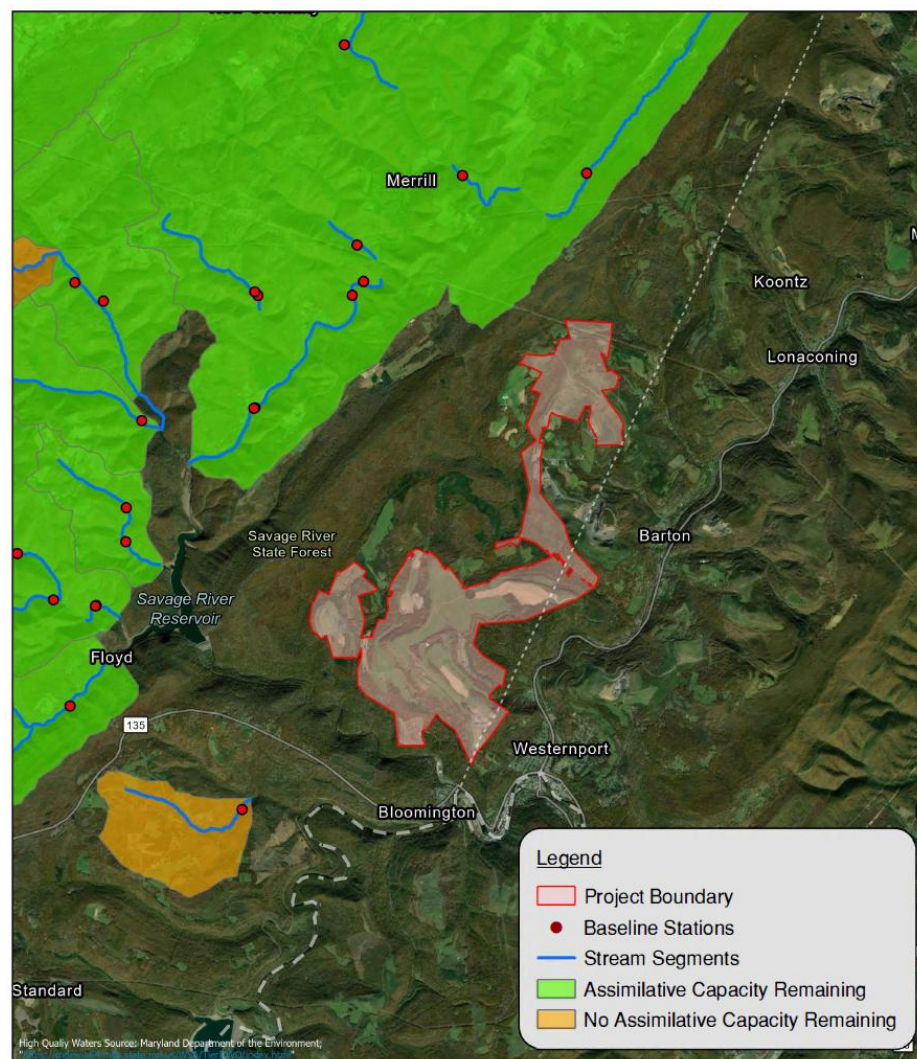
F. ANALYSIS OF IMPACTS TO WATER QUALITY OF TIER II STREAMS

As noted above, and per the MDE Tier II High Quality Waters Map (2022) shown in **Figure 8**, the Project is located outside of any Tier II streams and/or Catchment Areas. While the Project will need to clear and grade approximately four hundred ninety-eight (498) acres of trees, this is not only essential to meet Project capacity requirements, but it is also essential to provide necessary grades to support the

placement of panels within the proposed LOD. The environmental outcome from these efforts will provide stormwater management and sediment and erosion control designs that improve site runoff per MDE Guidelines, long-term managed vegetative cover, etc. For these reasons, the Project will not impact the Chesapeake Bay Critical Area or any Tier II streams.

In addition, approximately four percent (4%) of the Project will be impervious and the remaining areas under and around the panels will be established and maintained in permanent vegetative cover consistent with vegetative management plans to be required as part of the CPCN approval. The establishment of year-round vegetative cover on areas which were previously disturbed as part of previous mining activities, in combination with the environmental protections above, will not result in any impact to downstream water quality.

Figure 8 – MDE Tier II High Quality Waters Map



1. Permanent Alterations

As shown in **Figure 8** above, the Project is located outside of any Tier II streams and Catchment Areas. Therefore, permanent Alterations are not expected as a result of the Project.

2. Evaluation of Alternatives

As shown in **Figure 8** above, the Project is located outside of any Tier II streams and Catchment Areas. Therefore, an evaluation of alternatives is not required for the Project.

G. DISPOSAL OF PLANT GENERATED WASTE

1. Waste Handling During Construction

During construction, the contractor will collect any waste material and remove it from the site to an approved waste handling facility. Large amounts of waste during construction are not anticipated. Waste material will mainly consist of packaging materials from the framing and electrical equipment that will be delivered to the Project.

2. Waste Handling During Operation

During operation, there will be little or no waste material generated by the Project. Any waste that is generated from maintenance and/or repair operations will be removed from the site and disposed of at an approved waste handling facility. There will be no sanitary sewer waste generated by the Project.

3. Waste Handling During Decommissioning

Waste associated with decommissioning and deconstruction of the Project will be handled appropriately pursuant to a Decommissioning Plan approved by the Commission pursuant to the PPRP's standard decommissioning licensing condition. Once the life of the Project is complete, the land will be restored to a condition reasonably similar to the condition prior to Project construction. The Project plans to submit its decommissioning plan for PPRP review during the CPCN process to allow for adequate review prior to CPCN issuance.

SECTION IV – NATURAL RESOURCE REQUIREMENTS

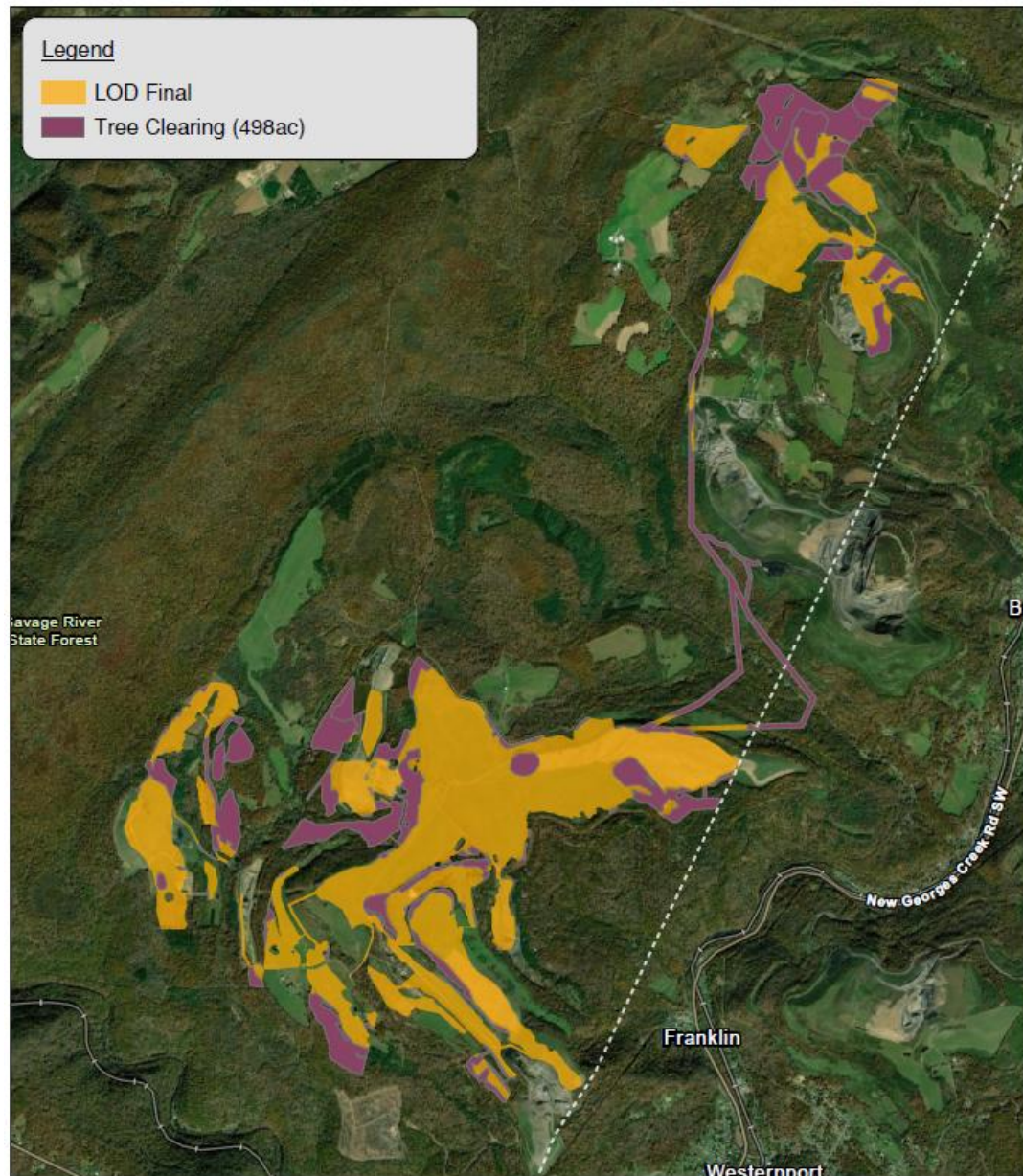
A. MARYLAND DEPARTMENT OF NATURAL RESOURCES FOREST SERVICE

1. Forest Conservation Act

Pursuant to Natural Resources Article § 5-1602(b)(10), the Forest Conservation Act (“FCA”) does not apply to the Project because the FCA does not apply to properties located within counties with more than 200,000 acres of forest coverage. Garrett County is comprised of approximately seventy percent (70%) forest coverage (294,000 acres). Additionally, Allegany County has the highest percentage of tree canopy cover in the State.

A significant amount of the property has been timbered numerous times over the years. Approximately one thousand seven hundred sixty-six (1,766) acres of trees within the Project area will not be disturbed by the Project. Of the remaining trees, the areas to be timbered vary greatly in terms of quality and type of forest. These include mid successional medium quality forest (402.29 acres) and early successional medium quality forest (95.71 acres). See **Figure 9** below and the simplified FSD included in **Appendix 16** for more detail.

Figure 9 – Forest Clearing Constraints Map



B. DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE

The Applicant conducted a preliminary desktop review for threatened and endangered species in Garrett and Allegany County using the USFWS Environmental Conservation Online System ("ECOS") tool. The results are identified in **Table 11** below.

Table 11 – Threatened and Endangered Species

Group	Name	Status
Mammals	Tricolored Bat (<i>Perimyotis Subflavus</i>)	Proposed Endangered
Insects	Rusty Patched Bumble Bee (<i>Bombus Affinis</i>)	Endangered
Insects	Monarch Butterfly (<i>Danaus Plexippus</i>)	Candidate
Mammals	Little Brown Bat (<i>Myotis Lucifugus</i>)	<i>Under Review</i>
Mammals	Indiana Bat (<i>Myotis Sodalis</i>)	Endangered
Mammals	Northern Long-Eared Bat (<i>Myotis Septentrionalis</i>)	Endangered
Clams	Green Floater (<i>Lasmigona Subvirdis</i>)	Proposed Threatened
Flowering Plants	Harperella (<i>Ptilimnium Nodosum</i>)	Endangered

Further, and as part of the CPCN process, the Applicant used the USFWS Information for Planning and Consultation (“IPaC”) tool to consult with DNR for an official site-specific review and formal determination of no impact to threatened and endangered species prior to Project construction. Their review identified several RTE species requiring further field studies. See **Appendix 13** for more details regarding habitat areas, avoidance, and mitigation. As noted above, while the Applicant’s experts and DNR have not yet agreed as to proper mitigation (as described in **Appendix 13**), the Applicant will continue to work with the DNR to see if further progress can be made. As also noted above, the Applicant will continue to assess opportunities for habitat preservation while ensuring the Project generating capacity can be met within the limited area available for development.

C. U.S. FISH & WILDLIFE SERVICES

As noted above, the Applicant has consulted with USFWS regarding an environmental project review and seasonal clearing restrictions will apply. For these reasons, the Applicant will implement the following TOYR’s:

- The northernmost Project area will implement a TOYR for tree clearing associated with the NLEB pup season from May 15th to July 31st. See **Appendix 19** for more details.
- The central Project area will implement a TOYR for tree clearing associated with the NLEB acoustic buffer from April 1st to September 30th. See **Appendix 19** for more details.

- The southern Project area will implement a TOYR for tree clearing associated with the NLEB hibernacula buffer would be in place for the active season from April 1st to July 30th and the inactive season from October 1st to March 30th. See **Appendix 19** for more details.

D. PHASE I ESA

ECS performed a Phase I ESA for the subject properties. Their assessment and determination were based on user provided information, research of environmental records, regulatory agency file and record reviews, vapor encroachment screening, historical use information, site reconnaissance, and interviews in accordance with Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process that generally meet the requirements of ASTM E1527-21.

The Phase I ESA determined there were several Recognized Environmental Conditions ("REC"s), Historical Recognized Environmental Conditions ("HREC"s), and Business Environmental Risks ("BER's") identified onsite. The key findings are noted below.

- *REC's include:*
 - *Industrial equipment, leaking hydraulic equipment, and drums of various fluids.*
 - *Improper storage of several transformers.*
- *HREC's include:*
 - *The Westernport landfill closed in 1992 is currently in a post-closure sampling program until 2035. The Westernport landfill is not within the LOD as proposed.*
 - *Agricultural field topdressing amendments composed of byproducts from the wastewater treatment process were applied throughout portions of the Project area under permits issued by MDE to the Upper Potomac River Commission from 1982 through 2023.*
- *BER's include:*
 - *Onsite mines and reclaimed mines from at least 1947 to at least 2018 represent a BER along with any currently active mines on the property.*
 - *The presence of groundwater wells, septic systems, numerous unidentified drums, and ongoing mining related activities.*
 - *Pits, ponds, and/or lagoons on the property could potentially represent a BER.*

The complete Phase I ESA report is included **Appendix 20**.

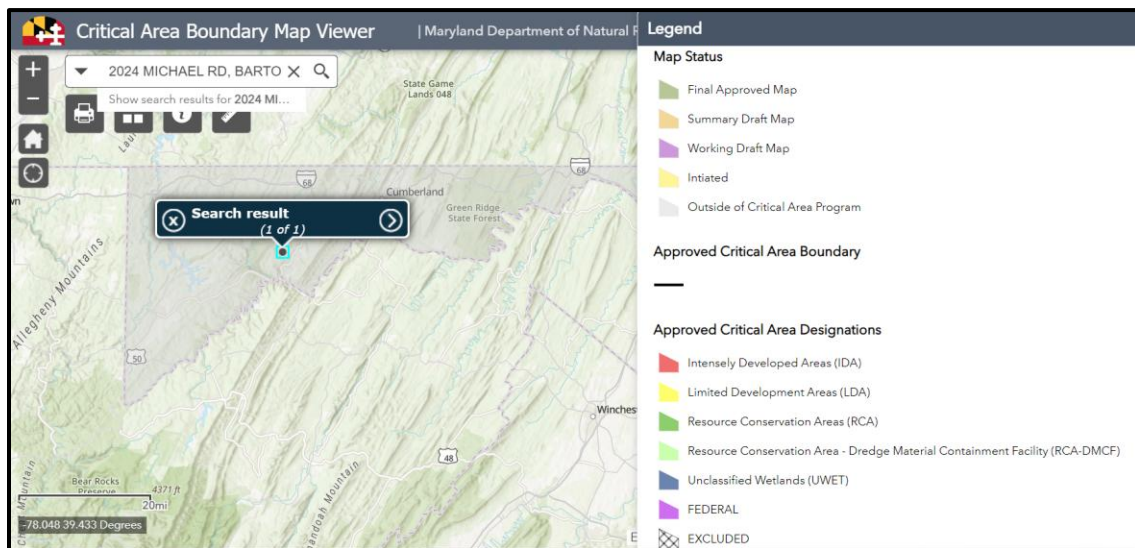
E. CRITICAL AREA

The Project is not located within the Chesapeake Bay Critical Area, therefore, the requirements of COMAR 27.03 and other State regulations applicable to projects that are within the Critical Area do not apply.

Although the Project is not within the Chesapeake Bay Critical Area (see **Figure 10** below) and subject to Critical Area buffers and setbacks, the Project will be located a minimum of fifty feet (50') from designated streams and thirty-five feet (35') from wetland features. Further reclamation of these former mine sites will provide better drainage, stormwater management and sediment and erosion control designs that improve site runoff, long-term managed vegetative cover, etc.

Regulatory buffers have been applied and/or exceeded and the ground cover ratio for the Project will be approximately fifty percent (50.0%). Guidelines for Water Quality and Quantity through ESD techniques and BMPs will be met through the application of the 2000 Maryland Stormwater Design Manual, Volumes I and II (2000) with Supplement No. 1 and Technical Memo #8 dated March 30, 2018.

Figure 10 – Chesapeake Bay Critical Area Map



F. NOISE AND VIBRATION

1. Impacts of Noise During Construction

Maryland noise pollution standards as referenced in COMAR 26.02.03 provide certain exceptions for noise sources and noise generating activities. During construction of this facility, all noise shall

be maintained below the average noise level of ninety decibel (90 dBA) rating during daytime hours at the receiving properties, per Maryland standards (see COMAR 26.02.03.02).

2. Impacts of Noise During Operation

Table 12 below lists the maximum allowable noise levels (in dBA) for receiving land use categories, during project operation (i.e. post development) as specified in the State regulations.

Table 12: Maximum Allowable Noise Levels for Receiving Land Use Categories (in dBA)

Zoning Designation			
	<i>Industrial</i>	<i>Commercial</i>	<i>Residential</i>
<i>Day</i>	75	67	65
<i>Night</i>	75	62	55

Source: COMAR 26.02.03

Note: Day refers to the hours between 7 AM and 10 PM.

Night refers to the hours between 10 PM and 7 AM.

The Project, once constructed, will have no exposed moving parts. The only noise generated from the electrical equipment at the facility will be from the enclosed transformers, inverters, and onsite switchgear. As utility scale solar generating power facilities become more common, more studies have been conducted, which have found a low impact of noise during operation. Typical transformers used for a solar facility have a 50dB rating at one hundred feet (100'). The Project anticipates a low-level noise inside the perimeter fence. Noise reduction occurs at 6dB with every doubling of the manufacturer's setback distance. The manufacturer specifications for the Sungrow SG3150U-MV central inverters are included in **Appendix 21**.

3. Closest Reception Locations

The closest distance between any residential dwelling and the Project switchyard is approximately one thousand feet (1,000'), and approximately one hundred fifty feet (150') to the nearest solar panel. The dB levels at these locations will be well below the sixty-five/fifty-five (65/55) dB levels identified above.

G. GEOTECHNICAL INVESTIGATIONS

ECS performed a preliminary geotechnical analysis to demonstrate the Project is suitable to support the proposed solar generation facility. The Preliminary Geotechnical Assessment is included in **Appendix 12**. One hundred fifty (150) soil test borings were drilled to point of refusal but no deeper than twenty-five feet (25') below existing grades. As noted in the Report, five (5) strata were identified which

include surficial cover, fill, natural soil, weathered rock, and bedrock. Additionally, “Auger refusal, was encountered in 54 of the soil borings, at depths between 2.0 and 19.5 feet below existing grades. Of these, 32 of the soil borings encountered refusal within the existing fill materials. The auger refusal depths are anticipated to be the depth to bedrock and/or boulders within the existing fill.” Based on site conditions, pre-drilling of pile locations may be performed where needed.

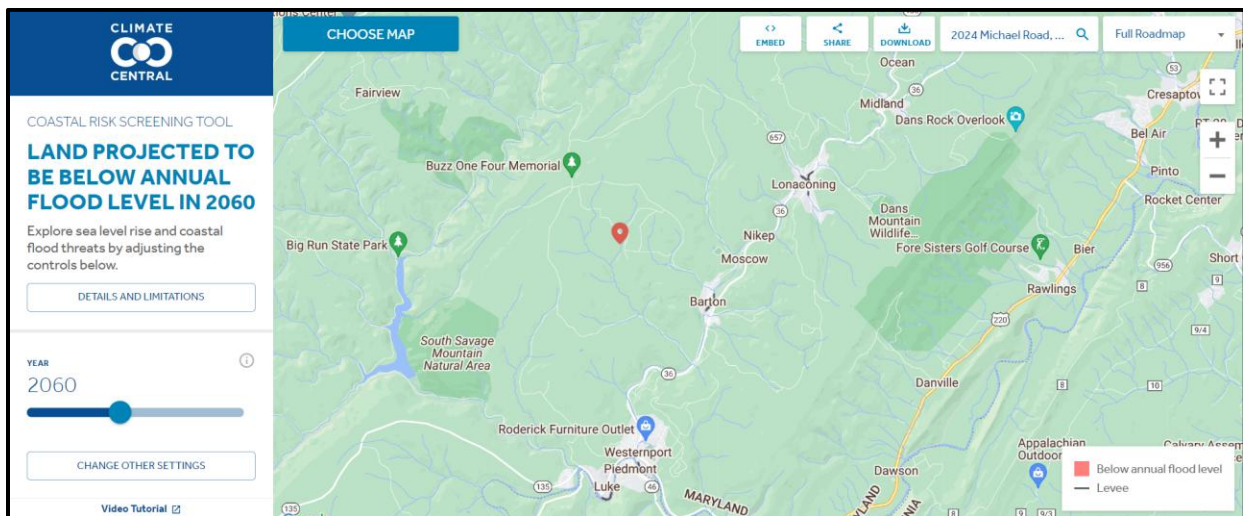
Groundwater was encountered between five feet (5') and approximately fifteen (14.7') in only three (3) borings. Based on this information it is expected that during electrical installation, perched and/or groundwater may be encountered, and dewatering practices will likely be required. Where groundwater is encountered during construction, it is expected to be de-minimis, and since the average groundwater depth is more than five feet (5') below surface, the Project was approved for a Groundwater Appropriation Permit Exemption by MDE and is included in **Appendix 17**.

In general, the findings indicate the soils onsite can support the proposed solar generation facility for posts, pads to support inverters/transformers, switchyards, substations, internal grass covered drive aisles, select all-weather roads, and related sediment and erosion controls. These piles will be driven using a vibratory hammer, directly into the earth. Where necessary, pre-drilling of pile locations or other alternative methods of installation may be performed.

H. SEA LEVEL RISE PROJECTIONS

According to Climate Central, the Project area is not “projected to be below annual flood level in 2060”. See **Figure 11** below. Since sea level rise does not affect the property, no measures are indicated.

Figure 11 – Sea Level Rise



SECTION V – SOCIOECONOMIC INFORMATION

A. SUMMARY OF ENVIRONMENTAL AND SOCIOECONOMIC EFFECTS

The Applicant believes that neither construction nor operation of the Project will have an adverse impact on environmental and socioeconomic conditions. Environmental constraints were identified and avoided. As most of the Parcels associated with the Project were permitted and mined (deep and surface) for coal, the proposed improvements will benefit the environment by reclaiming portions of mined parcels which have not already been reclaimed. In addition, the permanent vegetative cover under and around the solar panels will result in less water quality impacts. The various buffers and setbacks proposed are more than adequate to protect adjacent resources to include wetlands, streams, flood plains, and woodlands.

1. Environmental Resources

The Project is sited to avoid sensitive environmental areas as identified in **Figure 1**. It is not located in the Chesapeake Bay Critical Area. The Project is not located within a Tier II Stream and/or Catchment Area. MDE Nontidal Wetlands Division has reviewed the proposed conceptual design and confirmed the Applicant has avoided impacts to jurisdictional waters per the array layout shown in **Figure 1**. MDE's concurrence with the avoidance and minimization plan is included in **Appendix 15**. The solar design incorporates a thirty-five-foot (35') setback from wetlands and the dripline of the trees to remain.

As noted above, select Project Parcels along Mill Run Creek and Aaron Run Creek are partially located within either a FEMA Flood Zone A or Flood Zone X. Mill Run Creek will be crossed by the overhead collector line. Aaron Run Creek will be bored underneath by an underground collector line. All other Project Parcels are located outside of any FEMA Flood Zones. FEMA Flood Zone A is classified as "The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood." In Zone A, no base flood elevations were determined. Per FEMA Flood Zone definitions, this zone is a high-risk area. FEMA Flood Zone X is classified as "Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood". Per FEMA Flood Zone definitions, this zone is a moderate to minimal risk area. The FEMA FIRM is included in **Appendix 18**.

The Project will result in approximately four percent (4%) of impervious surface added.

B. MARYLAND HISTORICAL TRUST

According to the Maryland Inventory of Historic Properties via the MERLIN GIS Website, in addition to the historic properties located in Luke, Westernport, Barton, and Lonaconing, there are several additional

properties within a mile of the Project on the MHT Inventory of Historic Properties. **Table 13** below identifies these inventoried properties.

Table 13 – MHT Inventory of Historic Properties

Site Name	Site Number	Site Address
Luke Historic District	AL-VI-D-306	-
Luke Frame House	AL-VI-D-218	Grant Street
Allen Luke House	AL-VI-D-216	Grant Street
Wilson Log Cabin	AL-VI-D-212	Michael Road
House	AL-VI-D-211	Poplar Street
Hammond's Addition Historic District	AL-VI-D-307	-
George L. Michaels Farm	G-I-C-086	2091 Westernport Road
Charles Michaels Farm	G-I-C-087	3122 Westernport Road
Carder Farm	G-I-C-096	3385 Westernport Road SW
James B. Watson, Jr. House	G-I-C-073	4208 Westernport Road SW.
Junior W. Fazenbaker Farm	G-I-C-095	877 Aaron Run Road
John Broadwater Farm	G-I-C-097	Aaron Run Road
Howard Michael Farm	G-I-C-022	Aaron Run Road
Paul G. Broadwater House	G-I-C-024	Aaron Run Road
Morris Speen House	G-I-C-023	Aaron Run Road
Unknown	AL-VI-C-291	Mill Run Road
Dishong Frame House	AL-VI-C-292	Mill Run Road
Harmon Broadwater House	AL-VI-C-290	Mill Run Road

JADE MEADOW III SOLAR PROJECT
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
ENVIRONMENTAL REVIEW DOCUMENT

Site Name	Site Number	Site Address
Duckworth-Dishong Frame House	AL-VI-C-289	Mill Run Road
Joseph Baker House	AL-VI-C-288	Mill Run Road
Charles E. Ginniman House	G-I-C-043	Michael Road
Sears & Roebuck House	G-I-C-042	2714 Michael Road
James E. Broadwater House	G-I-C-041	3474 Russell Road
Michael Road House	G-I-C-040	Michael Road & Bartlett Road
Russel House, site	G-I-C-094	Russell Road
Charles Magruder House	G-I-C-069	Russell Road
Raymond Crawford House, site	G-I-C-068	Russell Road
Paul Colmer Farm	G-I-C-067	987 Russell Road

As part of the ERD process, the Applicant contacted MHT for an official site-specific review and consultation for formal determination associated with Maryland Historic Properties or Places prior to Project construction. MHT requested additional site details in order to complete their review. The Applicant's Registered Professional Archaeologist completed additional site visits, obtained requested site details, and provided the additional pictures, mapping, historical information, etc. The Applicant is in the process of reviewing MHT's latest response with a focus on clarifying specific Project details in order to determine if any additional supporting documentation may be needed for MHT to finalize their review beyond its initial response to the Applicant's intake review. All correspondence to date is included in **Appendix 22**.

1. COMAR 20.79.03.04(B)(2)(b)

Labeled photographs are included in **Appendix 22**. The Applicant proposes to demolish one (1) shed structure as shown in **Figure 1**, abandon/seal any wells, and abandon any septic systems per MDE regulation prior to construction.

2. COMAR 20.79.03.04(B)(2)(c)

Appendix 22 includes a list of all buildings/structures within the Project Parcels, including the building/structure size, current use, age of the building/structure, and location provided where

available and to the best of the Applicant's knowledge. **Appendix 22** also includes labeled photographs of each building/structure within the Project with key photographs to a suitable figure/plan, along with noting the Applicant's intention to demolish these structures associated with Project development.

3. COMAR 20.79.03.04(B)(2)(d)(ii)

Appendix 22 includes a list of all buildings/structures within the Project, including the building/structure size, current use, age of the building/structure, and location provided where available and to the best of the Applicant's knowledge. **Appendix 22** also includes labeled photographs of each building/structure within the Project with key photographs to a suitable figure/plan, along with noting the Applicant's intention to demolish these structures associated with Project development.

4. Cultural Resources

As noted above, and as part of the ERD process, the Applicant contacted MHT for an official site-specific review and consultation for formal determination associated with Maryland Historic Properties or Places prior to Project construction. Consultation with MHT is ongoing. See **Appendix 22** for available documentation to date.

5. Historic Building Environment

As noted above, and as part of the ERD process, the Applicant contacted MHT for an official site-specific review and consultation for formal determination associated with Maryland Historic Properties or Places prior to Project construction. Consultation with MHT is ongoing. See **Appendix 22** for available documentation to date.

6. Archeological

As noted above, and as part of the ERD process, the Applicant contacted MHT for an official site-specific review and consultation for formal determination associated with Maryland Historic Properties or Places prior to Project construction. All known archeological resources are outside of the Project LOD and consultation with MHT regarding buffer composition is ongoing (see **Appendix 22**).

C. GEOLOGY/ SOILS

1. Soils

According to the NRCS soils maps, the soil onsite range from very deep to moderately deep and excessively drained soils to somewhat poorly drained soils. The majority of soils within the proposed

LOD consist of Dekalb and Gilpin very stoney loams, Gilpin channery silt loam, and Cookport and Ernest very stony loams. The remaining soils onsite consist of Wharton silt loam, Ernst silt loam, Cavode silt loam, and Brinkerton and Andover very stony loam soils.

The slopes onsite range from zero percent (0%) to thirty-five percent (35%). As noted above, the majority of the Project area was used for various mining purposes and has since been reclaimed. Due to previous mining and reclamation activities many of the steeper grades onsite were reduced in severity. Overall site evaluations (approximately 6,000 acres) contained large areas where slopes averaged under thirteen percent (13%). In addition, based on the previous mining operations onsite, and based on the geotechnical report (**Appendix 12**), it is anticipated the NRCS soil and slope classifications are not completely representative of actual field conditions.

The overall soils map for the Project, prime farmland percentages, NRCS soils reports, and prime farmland classifications can be found in **Appendix 23**. Based on the preliminary results of the geotechnical report (**Appendix 12**), these soils are suitable to support solar modules, inverters, switchyards, substations, grass covered aisle ways, access roads, and associated drainage and stormwater management features.

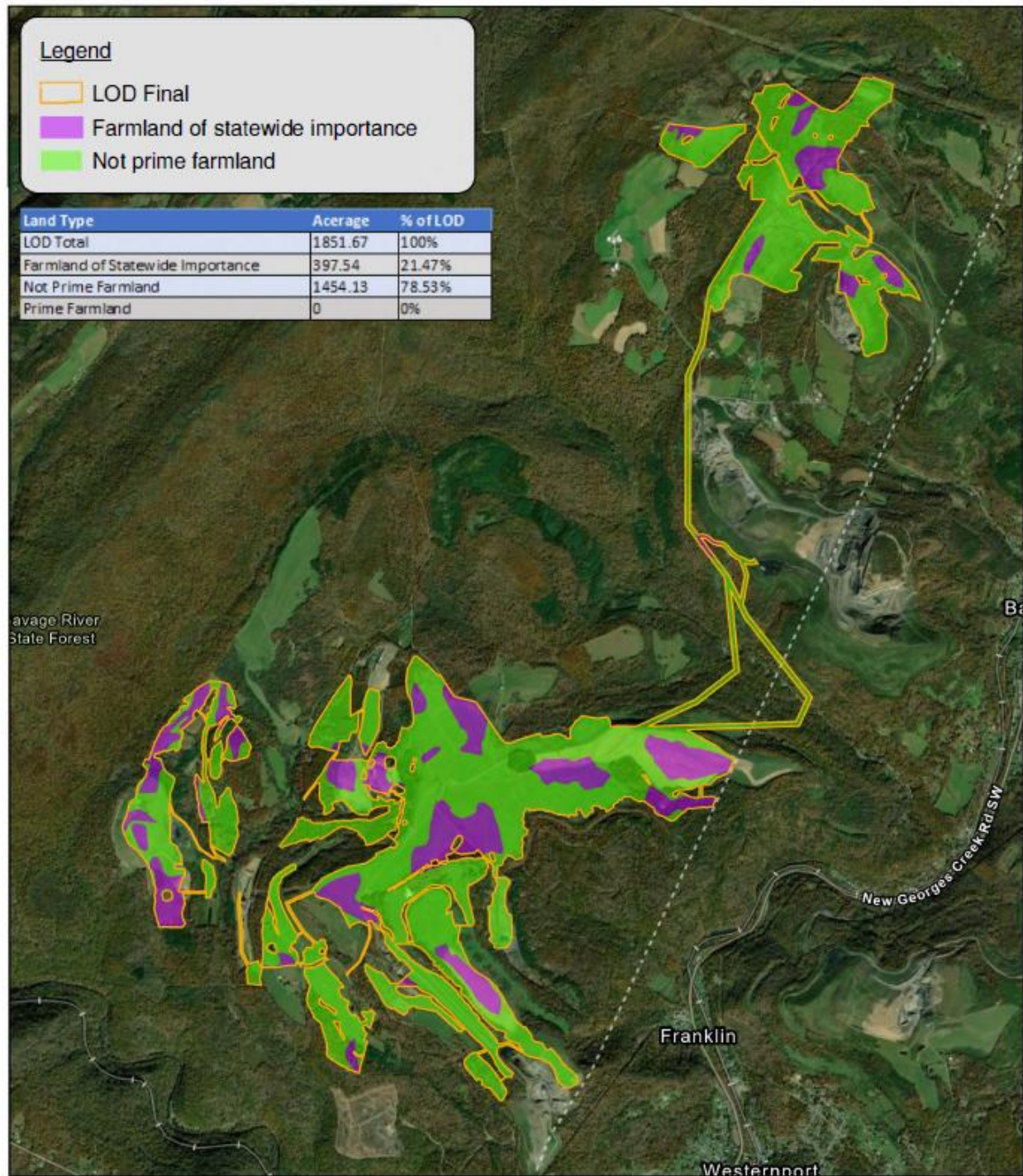
The specific ESD practices to be employed on the Site will be non-rooftop disconnection in drainage areas containing average overland slopes of eight percent (8%) or less consistent with Garrett County policy and non-rooftop disconnection with the use of level spreaders for drainage areas that average between eight percent (8%) and thirteen percent (13%). Slopes over fifteen percent (15%) have not been included in the solar panel LOD.

2. Prime Farmland

Based on the current LOD, and as shown in **Figure 12** below, there is no prime farmland designation onsite as the site was deep mined and strip mined in the past and primarily consists of open meadows and wooded areas which will be cleared and soils that are not conducive to use for agricultural production. However, it is anticipated the Project will temporarily remove three hundred ninety-seven and one half (397.54) acres of Farmland of Statewide Importance for the life of the Project. It is important to recognize that at the end of the life of the Project the site can be reasonably reclaimed to its current state. As noted throughout this document, the site was mined for many years and, for the most part, has been reclaimed. Only a small portion of the reclaimed land is currently being used for farming practices. Reclaimed mine areas and other parcels that have not been mined on these sites are eligible to apply for mining permits at any point in the future. During the thirty (30) year life of the Project, future mining would not be possible on these properties. Consequently, the impacts to farmland could be significantly greater if the solar project were not pursued.

The prime farmland classification reports and mapping can be found in **Appendix 23**.

Figure 12 - Prime Farmland Mapping



3. Conservation Easements

As shown in **Appendix 8**, there are no conservation easements within the Project LOD.

4. Current Use of Prime Farmland

In general, the majority of the proposed LOD is within a previously mined area. Mining activities also took place prior to the current use, most notably surface mining between the 1940's and 1950's before State permitting laws and regulations were in place for mining activities. In addition, deep mines were prevalent in Garrett County, including this area, dating back to the 1800's with little official documentation.

a. Present Land Use of Project Area – COMAR 20.79.03.04 B. (2) (d) (i)

The present use of land in the proposed Project LOD is a combination of previously mined/reclaimed areas, wooded areas, open fields, and other mined areas that have not yet been officially reclaimed.

b. Current Agricultural Use of Prime Farmland – COMAR 20.79.03.04 B. (3) (d) (e)

As noted above, areas within the proposed Project LOD were used for deep mining and surface mining in the past as well as timbering. Portions of the Project LOD are used for growing hay and grazing cattle. There is no prime farmland designation within the proposed Project LOD.

c. Number of Acres Planned for Removal from Agricultural Production – COMAR 20.79.03.04 B. (3) (d)

As discussed in more detail above, the Project will not remove any acres from agricultural production.

D. PUBLIC SAFETY AND TRANSPORTATION IMPACTS

The Project will include a perimeter road for emergency vehicle access or other access lanes as approved by the State Fire Marshal. While the Project will be secured with a fence, Knox-box entry will be provided for emergency vehicle access. During the local site plan review process, the Applicant will consult with the State Fire Marshal to ensure that health and safety requirements are met. The Project construction documents will include appropriate electrical designs to meet County codes.

As a solar generation facility, the Project's operation will not produce, emit, or discharge any significant noise, air pollutants, or water pollutants, which may affect public health or welfare. Additionally, the Project will not generate, transport, store, treat, and/or dispose of hazardous waste as a result of the Project's operation, nor will it have any significant adverse environmental or socioeconomic impacts.

During Project construction, the Applicant will ensure the EPC contractor adopts appropriate safety standards, schedules deliveries during appropriate times giving consideration to school bus pick-up/drop-off times and identifies an appropriate route for construction traffic and deliveries.

1. Effects on Public Service/Safety

The Project will provide proper access for emergency and fire equipment, including access lanes to inverters, transformers, and switchgear with widths to accommodate emergency vehicles consistent with State Fire Marshal and local emergency access standards. A fire protection plan, including identification of key Project elements, will be prepared in coordination with local emergency responders regarding the various design elements.

The Project will be designed in accordance with the State Fire Prevention Code and include regulatory requirements to ensure adequate fire prevention measures and controls to safeguard life, property, and public welfare from:

- The hazards of fire and explosion arising from the storage, handling, or use of substances, materials, or devices.
- Conditions hazardous to life, property, or public welfare in the use or occupancy of buildings, structures, sheds, tents, lots, or premises.

2. Road Permits

As noted above, the Project will require eleven (11) new entrances along Aaron Run, Mill Run, Russell, and Westernport roads and existing entrances provided along Aaron Run, Michael, Russell, and Westernport roads. Entrance improvements including gravel for stabilization will be needed for the Project. If needed, access permits from Garrett County and/or Maryland State Highway Administration will be acquired. Typically, these permits only take weeks to obtain, but since they need to be coordinated with the site plan approval, the Applicant assumes that process will take several months.

3. Truck Routes for Project Construction - COMAR 20.79.03.04 B. (4)(b)(i)

While there are multiple route options for the Project's construction traffic, it is anticipated that the majority of construction traffic, in particular the truck traffic, will utilize, but not be limited to, I-68 (National Freeway) to MD-546 to Old Frostburg Road to Frostburg Road to Avilton Lonaconing Road to Swamp Road to Russell Road or Aaron Run Road or Westernport Road to The Project. Once the construction contractor has been selected a Truck Traffic Plan/Logistics Plan will be prepared.

An alternative or emergency route may include: I-68 (National Freeway) to MD-36S to MD-825 to Front St to Fusner St to Rock St to Vine St to Johnson St to Poplar St to Rock St to Rock St SW to Westernport Rd.

4. Road Damage Avoidance and Mitigation – COMAR 20.79.03.04 (B)(4)(b)(ii) and (iv)

Once a Truck Traffic Plan/Logistics Plan has been prepared by the selected construction contractor, the Applicant will enter into a Public Works Agreement and/or Road Maintenance Agreement if required by the County. This Agreement would ensure that any damage resulting from the Project would be repaired per State/County code. In addition, the Applicant will take photographs documenting the status of the affected roads identified in the Truck Traffic Plan/Logistics Plan prior to the start of construction and include in an agreement with the County which would require reviewing the roads following construction and making necessary repairs. If the County requires any bonding for these purposes, the Applicant will provide as needed.

5. Transportation During Construction

Major material and equipment will be delivered by tractor-trailers and offloaded by construction vehicles (lulls, tracked vehicles, and front-loading equipment). Appropriately sized gravel laydown areas depicted on the site plan, as well as grass laydown areas or other temporary laydown areas approved by the Garrett Soil Conservation District through the local permitting process, will be utilized for unloading equipment and materials. Daily construction traffic will include cars, pickup trucks, and other personnel vehicles. Excavation and other equipment will be utilized during construction of the Project, which may include dump trucks, trenching equipment, concrete trucks, front loaders, backhoes, post installation equipment, excavators, and other equipment.

The overall daily peak traffic associated with onsite construction personnel, spread over the entire construction period, is anticipated to be as follows:

Daily Construction Personnel Peak Traffic

Foremen & Staff Vehicles (Cars, SUV, Pickup Truck) = 90/day

Site Construction Personnel (Cars, SUV, Pickup Truck) = 375/day

Once the major construction operations are completed (mounting of racks and installation of panels and inverters), normal traffic associated with onsite construction personnel is expected to be significantly less than the peak numbers noted. The Applicant anticipates a total of approximately two thousand (2,000) truck trips associated with construction delivery equipment, spread over the entire construction period.

Estimated breakdown of the total truck deliveries is as follows:

Major System/Construction Component Deliveries

Racking Trucks = 800 (including piles and rafters)

Combiner/Recombiner Box Trucks = 20

Misc. Material, Supplies, & Equipment Trucks = 15

Module Trucks = 975

Inverter Trucks = 115

MV Switchgear Trucks = 10

Transformers & LV Switchgear Trucks = 5

Concrete Mixer Trucks (Standard Mixer Truck, typ. 32') = 150

Truck traffic will be scheduled per normal sequence of construction operations for solar projects (e.g. once the site is prepared, racking deliveries will be received; once the racking is mounted on site, then panel/module deliveries will be received; and once the panels are rack mounted, then combiner/recombiner boxes and inverters will be received; etc.). Considering a construction period of approximately eighteen (18) to thirty (30) months, the average daily construction truck-traffic (normalized over the construction period) is estimated to be approximately twenty-five (25), and the overall peak daily construction truck-traffic is estimated to be approximately fifty (50), which [the peak] is expected to be very sparse.

Operating hours during construction will be 7am-7pm Monday through Friday, giving consideration to school bus pick-up/drop-off times. Weekend work is not anticipated at this time. However, should it be necessary, the proposed operating hours will be from 7am-7pm.

Operating hours associated with transmission line and tie in work may have limited seasonal fourteen (14) day outage construction windows where operations may continue twenty-four hours per day, seven days per week (24/7). The 500kV Black Oak – Hatfield transmission line and critical infrastructure being tied into has limited outage opportunities and during those outage opportunities, work hours are required outside of the normal working day.

Post-construction traffic will be limited to monthly and yearly maintenance as well as vegetation maintenance operations.

General Maintenance:

Maintenance Personnel (Cars, SUV, Pickup Truck) = 12/month

6. Transportation During Operation

There will be limited traffic to and from the solar array during operation. Traffic will mostly be limited to maintenance crews for mowing and vegetation control. Quarterly to yearly maintenance of the solar array components will be necessary, along with site visits for any operational issues that may arise during normal operation.

E. GLARE ANALYSIS

The Applicant utilized the Solar Glare Analysis Hazard Tool (“SGAHT”), including the Federal Aviation Administration (“FAA”) 2013 Policy Adherence component, to conduct a desktop analysis of the proposed solar generation facility. Specifically, by policy it has been determined that glint and glare from solar

energy systems on pilots and air-traffic control tower (“ATCT”) personal “is similar to glint and glare pilots routinely experience from water bodies, glass-facade buildings, parking lots, and similar features.”

Based on the results included in **Appendix 24** there is no glare predicted for the Potomac Valley Hospital or the Kitzmiller Landing zone helipads; the only aerodrome facilities within ten (10) miles of the Project under FAA and Maryland Aviation Administration (“MAA”) jurisdiction. Further, no red glare is predicted for drivers along roadways or for residents homes in the vicinity of the Project.

Green and/or yellow glare is predicted for fourteen (14) of the sixteen (16) road segments analyzed. In addition, green glare is predicted for residents at seven (7) houses and green and/or yellow glare is predicted for residents at three (3) additional houses from the twenty-one (21) houses analyzed.

1. Nearby Airports

As shown in **Table 14**, according to AirNav.com, the following airports (public and private) and heliports are within a ten (10) nautical mile radius of the Project.

Table 14 – Nearby Airports and Locations

Airport Name	ID	County	Distance (nm)
Potomac Valley Hospital Heliport	1WV0	Keyser, WV	4.9 SE
Gerstell Farms Airport	WV15	Keyser, WV	5.5 E
Kitzmiller Landing Zone Heliport	MD07	Kitzmiller, MD	8.6 SW

2. FAA | MAA Assessments

Per the SGAHT FAA Notice Criteria Tool, notice to FAA was not required for this Project. The Project submitted thirty-four (34) points along the Project LOD to the FAA and received Determinations of No Hazard for all points (see **Appendix 25**).

The Applicant consulted the MAA for their review of potential glare impacts associated with the Project. MAA’s review determined the Project is not an obstruction or hazard to air navigation, in accordance with COMAR 11.03.05 (see **Appendix 26**).

3. Radiofrequency or Thermal Impacts

Based on the remote nature of the Project location, line-of-sight obstruction for any microwave links should not be impacted by radiofrequency interference from the Project, especially since it is not in close proximity to any military installations. Military facilities in Western Maryland include the US Army Reserve (Cumberland), the Civil Air Patrol (Hagerstown), and Camp Baker NG Training Center (Little Orleans). For more information on Electro-Magnetic Interference from Solar Photovoltaic Arrays, see **Appendix 27**.

F. FENCING AND BUFFERING

As mentioned above, the solar modules will be enclosed and protected using an eight-foot (8') tall fence around the perimeter which may include an additional one-foot (1') of three (3) strand barbed wire, with an access gate at the proposed entrance. A buffer/landscape plan will be provided as part of the local site plan approval process. The buffer/landscape plan will be included along with other site stabilization and landscaping required for the Project. The Project's minimum twenty-foot (20') landscape buffer will include a combination of the existing trees and understory as well as new plantings. This plan will be reviewed/approved by the Garrett County and the local SCD. **Appendix 28** includes a high-resolution landscape buffer rendering.

G. VEGETATIVE STABILIZATION

The Project will employ turf style grasses that are conducive to growing in partial shade, so that vegetation can be maintained beneath and around the arrays, will be local to the area and those typically recommended for use by the Garrett County SCD Office. This will also include a type and seed mix that provides low growth and low maintenance.

As noted above, the Applicant is also proposing to plant vegetation supporting pollinators (such as white clover) that will promote the health of honeybees and other pollinators. Solar energy generation facilities present excellent opportunities to increase healthy habitats for pollinators. Appropriate planting plans and plant maintenance plans will be submitted to the local jurisdiction for review and approval.

1. Vegetative Grounds Management Plan

The vegetative grounds management plan ("VGMP") details how the Project will be vegetated, maintained, and monitored during the life of the Project. The VGMP includes:

- Site preparation activities such as sequencing of construction, planting, and management protocols to be followed in accordance with specific growing periods and appropriate time schedules.
- Seed mixes using blends of indigenous and naturalized grasses and selected pollinators with appropriate application rates.
- Identification of seeding practices to be followed including initial stabilization and long-term vegetative cover, mulching, and triggers for overseeding as needed.
- Appropriate application of herbicides and pesticides for invasive species prevention will be EPA-registered at the time of application in accordance with applicable law.
- Establish schedules and practices for mowing to optimize the solar generation facility performance. As a minimum this would include mowing in early spring before the onsite of new growth. Grass should not be mowed to a height of less than ten inches (10").

Appendix 29 includes the draft VGMP for the Jade Meadow III Solar Project. As the Project proceeds through the local site plan process this document will be further refined and ultimately sealed by a licensed landscape architect.

2. Pollinator Habitat | Pollinator-Friendly Solar Designation

While the Applicant will not obtain the Pollinator-Friendly Solar Facility Designation for the Project, the Applicant has chosen to incorporate pollinator-friendly seed mixes throughout the Project. The purpose of this project design feature would be to improve the quality and quantity of overall acreage for pollinators as solar energy generation facilities are ideal opportunities to increase healthy foraging opportunities for pollinators.

Consistent with Garrett County guidance, the ratio of wildflower seeds to grass seed mix, not including clover, shall not exceed five percent (5%) for soil stabilization and erosion prevention purposes. At this time, the Applicant anticipates using a combination of the Fuzz and Buzz Seed Mix and the Naturalized Solar Farm Seed Mix. All other areas will be stabilized and planted with the Solar Farm Seed Mix.

3. Dual-Use | Agrivoltaics Opportunities

As noted above, while the Applicant will not obtain the Pollinator-Friendly Solar Facility Designation for the Project, the Applicant has chosen to incorporate pollinator-friendly seed mixes throughout the project.

While the Applicant supports the combination of production of photovoltaic power and agricultural crops on the same area if economically and technically feasible to do so, at this time it is not anticipated that the Project will incorporate this design feature. The Applicant will continually evaluate the opportunity for dual-uses of the Project and if the Applicant decides to incorporate agrivoltaics, it will notify PPRP and the PSC with its revised design plans.

H. EFFECT ON LOCAL ECONOMY

There will be significant economic benefits resulting from the Project which includes a capital cost of approximately five hundred and forty-four million dollars (\$544M). During construction, this investment will create approximately one thousand two hundred and sixty-nine (1,269) new local jobs in the State of Maryland during the eighteen (18) to thirty (30) month construction window, including three hundred seventy-five (375) jobs in Garrett County of which one hundred sixty (160) are direct jobs, one hundred fifty six (156) of which are indirect jobs, and fifty nine (59) of which are induced jobs. Construction will also have a significant one-time impact on the regional and state economy. Over fifty-four million seven hundred thousand dollars (\$54.7M) in new local output during construction for Garrett County is expected, and over two hundred thirty-four million dollars (\$234M) in new local output during construction for the State of Maryland.

During the thirty (30) year operating life of the Project, approximately forty-eight (48) new local long-term jobs for the State of Maryland are expected to be created, including twenty-two (22.6) new local long-term jobs for Garrett County. Approximately seventeen million dollars (\$17M) annually in ongoing

**JADE MEADOW III SOLAR PROJECT
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
ENVIRONMENTAL REVIEW DOCUMENT**

economic impact is expected for the state of Maryland, including seven million dollars (\$7M) annually in ongoing economic impact in Garrett County. In addition, the Project is also expected to contribute at least a seventy-five million dollars (\$75M) in PILOT revenue over the life of the Project.

The construction schedule is estimated to be eighteen (18) to thirty (30) months and is expected to be completed during the second half of (H2) 2027. Significant local resources are being employed as part of the design, entitlement, construction, and startup process. The tax revenue yield for a project of this size and type will also be beneficial. This Project will contribute to the local economy as well as the State's commitment to more in-state renewable energy generation. As noted above, PPRP reports that Maryland imports approximately forty-one percent (41%) of its required energy generation. This Project will help to reduce this reliance of power generated out of state. Given the nature of solar power generation, it will also lead to reduced and more certain costs of electricity produced.

By connecting with the electric distribution system serving Maryland, the Project will contribute towards compliance with the RPS, which mandates that all suppliers that sell electricity at retail in Maryland accumulate solar renewable energy credits in an incrementally increasing percentage.

The Project is responsibly sited, will feature vegetative screening, and it will produce no noise or vibration perceptible on neighboring properties. As a result, the Project will not have a material negative impact on neighboring property values.

The environmental and health benefits of the Project's operation include, but are not limited to, displacement of pollutants, contaminants, toxins, and pathogens (such as pesticides, herbicides, exhaust fumes, organic wastes, etc.) in water, soil, and air resulting from various alternative commercial operations (such as commercial farming); displacement of greenhouse emissions (such as CO₂, NO_x, SO₂, etc.) resulting from traditional electricity generation using fossil fuels. As a result, the Project also contributes to the general welfare and health of the public, in addition to economic benefits as specifically calculated by the COBRA Health Impacts Screening and Mapping Tool of the U.S. EPA.

SECTION VI – EJSCREEN ASSESSMENT

Environmental justice material is only required for a “qualifying” generating station, which is defined as “a proposed fossil fuel generating station ... that is over 70 megawatts in nameplate capacity”. For these reasons and EJSCREEN assessment is not applicable.