



**ALBEMARLE COUNTY PLANNING**  
**STAFF REPORT SUMMARY**

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| <b>Project Name:</b> SP201700018 Rivanna Solar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Staff:</b> Scott Clark, Senior Planner                                                                                                                                                                                   |
| <b>Planning Commission Public Hearing:</b> February 6, 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Board of Supervisors Hearing:</b> TBA                                                                                                                                                                                    |
| <b>Owner(s):</b> Carolyn P. Sweeney                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Applicant(s):</b> SolUnesco, LLC/on behalf of Sol Development, LLC                                                                                                                                                       |
| <b>Acreage:</b> 149 acres                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Special Use Permit for:</b> Solar energy system allowed by special use permit under section 10.2.2.58 of the Zoning Ordinance                                                                                            |
| <b>TMP:</b> Tax Map Parcel 09400-00-00-017A0<br><b>Location:</b> 2631 Buck Island Rd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>By-right use:</b> RA Rural Areas - agricultural, forestal, and fishery uses; residential density (0.5 unit/acre in development lots)                                                                                     |
| <b>Magisterial District:</b> Scottsville                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Proffers/Conditions:</b> Yes                                                                                                                                                                                             |
| <b>School District:</b> Stone-Robinson Elementary – Walton Middle School – Monticello High School                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |
| <b>Requested # of Dwelling Units/Lots:</b> none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>DA -            RA - X</b>                                                                                                                                                                                               |
| <b>Proposal:</b> Solar-energy electrical generation facility, with solar panels occupying approximately 90 acres                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Comp. Plan Designation:</b> Rural Area – preserve and protect agricultural, forestal, open space, and natural, historic and scenic resources; residential (0.5 unit/ acre in development lots)                           |
| <b>Character of Property:</b> The property includes two dwellings. The majority of the site was cleared in a commercial forestry operation several years ago, and is largely open with some small planted pines.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Use of Surrounding Properties:</b> Several adjacent properties are residential lots, and the site is adjacent to an existing electrical substation. Much of the surrounding land is in large farm and forest properties. |
| <b>Factors Favorable:</b> <ol style="list-style-type: none"> <li>1. The use is in accord with Comprehensive Plan policies for the Rural Areas and for encouraging use of sustainable energy sources.</li> <li>2. The site can be returned to agricultural or silvicultural uses, unlike more permanent forms of commercial or utility development.</li> <li>3. The proposed landscaping and screening effectively reduce the visibility of the site from Route 53, and long-distance visibility of the site from historic sites and the rural landscape in general is significantly limited by topography, distance, and the low-lying nature of the proposed facility.</li> <li>4. Noise impacts can be managed by equipment setbacks.</li> </ol> | <b>Factors Unfavorable:</b><br><br>None.                                                                                                                                                                                    |
| <b>Recommendation:</b> Staff recommends approval with conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |

**STAFF CONTACT:**  
**PLANNING COMMISSION:**  
**BOARD OF SUPERVISORS:**  
**PROJECT:**

Scott Clark, Senior Planner  
February 6, 2018  
TBD  
SP201700018 Rivanna Solar

**PETITION:**

PROJECT: SP201700018 Rivanna Solar Project

MAGISTERIAL DISTRICT: Scottsville

TAX MAP/PARCEL(S): 09400-00-00-017A0

LOCATION: 2631 Buck Island Rd

PROPOSAL: Solar-energy electrical generation facility, with solar panels occupying approximately 90 acres

PETITION: Solar energy system allowed by special use permit under section 10.2.2.58 of the Zoning Ordinance on a 149-acre parcel. No new dwelling units proposed.

ZONING: RA Rural Area - agricultural, forestal, and fishery uses; residential density (0.5 unit/acre in development lots)

OVERLAY DISTRICT(S): Entrance Corridor, Flood Hazard Overlay District

COMPREHENSIVE PLAN: Rural Area – preserve and protect agricultural, forestal, open space, and natural, historic and scenic resources; residential (0.5 unit/ acre in development lots)

**CHARACTER OF THE AREA:**

The site is in a rural landscape characterized by large farm and forest properties, with some small-lot residential development along the roads. The valley and large floodplain of Buck Island Creek lie just to the south of the site.

**PLANNING AND ZONING HISTORY:**

None.

Zoning code-enforcement staff recently received a complaint regarding the storage of inoperable vehicles on a portion of the property adjacent to Buck Island Road, outside the area of the proposed solar facility. At the time of report preparation, the process of removing those vehicles had already begun.

**DETAILS OF THE PROPOSAL:**

The site is a large rural property that was cleared in a commercial timbering operation several years ago. The cleared portions of the site have been re-planted with pines, which are still small. (See post-clearing aerial view in Attachment F). The proposed facility would include approximately 90 acres of passive solar voltaic arrays on the 149-acre property. The solar panels would lie horizontal on posts, approximately six feet above the ground, and would tilt from east to west through the day to orient the panels toward the sun. Electricity generated by the facility would be transferred to the adjacent Dominion Virginia Power substation for use in the general electrical grid. Areas where panels were installed would be surrounded by chain-link fences. Approximately seven inverters (contained in metal boxes approximately 14 feet long, 7.5 feet high, and 3.5 feet wide) and other electrical equipment would be located on the site. No buildings would be needed, and after construction, there would be no on-site staffing.

See Attachment C for the conceptual plan. Solar panels would be installed only within the development envelopes shown on the plan.

**COMMUNITY MEETING:**

The community meeting was held October 16, 2017 at East Rivanna Fire Station. Approximately twelve members of the public attended the meeting. The attendees asked about impacts of the use, such as traffic generation, water impacts, and visibility.

**ANALYSIS OF THE SPECIAL USE PERMIT REQUEST**

Section 33.8 of the Zoning Ordinance states that the Planning Commission and Board of Supervisors shall

reasonably consider the following factors when reviewing and acting upon an application for a special use permit:

**No substantial detriment. The proposed special use will not be a substantial detriment to adjacent lots.**

Impacts on adjacent lots would be limited to the visual impacts of the solar arrays and the noise generated by the inverters that are used to convert the direct current from the solar panels to alternating current that can be sent to the electrical grid.

The noise from the inverters is not intensely loud – the applicants state that the noise level would be 70 decibels at a distance of one meter (3.28 feet). According to Purdue University comparison table, this noise level, for someone standing at the source, would be comparable to “radio or TV audio” or a vacuum cleaner. The decibel level decreases with distance from the source. However, the noise would be continuous during daylight hours, while electricity is being produced. (No noise would be generated after dark.) In order to avoid any nuisance created by the ongoing noise, staff recommends a condition of approval requiring that the inverters on the site be set back at least 100 feet from all property lines. At 100 feet, the noise level should be reduced to approximately 40 decibels. This noise level is comparable to the interior of a library.

**Character of district unchanged. The character of the district will not be changed by the proposed special use.**

Solar facilities of this type are dependent on large areas of open land, which are typically only found in the Rural Areas. The operation of the facility would not affect the viability of agriculture, forestry, or conservation in the surrounding rural landscape. While the facility would change the visual appearance of the site, proposed landscaping would help to screen the facility from the road and establish a perimeter that is more consistent with the surrounding landscape.

**Harmony. The proposed special use will be in harmony with the purpose and intent of this chapter.**

The purposes of the RA zoning district include:

*Preservation of agricultural and forestal lands and activities;*

While the land used for the solar facility could not be simultaneously be used for agriculture or forestry, the land could return to those uses once the facility was no longer needed. Staff has recommended conditions of approval detailing requirements for a “decommissioning plan” that would require the operator and the landowner to remove all facilities and equipment from the site at the end of the facility’s lifespan. Removal of both above-ground facilities and below-ground panel supports would ensure that the land could return to agricultural or silvicultural use.

*Water supply protection;*

The property is not located in a Water Resource Protection Area, and so will not impact local water supplies.

*Limited service delivery to the rural areas; and*

After construction, the site will not be occupied, except for occasional maintenance visits. Lack of on-site office or industrial facilities means that there will very rarely be any need for emergency services, and no need for drinking-water supply or septic fields.

*Conservation of natural, scenic, and historic resources.*

The landscaping and screening discussed below are intended to reduce visual impacts of the facility on scenic resources. Natural resources would be protected by preventing development on critical slopes or in stream buffers (as show in Attachment C). The site could be returned to agricultural or silvicultural use after decommissioning of the solar facility.

**...with the uses permitted by right in the district**

Uses permitted by right in the RA zoning district include agriculture, forestry, and residential uses, among others. The impacts of the proposed solar-energy facility are mainly limited to the site, and would not limit the viability of agriculture, forestry, or other rural uses in the surrounding area.

**...with the regulations provided in section 5 as applicable,**

There are no supplemental regulations provided in section 5 for this use category. Lessons learned from this review, which is the first for this recently-permitted use category, may be developed into supplemental regulations at a later date.

**...and with the public health, safety and general welfare.**

Traffic generation for the site would be mostly limited to the construction phase. The applicants have stated that they will comply with Virginia Department of Transportation (VDOT) requirements for temporary construction uses during installation of the facility (estimated to take about 6 months). After the installation of the solar arrays, the only traffic coming to the site would be for occasional maintenance. VDOT has reviewed the proposal and found it to be “generally acceptable.”

**Consistency with the Comprehensive Plan. The use will be consistent with the Comprehensive Plan.**

**Rural Areas Plan**

The Rural Areas section of the Comprehensive Plan focuses on protection of agricultural and silvicultural uses and activities, and on protection of natural and cultural resources. This proposed use would occupy approximately 90 acres of recently-clearcut forest land with an energy-generation use. However, unlike other utility uses like power plants, a solar-energy facility does not permanently remove its site from productive agricultural or silvicultural use.

A facility of this type is expected to have a lifetime of about 30 years. After the facility is no longer needed, the solar panels and all of the supporting infrastructure can be removed from the site, and the land can be used for agriculture or forestry again. Staff has recommended several conditions of approval regarding the development and implementation of a “decommissioning plan” that would require the operator and landowner to remove all equipment and infrastructure from the site and rehabilitate it for rural uses after the sola facility goes out of use. Elements of the decommissioning plan include:

- Removal of above-ground equipment and facilities, including fencing
- Removal of below-ground facilities (bases for supporting poles, some wiring) to a depth of 36 inches or to bedrock, whichever is less
- Recompecting and reseeding soil after equipment removal

**Visual Character**

The site is located on Route 53, which is a major access route to Monticello and James Monroe’s Highland, and the facility could be viewed by travelers along that route if not appropriately screened. Maintaining the rural visual character of the road is appropriate under the Comprehensive Plan. The applicants have worked with staff

and the Architectural Review Board (ARB) to develop the landscaping plan shown on Sheet 2 of the Conceptual Plan (Attachment C).

The ARB reviewed this proposal according to the Entrance Corridor Design Guidelines, focusing on those guidelines pertaining to the treatment of equipment. The ARB recognized that the equipment guidelines, which state that visibility of equipment should be eliminated, were written to address commercial and residential developments with small-scale mechanical equipment – not large-scale solar panel installations. Consequently, the ARB provided two possible recommendations (Options A and B). (See Attachment D for the ARB action letter.)

Option A would screen the most visible portions of the site, but allow intermittent views of the site behind adjacent lots. Option B would attempt to eliminate all visibility of equipment on the site from Route 53. The latter option would require buffer plantings as currently shown along the edge of Route 53 to be extended for approximately 2,800 feet of the edge of the property that lies behind other parcels that abut Route 53. As noted in Attachment D, “[t]o eliminate all visibility, a significant amount of additional landscaping (and/or major changes to grading and/or size of the solar field) would need to be employed. It is likely that these alternatives are impractical.”

The current conceptual plan (Attachment C) shows landscaping and screening that are in accord with the ARB’s recommended option A, which screens the most visible portion of the site (especially the portion directly adjacent to Route 53) without attempting to eliminate all possible views of the site through the existing vegetation on parcels that lie between the site and Route 53. Staff believes that this level of screening is appropriate for protecting the visual character of Route 53.

In addition, the landowner and the applicants have proposed to place a tree-protection agreement on the rearmost 475 feet of parcel 93-47E (see location marked on Attachment B). Although this area was mostly clearcut along with parcel 94-17A, it has been replanted with pines, and a small area of mature trees remains. This area does not effectively screen the solar-facility site at present, but screening will increase to some extent as the planted pines grow. The proposed agreement, referred to in condition 4 below, would prevent both the owner of 93-47E and the solar-facility operator from removing trees in the agreement area.

Shortly before the preparation of this report, the Board of Supervisors directed staff to prepare a Resolution of Intent to amend the zoning ordinance to remove some streets from the Entrance Corridor Overlay District due to a conflict between the county and state codes. Route 53 is one of those streets. Therefore, the ARB’s comments on this application should be considered advisory.

Despite this, maintaining the rural visual character of the County’s roads is appropriate under the Comprehensive Plan. Route 53 has a strong rural, scenic character, and it is a major access route to Monticello, James Monroe’s Highland, and other historic sites. The proposed solar facility, if not appropriately screened, could negatively impact the view seen by residents and tourists traveling along the route. Consequently, the ARB’s recommendations are still pertinent.

### Historic Resources

The site lies within 4.1 miles of Monticello (which is 492 feet above the proposed site) and 3.2 miles of James Monroe’s Highland (which is 248 feet above the proposed site). Lines of sight exist between certain open areas of these historic sites and the proposed solar-energy facility. However, the limited height of the solar panels and the distances involved mean that the facility will not stand out from the landscape as a tall structure would. The applicants have supplied aerial photographs of existing solar facilities taken from similar viewing distances and angles, and those existing facilities are not prominently visible. (The applicant can also show these photographs at the public hearing). Also, the applicants have provided a viewshed-analysis map that shows estimated areas from which the proposed facility would be visible (Attachment E). Given the distance from the site to the

significant areas of theoretical visibility, staff does not believe that the facility would be prominently visible in the landscape.

Environmental Sustainability

The Comprehensive Plan includes the Sustainability Council’s 1998 Sustainability Accords as important guiding principles. Those Accords state that the community should “[p]romote the conservation and efficient use of energy resources.” Further, the Natural Resources chapter of the plan states that the County should “continue to demonstrate leadership in energy and carbon reductions at the local level.” That chapter also refers to the report of the Local Climate Action Planning Process, which recommended that the community “promote wider awareness and adoption of cleaner sources of electrical energy (e.g., solar photovoltaic, co-generation, biomass, wind).

The proposed facility would be in accord with these policies, as it would supply energy from one of those “cleaner sources.”

Review for Compliance with the Comprehensive Plan

As an electrical generation use that will provide energy to a public utility (Dominion Virginia Power), this proposal is subject to a Compliance with the Comprehensive Plan Review as required by the Code of Virginia (Section 15.2-2232). A compliance review considers whether the general location, character, and extent of a proposed public facility are in substantial accord with the adopted Comprehensive Plan. It is reviewed by the Planning Commission, and the Commission’s findings are forwarded to the Board of Supervisors for their information. No additional action is required of the Board.

For the reasons stated above, staff finds that the proposed use is in substantial accord with the Comprehensive Plan. Staff recommends below that the Commission formally make the finding of substantial accord, in addition to the recommended action on the special use permit proposal itself.

**SUMMARY:**

Staff has identified the following factors favorable to this proposal:

1. The use is in accord with Comprehensive Plan policies for the Rural Areas and for encouraging use of sustainable energy sources.
2. The site can be returned to agricultural or silvicultural uses, unlike more permanent forms of commercial or utility development.
3. The proposed landscaping and screening effectively reduce the visibility of the site from Route 53, and long-distance visibility of the site from historic sites and the rural landscape in general is significantly limited by topography, distance, and the low-lying nature of the proposed facility.
4. Noise impacts can be managed by equipment setbacks.

Staff has identified no factors unfavorable to this proposal.

**RECOMMENDED ACTION:**

Based on the findings contained in this staff report, staff recommends that the Planning Commission find the development of the proposed solar energy facility to be in substantial accord with the Comprehensive Plan.

Staff also recommends approval of SP201700018 Rivanna Solar with the following conditions:

1. Development and use shall be in general accord with the following revised plans prepared by Draper Aden Associates titled “Conceptual Layout, Rivanna Solar Farm” dated January 5, 2018 (hereinafter “Concept Plan”) as determined by the Director of Planning and the Zoning Administrator. To be in general accord with the Concept Plan, development and use shall reflect the following major elements as shown on the Concept Plan:
  - a. Location of solar development envelopes;
  - b. Location of access/entrance improvements;
  - c. Location of equipment yard; and
  - d. Retention of wooded vegetation in stream buffers

Minor modifications, with the approval of the Zoning Administrator and the Director of Planning, to the Concept Plan that do not otherwise conflict with the elements listed above may be made to ensure compliance with the Zoning Ordinance.

2. Landscaping and screening shall be substantially as shown on the Conceptual Plan, and shall be planted as shown on a landscaping plan approved by the Director of Planning or his or her designee.
3. All inverters shall be set back at least one hundred (100) feet from property lines and rights-of-way.
4. The applicant shall submit a tree-protection agreement between the applicant and the landowner of Tax Map Parcel 09300-00-00-047E0 with the building permit application. This agreement shall prohibit the removal of shrubs or trees (except for non-native or invasive species) by either party within 475 feet of the rear boundary of this parcel until decommissioning of the solar energy facility on Tax Map Parcel 09400-00-00-017A0 is complete. The tree-protection agreement shall be subject to review and approval by the County Attorney, and shall be in a form and style so that it may be recorded in the office of the Circuit Court of the County of Albemarle. Prior to issuance of a building permit, the tree-protection agreement shall be recorded by the applicant in the office of the Circuit Court of the County of Albemarle.
5. All outdoor lighting shall be only full cut-off fixtures and shielded to reflect light away from all abutting properties.
6. The applicant shall submit a decommissioning and site rehabilitation plan (hereinafter “Decommissioning Plan”) with the building permit application that shall include the following items:
  - a. A description of any agreement (e.g. lease) with all landowners regarding decommissioning;
  - b. The identification of the party currently responsible for decommissioning;
  - c. The types of panels and material specifications being utilized at the site;
  - d. Standard procedures for removal of facilities and site rehabilitation, including recompacting and reseedling;
  - e. An estimate of all costs for the removal and disposal of solar panels, structures, cabling, electrical components, roads, fencing, and any other associated facilities above ground or up to thirty-six (36) inches below grade or down to bedrock, whichever is less; and
  - f. An estimate of all costs associated with rehabilitation of the site.

The Decommissioning Plan shall be prepared by a third-party engineer and must be signed off by the party responsible for decommissioning, and all landowners of the property included in the project. The Decommissioning Plan shall be subject to review and approval by the County Attorney and County Engineer, and shall be in a form and style so that it may be recorded in the office of the Circuit Court of the County of Albemarle.

7. Prior to issuance of a building permit, the Decommissioning Plan shall be recorded by the applicant in the office of the Circuit Court of the County of Albemarle.

8. The Decommissioning Plan and estimated costs shall be updated every five years, upon change of ownership of either the property or the project's owner, or upon written request from the Zoning Administrator. Any changes or updates to the Decommissioning Plan shall be recorded in the office of the Circuit Court of the County of Albemarle.
9. The Zoning Administrator shall be notified in writing within 30 days of the abandonment or discontinuance of the use.
10. All physical improvements, materials, and equipment (including fencing) related to solar energy generation shall be removed from above ground and from below ground down to bedrock, or to a depth of at least 36 inches below the ground surface, whichever is less, and the site shall be rehabilitated as described in the Decommissioning Plan, within 180 days of the abandonment or discontinuance of the use.
11. If the use, structure, or activity for which this special use permit is issued is not commenced by [date two years from Board approval], the permit shall be deemed abandoned and the authority granted thereunder shall thereupon terminate.

### **Motions:**

#### **Compliance with the Comprehensive Plan Review:**

- A. **Should the Planning Commission choose to find this proposal to be in substantial accord with the Comprehensive Plan:**

**I move to find the facility proposed in SP201700018 Rivanna Solar to be in substantial compliance with Comprehensive Plan.**

- B. **Should the Planning Commission choose to not find this proposal to be in substantial accord with the Comprehensive Plan::**

**I move to find the facility proposed in SP201700018 Rivanna Solar not to be in substantial compliance with Comprehensive Plan..** *(Planning Commission needs to give a reason for the finding.)*

#### **Special Use Permit:**

- C. **Should the Planning Commission choose to recommend approval of this special use permit:**

**I move to recommend approval of SP201700018 Rivanna Solar with the conditions outlined in the staff report.**

- D. **Should the Planning Commission choose to recommend denial of this special use permit:**

**I move to recommend denial of SP201700018 Rivanna Solar.** *(Planning Commission needs to give a reason for denial)*

### **ATTACHMENTS**

Attachment A – Area Map

Attachment B – Site Map

Attachment C – Conceptual Plan

- Sheet 1: Conceptual Plan for Site
- Sheet 2: Landscaping and Screening

Attachment D – ARB Action Letter

Attachment E – Viewshed Analysis Map

Attachment F – Aerial View of Property