

**SUSSEX COUNTY
BOARD OF SUPERVISORS/PLANNING COMMISSION
JOINT MEETING
Monday, September 13, 2021 – 6:00 p.m.
General District Courtroom – Sussex Judicial Center
15098 Courthouse Road, Sussex VA 23884**

AGENDA

- Item 1. Call to Order/Determine Quorum
 - (a) Chairman, Planning Commission
 - (b) Chairman, Board of Supervisors

- Item 2. The Invocation

- Item 3. The Pledge of Allegiance

- Item 4. Agenda Amendment(s)

- Item 5. Approval of Agenda
 - (a) Planning Commission
 - (b) Board of Supervisors

- Item 6. Solar Farm Ordinance
 - (a) Planning Commission
 - (b) Board of Supervisors

- Item 7. Citizens' Comments

- Item 8. Adjournment
 - (a) Planning Commission
 - (b) Board of Supervisors



TO: Planning Commission and Board of Supervisors, Sussex County, Virginia

FROM: Darren Coffey, AICP

DATE: August 30, 2021

RE: Comprehensive Plan and Zoning Ordinance Amendments Regarding Solar Energy and Battery Storage Facilities

Sussex County staff requested a consultant review the Comprehensive Plan and Zoning Ordinance with consideration to additional amendments as may be appropriate regarding solar energy and battery storage facilities. The County is in the process of reviewing solar energy facility applications and, as a result, staff has gained a better understanding of the land use issues related to these uses.

Sussex County has approved four solar facilities (one with battery storage) and one battery storage facility adjacent to a substation. The County has been contacted by several additional developers regarding potential applications for additional facilities.

Solar facilities are large scale industrial/commercial facilities that can take up agricultural, industrial, or commercial land for at least twenty years or more. Battery energy storage facilities are also an industrial land use but require more safety requirements than solar facilities. Any proposed location of these facilities needs to be carefully weighed against other potential uses of the same property.

Virginia has seen a dramatic increase in its installed solar capacity reaching 2,500 MW installed by 2021. The Virginia Energy Plan (October 2, 2018) calls for 30% of energy to be generated by renewable sources by 2030 and 100% by carbon free sources by 2040. Dominion Energy has committed to solar as necessary for clean energy growth. They project they could add at least 5,200 megawatts of solar in the state over the next 25 years (to 2045) to meet customers' energy needs.

This accelerated development of renewable energy will increase the duties of local governments and state agencies tasked with land use, permitting, and environmental decision making. Local governments must determine if solar facility applications are in accord with their Comprehensive Plan (a "2232 review") and in compliance with their land use ordinances.

In Virginia, notable solar facilities laws (based on the facility size in MW_{AC}) are:

- Any size needs a 2232 review (§ 15.2-2232).
- Any size can have a CUP condition for payment (§ 15.2-2288.8).
- ≤5MW are exempt from M&T tax (§ 58.1-3660).
- >5MW and <150 MW qualify for the state M&T step down tax exemption (§ 58.1-3660).

- >5MW can have a siting agreement (§ 15.2-2316.7). An approved siting agreement fulfills the requirement for a 2232 review (§ 15.2-2232).
- >5MW can have a revenue share (§ 58.1-2636).
- >5 MW to up to 150 use DEQ's PBR (§ 10.1-1197.5 to 10.1-1197.11 and 9VAC15-60).
- >25 MW facilities are taxed for M&T at real estate rate (§ 58.1-2606).
- >150 MW or including battery storage use SCC's permitting process (§ 10.1-1197.5 to 10.1-1197.11 and 20VAC5-302).

A number of Comprehensive Plan and Zoning Ordinance amendments were recommended for discussion by the Planning Commission and Board of Supervisors to bring greater clarity and specificity for how the County reviews and potentially authorizes solar energy facilities.

Comprehensive Plan

Existing Plan

The Comprehensive Plan 2004-2005 update was adopted on October 20, 2005 and updated for solar facilities on April 2, 2019.

Chapter II: Concerns and Aspirations, section B. Issues and Existing and Emerging Conditions (p.II-12), states:

23. Utility-scale Solar Facilities

As used in this Comprehensive Plan, a utility-scale solar facility is a facility that generates electricity from sunlight which will be used to provide electricity to a utility provider or a large private user with a generating capacity in excess of one megawatt (1 MW). Sussex's abundant agricultural and forest land combined with its electrical infrastructure and transportation system appear to be attractive to the solar industry. These facilities are an industrial scale land use that occupy significant acreage. Many utility-scale solar facilities are located on agricultural or forested land that may have had other future land use potential or land use designations.

The County will consider solar facilities in districts zoned agricultural or industrial with preference for brownfields and County-owned capped landfills. The following site features should be addressed to mitigate the potential negative impacts of utility-scale solar facilities on County land use patterns as part of the evaluation of a Conditional Use Permit (CUP) application:

- the total size shall be larger than two (2) acres but less than 1,500 contiguous acres with no more than 65% PV panel coverage;
- located outside planning areas or community hubs;
- located outside forested areas to preserve forest resources;
- further than three (3) miles from any village or town boundary;
- further than two (2) miles from other existing or permitted solar facilities; and
- proximity to residences; historic, cultural, recreational, or environmentally-sensitive areas; and scenic viewsheds.

In 2019, there was also a recommendation to work with the Crater Planning District Commission or another regional planning entity to identify, catalogue, and map relevant features, including:

- Major electrical facilities (i.e., transmission lines, transfer stations, generation facilities, etc.),
- Brownfield sites and County-owned capped landfills, and
- Prime Farmland including areas of prime farmland or farmlands of statewide importance as defined by the USDA and Commonwealth of Virginia, respectively.

Analysis

This language describes the specific criteria or siting parameters for solar facilities, energy generation stations, or other types of uses. However, the County has indicated a desire to consider changing some of the parameters.

It does not address battery storage facilities.

Recommended Amendments

Short Term

- Modify the Comprehensive Plan as follows:

Under Chapter II: Concerns and Aspirations, section B. Issues and Existing and Emerging Conditions (p.II-12), revise the text as noted in red:

23. Utility-scale Solar Facilities

As used in this Comprehensive Plan, a utility-scale solar facility is a facility that generates electricity from sunlight ~~which will be used to provide electricity to a utility provider or a large private user~~ with a generating capacity in excess of one megawatt **alternating current (1 MW_{AC})**. [DN1]Sussex's abundant agricultural and forest land combined with its electrical infrastructure and transportation system appear to be attractive to the solar industry. These facilities are an industrial scale land use that occupy significant acreage. Many utility-scale solar facilities are located on agricultural or forested land that may have had other future land use potential or land use designations.

The County will consider utility-scale solar facilities **as a primary use** in districts zoned agricultural or industrial with preference for brownfields and County-owned capped landfills. The following site features should be addressed to mitigate the potential negative impacts of utility-scale solar facilities on County land use patterns as part of the evaluation of a Conditional Use Permit (CUP) application:

- the total size shall be more than **100** but less than **5,000** ~~1,500~~ **contiguous acres;**
- **large contiguous projects are preferred over small decentralized or large discontinuous projects to prevent land fragmentation;**
- **laid out appropriately on the project parcels;**

- **laid out** with no more than 65% equipment and building coverage;
- located outside planning areas or community hubs;
- located outside forested areas to preserve forest resources;
- **located outside prime agricultural land;**
- further than three (3) miles from any village or town boundary;
- further than two (2) miles from other existing or permitted solar facilities; and
- **located to minimize negative impacts** ~~proximity~~ to residences; historic, cultural, recreational, or environmentally-sensitive areas; and scenic viewsheds.

Battery energy storage facilities are also an industrial land use but require more safety requirements than solar facilities. The County will consider battery facilities as:

- an accessory use to utility-scale solar facilities, other energy generation facilities, or substations; or
- a primary use on a parcel contiguous to utility-scale solar facilities, other energy generation facilities, and substations.

Long Term

- Identify, catalogue, and map the items recommended in 2019.
- Identify, catalogue, and map these additional features:
 - planning areas or community hubs;
 - forested areas;
 - prime agricultural land;
 - a three (3) mile buffer around any village or town boundary;
 - a two (2) mile buffer around any existing or permitted solar facilities; and
 - known residences; historic, cultural, recreational, or environmentally-sensitive areas; and scenic viewsheds.

Zoning Ordinance

Existing Ordinance

The Zoning Ordinance was revised November 15, 2007 and adopted on January 1, 2008. The ordinance was updated for solar facilities on April 2, 2019 and August 4, 2020.

ARTICLE I. GENERAL INFORMATION, Sec. 16-1 Definitions, was updated to include 16 new definitions relevant to solar facilities.

ARTICLE XII. SITE PLAN REQUIREMENTS, Sec. 16-202 When required, was updated to include “utility-scale solar facilities.”

The new ARTICLE XXIII. SOLAR FACILITIES was added and updated to specifically address solar facilities.

The County has chosen not to adopt a solar revenue share ordinance (§ 15.2-2316.7).

Analysis

This language describes the specific criteria or siting parameters for solar facilities. However, the County has indicated a desire to consider changing some of the parameters.

It does not address battery storage facilities.

Recommended Amendments

- Under ARTICLE I. GENERAL INFORMATION, Sec. 16-1 Definitions, add the following definitions:

“2232 review”

The review required by the *Code of Virginia* (§15.2-2232) for features not shown on the adopted master plan, including public utility facilities.

“Acreage coverage”

The total acres covered by PV pods, buildings, inverters, a substation, battery storage, ancillary equipment, and fencing around these items but excluding wildlife corridors, mandated setbacks, wetlands, and other avoided natural or cultural features outside of the security fencing on the project site.

“Battery Energy Storage Facilities (battery facilities)”

One or more battery cells for storing electrical energy stored in a Battery Energy Storage System (“BESS”) with a Battery Management System (“BMS”). Facilities are generally used to supplement grid storage capacity. Battery facilities may be permitted as:

- an accessory use to utility-scale solar facilities, other energy generation facilities, or substations; or
- a primary use on a parcel contiguous to utility-scale solar facilities, other energy generation facilities, and substations.

“Disturbance zone”

The area within the site directly impacted by construction and operation of the facility.

“Electric Power Plant”

A facility designed and operated for the generation and distribution of electricity for the primary purpose of selling electricity generated to the electric power grid, including facilities which use fossil fuels, solar energy, hydroelectric energy, geothermal energy, biomass energy or wind energy as a resource. This definition does not apply to on-site generation equipment when such use is an accessory use.

“PV pod”

Contiguous rows of solar panels, including the space between rows, fenced together in a group. A solar facility is typically comprised of multiple pods.

“Reclamation”

The employment, during and after an operation, of procedures reasonably designed to minimize as much as practicable the disruption from an operation and provide for the establishment of plant cover, stabilization of soil, protection of water resources, or other measures appropriate to the subsequent beneficial use of the affected lands. Reclamation shall comply with all State and Federal regulations related to air quality, water quality and water law, and stormwater.

“Siting Agreement”

An agreement entered into between the Applicant and the County as defined in Va. Code § 15.2-2316 et seq.

“Solar energy generating facilities (solar facilities)”

Photovoltaic devices, inverters, a substation, ancillary equipment, buildings, security fencing, access roads, setbacks, and screening on the site.

“Solar facility, community”

A facility that generates electricity from sunlight that was not constructed by an investor-owned utility that will be part of an investor-owned utility's community solar pilot program. A community solar facility does not exceed two megawatts (2 MW) alternating current. This facility type is a subset of either rooftop, small-scale, medium-scale, or utility-scale solar facility.

“Solar facility, floating”

A floating facility that generates electricity from sunlight. This facility type is a subset of either small-scale, medium-scale, or utility-scale solar facility.

“Solar facility, multi-family shared”

A ground-mounted facility that generates electricity from sunlight that was not constructed by an investor-owned utility and that will be part of an investor-owned utility's multi-family shared solar pilot program. A multi-family shared solar facility does not exceed three megawatts (3 MW) alternating current at any single location or that does not exceed five megawatts (5 MW) alternating current at contiguous locations owned by the same entity or affiliated entities, serves at least three subscribers, is connected to the electric distribution grid, and is located on a parcel of land on the premises of the multi-family utility customer or adjacent thereto.

“Solar facility, Power Purchase Agreement (PPA)”

A facility that generates electricity from sunlight that was not constructed by an investor-owned utility and that will be part of an investor-owned utility's power purchase agreement solar pilot program. A facility has a capacity of no less than 50 kilowatts and no more than three megawatts (3 MW) alternating current. This facility type is a subset of either rooftop, small-scale, medium-scale, or utility-scale solar facility.

“Solar facility, rooftop”

A rooftop PV or integrated PV facility that generates electricity from sunlight as an accessory use.

“Solar facility, shared”

A facility that generates electricity from sunlight that was not constructed by an investor-owned utility that will be part of an investor-owned utility's shared solar pilot program. A shared solar facility does not exceed five megawatts (5 MW) alternating current, serves at least three subscribers, has at least 40 percent of its capacity subscribed by customers with subscriptions of 25 kilowatts or less, is connected to the electric distribution grid serving the public, and is located on a single parcel. This facility type is a subset of either rooftop, small-scale, medium-scale, or utility-scale solar facility.

- Under ARTICLE I. GENERAL INFORMATION, Sec. 16-1 Definitions, replace the following definitions with this text:

“Decommissioning and Reclamation Plan”

A plan to disconnect, remove, and properly dispose of equipment, facilities, or devices and reclaim the site.

“Solar Facility, Medium-Scale”

A ground-mounted facility that generates electricity from sunlight on a facility area between one to ten acres or having a rated capacity of between 250 kW to one megawatt (MW) alternating current (excluding Solar Facility, Multi-Family Shared). Facilities are generally used to reduce onsite consumption of utility power for agricultural, commercial, and industrial applications.

“Solar Facility, Small-Scale”

A ground-mounted facility that generates electricity from sunlight on a facility area of less than one acre or having a rated capacity of less than 250 kW alternating current (excluding Solar Facility, Multi-Family Shared). Facilities are generally used to reduce onsite consumption of utility power for residential, agricultural, commercial, and industrial applications.

“Solar Facility, Utility-Scale”

A ground-mounted facility that generates electricity from sunlight on a facility area of more than ten acres. This size is approximately equivalent to a rated capacity of about one megawatt (MW) alternating current or greater (excluding Solar Facility, Multi-Family Shared). Facilities are generally used to provide electricity to a utility provider. These facilities typically include inverters, a substation, a switchyard, and a generator lead line (gen-tie line) to interconnect to a grid transmission line.

- Under ARTICLE XII. SITE PLAN REQUIREMENTS, Sec. 16-202 When required, add a new item at the end of the list:

8. Battery energy storage facilities.

- Update ARTICLE XXIII. SOLAR FACILITIES as indicated in the attached file.

Conclusion

These amendments to the Comprehensive Plan and Zoning Ordinance, if approved by the Planning Commission and the Board of Supervisors, provide further guidance to the energy industry and the County in how to prepare and evaluate future solar energy and battery storage applications.

cc: Richard Douglas, County Administrator
Beverly Walkup, Director of Community Development
Jeff Gore, County Attorney

encl: Zoning Ordinance, ARTICLE XXIII. SOLAR AND BATTERY FACILITIES

ARTICLE XXIII

SOLAR AND BATTERY
FACILITIES

Sec. 16-401 Statement of intent

The purpose of this section is to establish requirements for construction and operation of solar and battery facilities and to provide standards for the placement, design, construction, monitoring, modification, and removal of solar facilities; address public safety, minimize impacts on scenic, natural, and historic resources; and provide adequate financial assurance for decommissioning.

Sec. 16-402 Applicability

This article shall apply to all solar and battery facilities constructed after the effective date of this article, including any physical modifications to any existing solar facilities that materially alter the type, configuration, or size of such facilities or other equipment.

Sec. 16-403 Zoning districts

~~(a)~~ Rooftop and ~~S~~small-scale solar facilities may be installed by-right in all zoning districts as an accessory use to provide electricity to individual structures; provided a site plan (as applicable) has been submitted to the zoning administrator for review and approval; all Federal, State, and Local regulations have been followed; and the system is located upon the property or structure being served. Rooftop facilities on commercial or industrial buildings shall also submit an engineering study to the Building Official Office for review and approval.

~~(b)~~(a) _____

~~(e)~~(b) _____ Medium-scale solar facilities may be installed by-right as an accessory use in the Industrial Districts to provide electricity for use on-site for commercial and industrial applications; provided a site plan has been submitted to the zoning administrator for review and approval; all Federal, State and Local regulations have been followed; the system is located on the property or structure to be served; and the system is in accord with the underlying zoning requirements of the districts.

~~(d)~~(c) _____ Medium and utility-scale ~~s~~Solar facilities shall be permitted in zoning districts as follows:

Solar Facility	General Agricultural, A-1	Limited Industrial, I-1	General Industrial, I-2	<u>Residential Multi-Family, R-1</u>
<u>Multi-family shared</u>	CUP	CUP	CUP	CUP
<u>Medium-scale</u>	CUP	By-right	By-right	-
<u>Utility-scale</u>	CUP	CUP	CUP	-

~~(d)~~ Battery facilities shall be subject to a Conditional Use Permit and permitted as follows:

1. An accessory use to utility-scale solar facilities, other energy generation facilities, or substations; or
2. A primary use on a parcel contiguous to utility-scale solar facilities, other energy generation facilities, and substations.

<u>Battery Facility</u>	<u>General Agricultural, A-1</u>	<u>Limited Industrial, I-1</u>	<u>General Industrial, I-2</u>	<u>Residential Multi-Family, R-1</u>
<i>Primary use</i>	<u>CUP</u>	<u>CUP</u>	<u>CUP</u>	-
<i>Accessory use</i>	<u>CUP</u>	<u>CUP</u>	<u>CUP</u>	<u>CUP</u>

~~(e)~~ Solar facilities should locate on brownfields, County-owned capped landfills, or near existing industrial uses, where feasible.

(e)

Sec. 16-404 Conditional Use Permit process

- (a) Pre-application meeting. A pre-application meeting shall be held with the zoning administrator to discuss the location, scale, and nature of the proposed use, what will be expected during that process, and the potential for a siting agreement.
- (b) Neighborhood meeting. A public meeting shall be held prior to the public hearing with the Planning Commission to give the community an opportunity to hear from the applicant and ask questions regarding the proposed project.
 1. The applicant shall inform the Zoning Administrator's Office and adjacent property owners in writing of the date, time, and location of the meeting, at least seven but no more than 14 days, in advance of the meeting date.
 2. The date, time, and location of the meeting shall be advertised in the County's newspaper of record by the applicant, at least seven but no more than 14 days, in advance of the meeting date.
 3. The meeting shall be held within the County, at a location open to the general public with adequate parking and seating facilities which may accommodate persons with disabilities.
 4. The meeting shall give members of the public the opportunity to review application materials, ask questions of the applicant, and provide feedback.
 5. The applicant shall provide to the Zoning Administrator a summary of any input received from members of the public at the meeting.

(c) Submittal of the permit application and fees.

1. There is a combined application for the 2232 review and CUP permit.

~~(e)2.~~ There are separate fees for the 2232 review and CUP permit(DN1).

~~(d) Comprehensive Plan~~ 2232 review. The *Code of Virginia* §15.2-2232 requires a review of public utility facility proposals by the Planning Commission to determine if their general or approximate location, character, and extent are substantially in accord with the Comprehensive Plan or part thereof.

~~1. The Planning Commission must determine~~ consider, at a public hearing ~~meeting~~, ~~that whether the project is in substantial accord with the Comprehensive Plan. Failure of the Planning Commission to act within 60 days of a submission, unless the time is extended by the Board of Supervisors, shall be deemed approval.~~

~~a. If the Planning Commission approves the 2232 review, the project shall be recommended for a public hearing for the CUP permit.~~

~~b. If the Planning Commission does not approve the 2232 review, the applicant may appeal the decision to the Board of Supervisors within 10 days after the decision of the Planning Commission. The appeal shall be by written petition to the Board of Supervisors setting forth the reasons for the appeal. The appeal shall be heard and determined within 60 days from its filing unless the time is extended by the applicant. A majority vote of the Board of Supervisors shall overrule the Planning Commission.~~

~~2. If the Board of Supervisors agree to negotiate a Siting Agreement in accordance with Code of Virginia § 15.2-2316.8, the 2232 review process may be delayed until negotiations are complete. If the siting agreement is approved, it fulfills the requirement for a 2232 review.~~

~~(d) ——— If the Planning Commission does not reach this determination, the applicant may appeal the decision to the Board of Supervisors in accordance with state code.~~

3. Consideration of the Conditional Use Permit by the Planning Commission. The Planning Commission must consider the Conditional Use Permit application at a public hearing. The Planning Commission has three options:

~~1. Recommend approval of the application to the Board of Supervisors with written reasons for its decision.~~

~~2. Recommend denial of the application to the Board of Supervisors with written reasons for its decision.~~

~~3. Defer the application for further discussion and consideration.~~

~~(e) — If the Planning Commission does not recommend the project to the Board of Supervisors for a permit, the applicant may appeal the decision to the Board of Supervisors.~~

4. Consideration of the Conditional Use Permit by the Board of Supervisors. —The Board of Supervisors must consider the Conditional Use Permit application at a public hearing. The Board of Supervisors has three options:

~~1. Approve the application with written reasons for its decision.~~

~~2. Deny the application with written reasons for its decision.~~

~~(+)3. Defer the application for further discussion and consideration.~~

(a)5. Siting agreement. The process may also include negotiating a Siting Agreement in accordance with Code of Virginia § 15.2-2316.8. The Board of Supervisors must consider the

Siting Agreement at a public hearing. An approved siting agreement fulfills the requirement for a 2232 review (§ 15.2-2232).

Sec. 16-405 Conditional Use Permit application

(a) Application packet including:

- ~~1.~~ Completed County application form and checklist.
- ~~2.~~ Documents demonstrating the ownership of the subject parcel(s).
- ~~3.~~ Proof that the applicant has authorization to act upon the owner's behalf.
- ~~3.~~ 4. Identification of the intended utility company who will interconnect to the facility.
- ~~4.~~ 5. List of all adjacent property owners, their tax map numbers, and addresses.
- ~~5.~~ 6. A description of the current use and physical characteristics of the subject parcels.
- ~~6.~~ 7. A description of the existing uses of nearby properties.
- ~~7.~~ 8. A narrative identifying the applicant, owner, or operator, and describing the proposed solar facility project, including an overview of the project and its location, approximate rated capacity of the solar facility project, the approximate number of panels, representative types, expected footprint of solar equipment to be constructed, and type and location of interconnection to electrical grid.
- ~~8.~~ 9. Aerial imagery which shows the proposed location of the solar facility, fenced area, driveways, and interconnection to electrical grid with the closest distance to all adjacent property lines and dwellings along with main points of ingress/egress.
- ~~9.~~ 10. Payment of the application fee and any additional review costs, advertising, or other required staff time.

(b) Concept plan. A concept plan prepared by an engineer with a professional engineering license in the Commonwealth of Virginia, that shall include the following:

- ~~1.~~ A description of project title information including tax parcel number, zoning, owner names, address, and phone numbers of the subject parcels.
- ~~2.~~ Neighboring property information including tax parcel number, zoning, and owner names.
- ~~3.~~ Property lines and setback lines. Existing wetlands, waterways, and floodplains.
- ~~2.~~ Locations and types of soils on site.
- ~~4.~~ Areas of steep slopes.
- ~~4.~~ 6. Existing and proposed buildings and structures including preliminary locations of the proposed solar panels and related equipment.
- ~~2.~~ 7. Existing and proposed points of ingress/egress including access roads, drives, turnout locations, and parking.
- ~~3.~~ 8. Location of substations, electrical cabling from the solar facility systems to the substations, ancillary equipment, buildings, and structures including those within any applicable setback.
- ~~4.~~ Fencing or other methods of ensuring public safety.
- ~~9.~~ Areas of steep slopes.
- ~~10.~~ Locations of topsoil to be removed and preserved.
- ~~11.~~ Locations of stormwater drainage and erosion and sediment control features.
- ~~12.~~ Setbacks.
- ~~5.~~ 13. The location and nature of proposed buffers and screening elements, including vegetative and constructed buffers.

(c) An estimated construction schedule.

~~(d)~~ Environmental inventory and impact statement regarding any site and viewshed impacts,

including direct and indirect impacts to national and state forests, national or state parks, wildlife management areas, conservation easements, recreational areas, or any known historic or cultural resources within three (3) miles of the proposed project using information provided by the Virginia Department of Environmental Quality (DEQ), the Virginia Department of Conservation (DCR), Virginia Department of Wildlife Resources (DWR), Virginia Department of Historic Resources (DHR), and/or a report prepared by a qualified third party, such as ConserveVirginia or Virginia Cultural Resource Information System.

(d)

- (e) A visual impact analysis demonstrating project siting and proposed mitigation, if necessary, so that the solar facility minimizes impact on the visual character of the County.
1. The applicant shall provide accurate, to scale, photographic simulations showing the relationship of the solar facility and its associated amenities and development to its surroundings. The photographic simulations shall show such views of solar structures from locations such as property lines and roadways, as deemed necessary by the County in order to assess the visual impact of the solar facility.
 2. The total number of simulations and the perspectives from which they are prepared shall be established by the zoning administrator after the pre-application meeting.
- (f) Solar facility inventory. An inventory of all solar facilities – existing or proposed – within a four (4) mile radius.
- (g) Draft traffic study. The study shall include modelling the construction and decommissioning processes. County staff will review the study in cooperation with VDOT.

~~(h) Draft grading plan. The plan shall indicate:~~

~~1. Areas of steep slopes.~~

~~1. Locations of topsoil to be removed and preserved.~~

~~2.1. Locations of stormwater drainage and erosion and sediment control features.~~

(+)(h) Draft landscaping plan. The plan shall indicate:

1. All ground cover, screening and buffering materials, landscaping, and elevations.
 - a. Ground cover shall be native vegetation where compatible with site conditions.
 - b. Screening vegetation shall include pollinator plants where compatible with site conditions.
 - c. Only EPA approved herbicides shall be used for vegetative and weed control at the solar energy facility by a licensed applicator. No herbicides shall be used within 150 feet of the location of an approved ground water well. The Applicant shall submit an herbicide land application plan prior to approval of the certificate of occupancy (or equivalent). The plan shall specify the type of herbicides to be used, the frequency of land application, the identification of approved groundwater wells, wetlands, streams, and the distances from land application areas to features such as wells, wetlands, streams, and other bodies of water. The operator shall notify the County prior to application of pesticides and fertilizers. The County reserves the right to request soil and water testing.
2. Locations of wildlife corridors.
3. Maintenance requirements.

⊕(1) Draft decommissioning and reclamation plan. A detailed decommissioning and reclamation plan, certified by an engineer, which shall include the following:

1. The anticipated life of the project. The applicant shall provide the basis for determining the anticipated life of the project.
2. The estimated decommissioning and reclamation cost in current dollars. The applicant shall provide a cost estimate for the decommissioning and reclamation of the facility prepared by a professional engineer or contractor who has expertise in the removal of solar facilities. The decommissioning and reclamation cost estimate shall explicitly detail the cost without any reduction for salvage value.
3. The method of ensuring that funds will be available for decommissioning and reclamation. A proposed method of providing appropriate escrow, surety, or security for the cost of the decommissioning and reclamation plan. The surety shall be updated when the decommissioning and reclamation cost estimate is updated. The estimated cost of decommissioning shall be guaranteed by the deposit of funds in an amount equal to the estimated cost in an escrow account at a federally insured financial institution approved by the County unless otherwise provided for in subsection d below.
 - a. The applicant shall deposit the required amount into the approved escrow account before any building permit is issued to allow construction of the solar facility.
 - b. The escrow account agreement shall prohibit the release of the escrow funds without the written consent of the County. The County shall consent to the release of the escrow funds upon on the owner's or occupant's compliance with the approved decommissioning and reclamation plan. The County may approve the partial release of escrow funds as portions of the approved decommissioning plan are performed.
 - c. The amount of funds required to be deposited in the escrow account shall be the full amount of the estimated decommissioning and reclamation cost.
 - d. The County may approve alternative methods to secure the availability of funds to pay for the decommissioning and reclamation of a solar facility, such as a performance bond, letter of credit, or other security approved by the County.
4. The method that the estimated cost will be kept current. The decommissioning and reclamation cost estimate shall include a mechanism for calculating increased removal costs due to inflation. This cost estimate shall be recalculated every five (5) years and the surety shall be updated accordingly. If the recalculated estimated cost exceeds the original estimated cost by ten percent (10%), then the owner or occupant shall deposit additional funds into the escrow account to meet the new cost estimate. If the recalculated estimated cost is less than ninety percent (90%) of the original estimated cost, then the County may approve reducing the amount of the escrow account to the recalculated estimate of cost.
5. The manner in which the site will be decommissioned and reclaimed. This will include:
 - a. Notice to the Zoning Administrator by certified mail and in person of the proposed date of discontinued operations and plans for removal.
 - b. A traffic study submitted with application modelling the decommissioning processes. County staff will review the study in cooperation with VDOT.
 - c. An estimated deconstruction schedule.
 - d. Removal of all solar electric systems, buildings, cabling, electrical components, security barriers, roads, foundations, pilings, and any other associated facilities, so that any agricultural ground upon which the facility and/or system was located is again tillable and suitable for agricultural or forestall uses.

- e. The site shall be graded and re-seeded or replanted within 12 months of removal of solar facilities to restore it to as natural a pre-development condition as possible. Re-grading and re-seeding or replanting shall be initiated within a six-month period of removal of equipment. Any exception to site restoration, such as leaving access roads in place or re-seeded or replanted must be requested by the landowner in writing, and this request must be approved by the Board of Supervisors.
- f. Hazardous material from the property shall be disposed of in accordance with federal and state law.

~~(k)(j)~~ (j) Additional information may be required as determined by the Zoning Administrator, such as a scaled elevation view of the property and other supporting drawings, photographs of the proposed site, photo or other realistic simulations or modeling of the proposed project from potentially sensitive locations as deemed necessary by the Zoning Administrator to assess the visual impact of the project, landscaping plan, coverage map, and additional information that may be necessary for a technical review of the proposal.

~~—Eighteen sets (11"×17" or larger), one reduced copy (8½"×11") and one electronic copy of the concept plan, including elevations and landscape plans as required.~~

Sec. 16-406 Minimum development and performance standards

(a) A utility-scale solar facility shall be constructed, operated, and maintained in substantial compliance with the approved concept plan with allowances for changes required by the Virginia Department of Environmental Quality (DEQ) Permit by Rule (PBR) or State Corporation Commission (SCC) permit process.

~~(b)~~ (b) Location standards for utility-scale solar facilities. The location standards stated below for utility-scale solar facilities are intended to mitigate the adverse effects of such uses on adjoining property owners, the area, and the County.

1. The minimum area of a utility-scale solar facility shall be ~~two (2)~~ more than 100 acres, and the maximum area shall be less than 1,500 contiguous acres.
2. The equipment, improvements, structures, and percent of acreage coverage of a utility-scale solar facility shall be shown on the approved concept plan and site plan. The percent of acreage coverage shall not exceed 65%.

(c) Height.

1. The maximum height of the lowest edge of photovoltaic panels shall be 10 feet as measured from the finished grade. The maximum height of the highest edge of photovoltaic panels shall not exceed 15 feet as measured from the finished grade.
2. The maximum height of other facility structures shall not exceed 15 feet. This limit shall not apply to utility poles or the interconnection to the overhead electric utility grid.
3. The Board of Supervisors may approve a greater height based upon the demonstration of a significant need where the impacts of increased height are mitigated.

~~(b)(a) — A utility-scale solar facility shall be constructed, operated, and maintained in substantial compliance with the approved concept plan with allowances for changes~~

~~required by the Virginia Department of Environmental Quality (DEQ) Permit by Rule (PBR) or State Corporation Commission (SCC) permit process.~~

- ~~(d) Setbacks. Solar facilities shall meet all setback requirements for primary structures for the zoning district in which the facility is located and the requirements set forth below (the more restrictive requirements shall apply).~~
- ~~1. The minimum setback of structures and uses associated with the facility, including fencing, PV panels, parking areas, and outdoor storage, but not including landscaping and berming, shall be:~~
 - ~~a. 150 feet from adjacent property lines.~~
 - ~~b. 150 feet from all public rights-of-way.~~
 - ~~c. 300 feet from a dwelling.~~
 - ~~2. The Planning Commission or Board of Supervisors may require increased setbacks up to 400 feet in situations where the height of structures or the topography affects the visual impact of the facility.~~
 - ~~3. These setback requirements shall not apply to internal property lines of those parcels on which a solar facility is located.~~
 - ~~4. Access, erosion and stormwater structures, and interconnection to the electrical grid may be made through setback areas provided that such are generally perpendicular to the property line.~~
 - ~~(a) _____~~
 - ~~2. _____ "Principal Solar Facility Structure" shall include the "Solar Facilities" excluding the project roads and transmission poles.~~

~~Buffer. The buffer shall be located within the setbacks required under this Section and shall run around the entire perimeter of the property. The buffer shall be maintained for the life of the facility. A minimum 150-foot setback shall be maintained from a Principal Solar Facility Structure to the street line (edge of right-of-way) where the Property abuts any public rights-of-way.~~

- ~~(e) A minimum 150-foot setback shall be maintained from a Principal Solar Facility Structure to the adjoining property line of other parcels.~~

~~0. Screening. A minimum 300-foot setback shall be maintained from a Principal Solar Facility Structure to a dwelling.~~

~~0. There shall be no setbacks between internal lot lines between parcels in the project area.~~

~~(e) The maximum height of the lowest edge of the photovoltaic panels shall be 10 feet as measured from the finished grade. The maximum height of primary structures and accessory buildings shall be 15 feet as measured from the finished grade at the base of the structure to its highest point, including appurtenances. The Board of Supervisors may approve a greater height based upon the demonstration of a significant need where the impacts of increased height are mitigated.~~

~~(f) The facilities shall be enclosed by security fencing on the interior of the buffer area not less than six (6) feet in height and topped with barbed wire, as appropriate. A performance bond reflecting the costs of anticipated fence maintenance shall be posted and maintained. Failure to~~

maintain the security fencing shall result in revocation of the CUP and the facility's decommissioning. The facilities, including security fencing that is not ornamental, shall be screened from the ground-level view of adjacent properties or a public street in the buffer zone. Screening may also be required in other locations to screen specific uses or structures. A recommendation that the screening and/or buffer creation requirements be waived or altered may be made by the Planning Commission when the applicant proposes to use existing wetlands or woodlands to satisfy the screening requirement. The wetlands or woodlands shall be permanently protected as a designated buffer and the overall buffer shall measure at least 150 feet. Screening methods may include:

1. Existing Screening: Existing vegetation, topography, buildings, open space, or other elements located on the site may be considered as part of the required screening. Existing trees and vegetation may be retained within the buffer area except where dead, diseased, or as necessary for development or to promote healthy growth.
 2. Vegetative Screening: In the event existing vegetation or landforms providing the screening are inadequate or disturbed, new plantings shall be provided in a landscaped strip at least 50 feet wide. Landscaping intended for screening shall consist of a combination of non-invasive species, pollinator species, and native plants, shrubs, trees, grasses, forbs, and wildflowers. Trees intended for screening shall consist of a combination of evergreen and deciduous trees that are 5-6 ft. in height at time of planting. A triple row of trees shall be placed on average at 15 ft. on center. A list of appropriate plant materials shall be available at the Planning Office. Species listed on DCR's Invasive Plant Species list shall not be used.
 3. Berming: Berms shall generally be constructed with a 3:1 side slope to rise ratio, 4-6 ft. above the adjacent grade, with a 3 ft. wide top with appropriate pollinator-friendly native plants, shrubs, trees, forbs, and wildflowers. The outside edges of the berm shall be sculpted such that there are vertical and horizontal undulations to give variations in appearance. When completed, the berm should not have a uniform appearance like a dike.
 4. Opaque Architectural Fencing. Fencing intended for screening shall be at least 75 percent visually solid as viewed on any line perpendicular to the fence from adjacent property or a public street. Such fencing may be used in combination with other screening methods but shall not be the primary method. A typical example is the use of wood privacy fencing and landscaping to screen structures such as substations. Depending on the location, ornamental features may be required on the fence. Fencing material shall not include plastic slats.
- (g) Security Fence. The facilities shall be enclosed by security fencing not less than six (6) feet in height and topped with barbed wire, as appropriate. A performance bond reflecting the costs of anticipated fence maintenance shall be posted and maintained. Failure to maintain the security fencing shall result in revocation of the CUP and the facility's decommissioning.

(g)The facilities, including fencing, shall be significantly screened from the ground level view of adjacent properties by a buffer zone at least 100 feet wide that shall be landscaped with native plant materials consisting of an evergreen and deciduous mix (as approved by County staff), except to the extent that existing vegetation or natural landforms on the site provide such screening as determined by the Zoning Administrator. In the event existing vegetation or landforms providing the screening are disturbed, new plantings shall be

~~provided which accomplish the same. Opaque architectural fencing may be used to supplement other screening methods but shall not be the primary method.~~

- (h) Ground cover on the site shall be native vegetation and maintained in accordance with the landscaping plan in accordance with established performance measures. ~~A performance bond reflecting the costs of anticipated landscaping maintenance shall be posted and maintained. Failure to maintain the landscaping ground cover shall result in revocation of the CUP and the facility's decommissioning. The operator shall notify the County prior to application of pesticides and fertilizers. The County reserves the right to request soil and water testing.~~
- (i) The Applicant shall identify access corridor(s) for wildlife to navigate through and across the Solar Facility. The proposed wildlife corridor(s) shall be shown on the site plan submitted to the County. ~~Areas between fencing shall be kept open to allow for the movement of migratory animals and other wildlife.~~
- (j) The design of support buildings and related structures shall use materials, colors, textures, screening, and landscaping that will blend the facilities to the natural setting and surrounding structures.
- (k) The owner or operator shall maintain the solar facility in good condition. Such maintenance shall include, but not be limited to, painting, structural integrity of the equipment and structures, as applicable, and maintenance of the buffer areas and landscaping. Site access shall be maintained to a level acceptable to the County. The project owner shall be responsible for the cost of maintaining the solar facility and access roads, and the cost of repairing damage to private roads occurring as a result of construction and operation.
- (l) Inspections.
 - 1. The Applicant will allow designated County representatives or employees access to the facility for inspection purposes with 24-hour notice.
 - 2. The Applicant shall reimburse the County its costs in obtaining an independent third-party to conduct inspections required by local and state laws and regulations.

2.

~~—A utility-scale solar facility shall be designed and maintained in compliance with standards contained in applicable local, state, and federal building codes and regulations that were in force at the time of the permit approval. All facilities must meet or exceed the standards and regulations of the Federal Aviation Administration ("FAA"), State Corporation Commission ("SCC") or equivalent, and any other agency of the local, state, or federal government with the authority to regulate such facilities that are in force at the time of the application.~~

- (m)
- (n) The applicant shall provide proof of adequate liability insurance for a solar facility prior to beginning construction and before the issuance of a zoning or building permit to the zoning administrator.
- (o) Lighting fixtures as approved by the County shall be the minimum necessary for safety and/or security purposes to protect the night sky by facing downward and to minimize off-

site glare. No facility shall produce glare that would constitute a nuisance to the public. Any exceptions shall be enumerated on the Concept Plan and approved by the zoning administrator.

(p) No signage of any type may be placed on the facility other than notices, warnings, and identification information required by law.

(q) At all times, the solar facility shall comply with the County's noise ordinance.

~~(r)(a) All facilities must meet or exceed the standards and regulations of the Federal Aviation Administration ("FAA"), State Corporation Commission ("SCC") or equivalent, and any other agency of the local, state, or federal government with the authority to regulate such facilities that are in force at the time of the application.~~

~~(r)~~ (r) Coordination of local emergency services. Applicants for new solar facilities shall coordinate with the County's emergency services staff to provide materials, education and/or training to the departments serving the property with emergency services in how to safely respond to on-site emergencies.

~~(s)~~ (s) Decommissioning

1. Solar facilities which have reached the end of their useful life or have not been in active and continuous service for a period of six (6) months shall be removed at the owner's or operator's expense, except if the project is being repowered or a force majeure event has or is occurring requiring longer repairs; however, the County may require evidentiary support that a longer repair period is necessary.
2. The owner or operator shall notify the zoning administrator by certified mail and in person of the proposed date of discontinued operations and plans for removal.
3. Decommissioning shall include removal of all solar electric systems, buildings, cabling, electrical components, security barriers, roads, foundations, pilings, and any other associated facilities, so that any agricultural ground upon which the facility and/or system was located is again tillable and suitable for agricultural or forestall uses. The site shall be graded and re-seeded to restore it to as natural a pre-development condition as possible or replanted with pine seedlings to stimulate pre-timber pre-development conditions as indicated on the Concept Plan. Any exception to site restoration, such as leaving access roads in place or seeding instead of planting seedlings must be requested by the landowner in writing, and this request must be approved by the Board of Supervisors.
4. The site shall be re-graded and re-seeded or replanted within 12 months of removal of solar facilities. Re-grading and re-seeding or replanting shall be initiated within a six-month period of removal of equipment.
5. Decommissioning and reclamation shall be performed in compliance with the approved decommissioning and reclamation plan. The Board of Supervisors may approve any appropriate amendments to or modifications of the decommissioning plan.

6. Hazardous material from the property shall be disposed of in accordance with federal and state law.
7. If the owner or operator of the solar facility fails to remove the installation in accordance with the requirements of this permit or within the proposed date of decommissioning, the County may collect the surety and the County or hired third party may enter the property to physically remove the installation.

~~(+)(1)~~ Any other condition added by the Planning Commission or Board of Supervisors as part of a CUP approval.

Sec. 16-407 Special provisions for battery facilities.

In addition to the above general provisions, application requirements, and development and performance standards, the following additional requirements shall be met for the approval of a Battery Energy Storage Facility:

- (a) Battery Energy Storage Facilities shall be constructed, maintained, and operated in accordance with national industry standards and regulations including the most current adopted edition of the National Electrical Code, International Fire Code of the International Code Council, and the National Fire Protection Association Fire Code. The batteries will be NFPA (National Fire Protection Agency) compliant. In the event of a conflict between the national industry standards and these Conditions, the national industry standards shall control so that as technology advances, updated technology may be used.
- (b) Battery cells shall be placed in a Battery Energy Storage System ("BESS") with a Battery Management System ("BMS"). The BESS shall provide a secondary layer of physical containment to the batteries and be equipped with cooling, ventilation, and fire suppression systems. Each individual battery shall have 24/7 automated fire detection and extinguishing technology built in. The BMS shall monitor individual battery module voltages and temperatures, container temperature and humidity, off-gassing of combustible gas, fire, ground fault and DC surge, and door access and be able to shut down the system before Thermal Runaway takes place.
- (c) The Battery Energy Storage System will be placed on an appropriate foundation and screened with vegetation outside of environmentally sensitive areas.
- (d) Access to all batteries and electrical switchgear shall be from the exterior for normal operation and maintenance. Access to the container interior shall not be permitted while the system is in operation except for safety personnel and first responders.
- (e) Qualifications and experience from selected developers and integrators shall be provided including disclosure of fires or other hazards at facilities.
- (f) Safety testing and failure modes analysis data from selected developers and manufacturers shall be provided.

- (g) The latest applicable product certifications shall be provided.
- (h) The Solar Facility operator or owner shall be responsible for any environmental remediation required by the county or the state and the costs of such remediation. All remediation shall be completed in a timely manner.
- (i) Battery storage shall be developed in collaboration with technical experts and first responders to utilize technology-appropriate best practices for safe energy storage systems including, but not limited to, the following:
 - 1. Adequate access/egress for the first responders;
 - 2. Adequate facility signage (on battery chemistry and person to contact);
 - 3. Accessible Safety Data Sheets;
 - 4. System-specific emergency response plans;
 - 5. Training for first responders on the type of system, potential hazards and risks, and system-specific emergency response plans;
 - 6. Adequate water sources and fire suppression appliances for the fire fighters if required in the emergency response plans;
 - 7. Signage on Hazardous Materials present in the vicinity;
 - 8. Emergency lighting;
 - 9. Separate battery modules to make it easier to isolate a failed battery from the rest;
 - 10. Sufficient disconnect and shutdown capability including a master kill switch to disable and discharge batteries;
 - 11. System-appropriate sensors and alarms;
 - 12. Air ventilation and fire suppression systems;
 - 13. Drainage for water runoff; and
 - 14. Other practices as recommended by experts or local first responders.
- (j) The Solar Facility operator or owner shall conduct regular on-site inspections of the battery units and submit a written report to the Zoning Administrator on their condition, at least once every six (6) months. The Solar Facility operator or owner shall conduct monthly inspections electronically of the battery units and submit a written report to the Zoning Administrator.

Sec. 16-408 Special provisions for substations.

In addition to the above general provisions, application requirements, and development and performance standards, the following additional requirements shall be met for the approval of a substation:

- (a) Siting. Substations located within the Solar Facility shall be sited in accordance with these regulations.
- (b) Term and Special Permits. Substations included as part of the Solar Facility shall have the same term as the Solar Facility. However, Substations may have a life longer than that of the larger Solar Facility, and, alternatively, may individually and not as part of a Solar

Facility receive a Conditional Use Permit in accordance with these regulations.

Sec. 16-409 Conditions

- (a) The Board of Supervisors may consider conditions addressing a proposed solar and/or battery facility, including, but not limited to, the following:
1. A solar facility shall be constructed, maintained, and operated in substantial compliance with:
 - i. The development standards under this article.
 - ii. The approved concept plan.
 - iii. Any other conditions imposed pursuant to a Conditional Use Permit.
- (b) Site Plan Requirements. In addition to all Virginia site plan requirements and site plan requirements of the Zoning Administrator, the Applicant shall provide the following plans for review and approval for the Solar Facility prior to the issuance of a building permit:
1. *Construction Management Plan*. The Applicant shall prepare a "Construction Management Plan" for each applicable site plan for the Solar Facility, and each plan shall address the following:
 - i. Traffic control methods (in coordination with the Virginia Department of Transportation [VDOT] prior to initiation of construction):
 - a. Lane closures
 - b. Signage
 - c. Flagging procedures
 - ii. Site access planning. Directing employee and delivery traffic to minimize conflicts with local traffic.
 - iii. Site security. The Applicant shall implement security measures prior to the commencement of construction of Solar Facilities on the Project Site.
 - iv. Lighting. During construction of the Solar Facility, any temporary construction lighting shall be positioned downward, inward, and shielded to eliminate glare from all adjacent properties. Emergency and/or safety lighting shall be exempt from this construction lighting condition.
 - v. Water Supply. In the event that on-site wells are used during construction of the solar energy facility, the Applicant shall prepare and submit for review to the County hydrogeologic information necessary for the County to determine the potential impact to pre-existing users for the same aquifer proposed to be used for the solar energy facility and a plan to mitigate impacts to pre-existing users within the area of impact of the Project. If the County, in consultation with the Department of Environmental Quality, determines that the installation of a well will not adversely affect existing users, the Applicant may proceed with well construction in compliance with approval by the Department of Environmental Quality. At the end of the construction of the solar energy facility, the well shall not thereafter be used except only for personal toilet and lavatory facilities as required by the Uniform Statewide Building Code for operations and maintenance buildings.
 2. *Construction Mitigation Plan*. The Applicant shall prepare a "Construction Mitigation Plan" for each applicable site plan for the Solar Facility, and each plan shall address the

effective mitigation of dust, burning operations, hours of construction activity, access and road improvements, and handling of general construction complaints as set forth and described in the application materials and to the satisfaction of the Zoning Administrator. Damage to public roads related to construction activities shall be repaired as soon as possible and not postponed until construction completion. The Applicant shall provide written notice to the Zoning Administrator of the plans for making such repairs, including time within which repairs will be commenced and completed, within thirty (30) days of any written notice received from the Zoning Administrator.

- i. Driving of posts shall be limited to 7:00 am to 6:00 pm, Monday through Saturday. Driving of posts shall be prohibited on state and federal holidays. The Applicant may request permission from the County Administrator to conduct post driving activity on Sunday, but such permission will be granted or denied at the sole discretion of the County Administrator.
- ii. Other construction activity on-site shall be permitted Monday through Sunday in accordance with the provisions of the County's Noise Ordinance.
- iii. During construction, the setbacks may be used for staging of materials and parking. No material and equipment laydown area, construction staging area, or construction trailer shall be located within 200 feet of any property containing a residential dwelling.
- iv. Construction lighting shall be minimized and shall be directed downward.

~~3. Erosion and Sediment Control Plan.~~ The County will have a third-party review with corrections completed prior to County review and approval. The owner or operator shall construct, maintain, and operate the project in compliance with the approved plan. An E&S bond (or other security) will be posted for the construction portion of the project.

~~The grading. In addition to state and local requirements, the plan shall:~~

- ~~i. Clearly show existing and proposed contours; and~~
- ~~ii. Note the locations and amount of topsoil to be removed (if any) and the percent of the site to be graded;~~

~~3. —~~

4. *Stormwater Management Plan.* The County will have a third-party review with corrections completed prior to County review and approval. The owner or operator shall construct, maintain, and operate the project in compliance with the approved plan. A storm water control bond (or other security) will be posted for the project for both construction and post construction as applicable and determined by the Zoning Administrator.

~~5. Grading plan. The Applicant will submit a final grading plan for review and approval by the Zoning Administrator. The Project shall be constructed in compliance with the Grading Plan as determined and approved by the Zoning Administrator or his designee prior to the commencement of any construction activities and a bond or other security will be posted for the grading operations. The grading plan shall:~~

- ~~— Clearly show existing and proposed contours;~~
- ~~— Note the locations and amount of topsoil to be removed (if any) and the percent of the site to be graded;~~
- ~~— Limit grading to the greatest extent practicable by avoiding steep slopes and laying out arrays parallel to landforms;~~
- ~~— An earthwork balance will be achieved on-site with no import or export of soil;~~

- ~~— In areas proposed to be permanent access roads which will receive gravel or in any areas where more than a few inches of cut are required, topsoil will first be stripped and stockpiled on-site to be used to increase the fertility of areas intended to be seeded;~~
- ~~— Take advantage of natural flow patterns in drainage design and keep the amount of impervious surface as low as possible to reduce storm water storage needs;~~
- ~~— Provide for the installation of all stormwater and erosion and sediment control infrastructure ("Stormwater Infrastructure") at the outset of the project to ensure protection of water quality. Once all Stormwater Infrastructure is complete and approved by the VESCP authority, no more than 50 percent of the land disturbance areas as reflected on the Site Plan shall be disturbed without soil stabilization at any one time. Stabilization, for purposes of erosion and sediment control, shall mean the application of seed and straw to disturbed areas, which shall be determined by the VESCP authority;~~

~~43.5.~~ Landscaping Plan. The Applicant will submit a final landscaping plan for review and approval by the Zoning Administrator. The owner or operator shall construct, maintain, and operate the facility in compliance with the approved plan. A separate security shall be posted for the ongoing maintenance of the project's land cover and vegetative buffers in an amount deemed sufficient by the Zoning Administrator. Failure to maintain the landscaping in accordance with the plan may result in the issuance of a notice of violation by the Zoning Administrator. The Applicant (or the operator) shall promptly communicate with the Zoning Administrator within 30 days of the date of the notice of violation and submit a plan in writing satisfactory to the Zoning Administrator to remedy such violation no later than 180 days after the date of the notice of violation. Failure to remedy the violation before the end of the 180-day cure period may result in revocation of the CUP.

- i. Ground cover shall be native vegetation where compatible with site conditions and, in all cases, shall be approved by the Zoning Administrator.
- ii. Screening vegetation shall include pollinator plants where compatible with site conditions and, in all cases, shall be approved by the Zoning Administrator.
- iii. Only EPA approved herbicides shall be used for vegetative and weed control at the solar energy facility by a licensed applicator. No herbicides shall be used within 150 feet of the location of an approved ground water well. The Applicant shall submit an herbicide land application plan prior to approval of the certificate of occupancy (or equivalent). The plan shall specify the type of herbicides to be used, the frequency of land application, the identification of approved groundwater wells, wetlands, streams, and the distances from land application areas to features such as wells, wetlands, streams and other bodies of water. The operator shall notify the County prior to application of pesticides and fertilizers. The County reserves the right to request soil and water testing.

~~44.6.~~ Decommissioning and Reclamation Plan. The Applicant will submit a final decommissioning and reclamation plan in accordance with these regulations for review and approval by the Zoning Administrator.

~~45.7.~~ The Applicant shall reimburse the County its costs in obtaining independent third-party reviews as required by these conditions.

- (c) The design, installation, maintenance, and repair of the Solar Facility in accordance with the most current National Electrical Code (NFPA 70) available (2014 version or later as applicable).

- (d) If the solar facility does not receive a building permit within eighteen (18) months of approval of the Conditional Use Permit, the Permit shall be terminated.
- (e) If the solar facility is declared to be unsafe by the zoning administrator or building official, the facility must be in compliance within fourteen (14) days or the Conditional Use Permit shall be terminated, and system removed from the property.
- (f) The owner and operator shall give the County written notice of any change in ownership, operator, or Power Purchase Agreement within thirty (30) days.

ARTICLE XXIII

**SOLAR AND BATTERY
FACILITIES**

Sec. 16-401 Statement of intent

The purpose of this section is to establish requirements for construction and operation of solar and battery facilities and to provide standards for the placement, design, construction, monitoring, modification, and removal of solar facilities; address public safety, minimize impacts on scenic, natural, and historic resources; and provide adequate financial assurance for decommissioning.

Sec. 16-402 Applicability

This article shall apply to all solar and battery facilities constructed after the effective date of this article, including any physical modifications to any existing solar facilities that materially alter the type, configuration, or size of such facilities or other equipment.

Sec. 16-403 Zoning districts

- (a) Rooftop and small-scale solar facilities may be installed by-right in all zoning districts as an accessory use to provide electricity to individual structures; provided a site plan (as applicable) has been submitted to the zoning administrator for review and approval; all Federal, State, and Local regulations have been followed; and the system is located upon the property or structure being served. Rooftop facilities on commercial or industrial buildings shall also submit an engineering study to the Building Official Office for review and approval.
- (b) Medium-scale solar facilities may be installed by-right as an accessory use in the Industrial Districts to provide electricity for use on-site for commercial and industrial applications; provided a site plan has been submitted to the zoning administrator for review and approval; all Federal, State and Local regulations have been followed; the system is located on the property or structure to be served; and the system is in accord with the underlying zoning requirements of the districts.
- (c) Solar facilities shall be permitted in zoning districts as follows:

Solar Facility	General Agricultural, A-1	Limited Industrial, I-1	General Industrial, I-2	Residential Multi-Family, R-1
<i>Multi-family shared</i>	CUP	CUP	CUP	CUP
<i>Medium-scale</i>	CUP	By-right	By-right	-
<i>Utility-scale</i>	CUP	CUP	CUP	-

- (d) Battery facilities shall be subject to a Conditional Use Permit and permitted as follows:
 - 1. An accessory use to utility-scale solar facilities, other energy generation facilities, or substations; or
 - 2. A primary use on a parcel contiguous to utility-scale solar facilities, other energy generation facilities, and substations.

Battery Facility	General Agricultural, A-1	Limited Industrial, I-1	General Industrial, I-2	Residential Multi-Family, R-1
<i>Primary use</i>	CUP	CUP	CUP	-
<i>Accessory use</i>	CUP	CUP	CUP	CUP

- (e) Solar facilities should locate on brownfields, County-owned capped landfills, or near existing industrial uses, where feasible.

Sec. 16-404 Conditional Use Permit process

- (a) Pre-application meeting. A pre-application meeting shall be held with the zoning administrator to discuss the location, scale, and nature of the proposed use, what will be expected during that process, and the potential for a siting agreement.
- (b) Neighborhood meeting. A public meeting shall be held prior to the public hearing with the Planning Commission to give the community an opportunity to hear from the applicant and ask questions regarding the proposed project.
1. The applicant shall inform the Zoning Administrator’s Office and adjacent property owners in writing of the date, time, and location of the meeting at least seven but no more than 14 days in advance of the meeting date.
 2. The date, time, and location of the meeting shall be advertised in the County’s newspaper of record by the applicant at least seven but no more than 14 days in advance of the meeting date.
 3. The meeting shall be held within the County at a location open to the general public with adequate parking and seating facilities which may accommodate persons with disabilities.
 4. The meeting shall give members of the public the opportunity to review application materials, ask questions of the applicant, and provide feedback.
 5. The applicant shall provide to the Zoning Administrator a summary of any input received from members of the public at the meeting.
- (c) Submittal of the permit application and fees.
1. There is a combined application for the 2232 review and CUP permit.
 2. There are separate fees for the 2232 review and CUP permit.

- (d) 2232 review. The *Code of Virginia* §15.2-2232 requires a review of public utility facility proposals by the Planning Commission to determine if their general or approximate location, character, and extent are substantially in accord with the Comprehensive Plan or part thereof.
1. The Planning Commission must consider, at a public meeting, whether the project is in substantial accord with the Comprehensive Plan. Failure of the Planning Commission to act within 60 days of a submission, unless the time is extended by the Board of Supervisors, shall be deemed approval.
 - a. If the Planning Commission approves the 2232 review, the project shall be recommended for a public hearing for the CUP permit.
 - b. If the Planning Commission does not approve the 2232 review, the applicant may appeal the decision to the Board of Supervisors within 10 days after the decision of the Planning Commission. The appeal shall be by written petition to the Board of Supervisors setting forth the reasons for the appeal. The appeal shall be heard and determined within 60 days from its filing unless the time is extended by the applicant. A majority vote of the Board of Supervisors shall overrule the Planning Commission.
 2. If the Board of Supervisors agree to negotiate a Siting Agreement in accordance with Code of Virginia § 15.2-2316.8, the 2232 review process may be delayed until negotiations are complete. If the siting agreement is approved, it fulfills the requirement for a 2232 review.
3. Consideration of the Conditional Use Permit by the Planning Commission. The Planning Commission must consider the Conditional Use Permit application at a public hearing. The Planning Commission has three options:
1. Recommend approval of the application to the Board of Supervisors with written reasons for its decision.
 2. Recommend denial of the application to the Board of Supervisors with written reasons for its decision.
 3. Defer the application for further discussion and consideration.
4. Consideration of the Conditional Use Permit by the Board of Supervisors. The Board of Supervisors must consider the Conditional Use Permit application at a public hearing. The Board of Supervisors has three options:
1. Approve the application with written reasons for its decision.
 2. Deny the application with written reasons for its decision.
 3. Defer the application for further discussion and consideration.
5. Siting agreement. The process may also include negotiating a Siting Agreement in accordance with Code of Virginia § 15.2-2316.8. The Board of Supervisors must consider the Siting Agreement at a public hearing. An approved siting agreement fulfills the requirement for a 2232 review (§ 15.2-2232).

Sec. 16-405 Conditional Use Permit application

- (a) Application packet including:
1. Completed County application form and checklist.
 2. Documents demonstrating the ownership of the subject parcel(s).
 3. Proof that the applicant has authorization to act upon the owner's behalf.
 4. Identification of the intended utility company who will interconnect to the facility.
 5. List of all adjacent property owners, their tax map numbers, and addresses.
 6. A description of the current use and physical characteristics of the subject parcels.
 7. A description of the existing uses of nearby properties.
 8. A narrative identifying the applicant, owner, or operator, and describing the proposed solar facility project, including an overview of the project and its location, approximate rated capacity of the solar facility project, the approximate number of panels, representative types, expected footprint of solar equipment to be constructed, and type and location of interconnection to electrical grid.
 9. Aerial imagery which shows the proposed location of the solar facility, fenced area, driveways, and interconnection to electrical grid with the closest distance to all adjacent property lines and dwellings along with main points of ingress/egress.
 10. Payment of the application fee and any additional review costs, advertising, or other required staff time.
- (b) Concept plan. A concept plan prepared by an engineer with a professional engineering license in the Commonwealth of Virginia, that shall include the following:
1. Project title information including tax parcel number, zoning, owner names, address, and phone numbers.
 2. Neighboring property information including tax parcel number, zoning, and owner names.
 3. Existing wetlands, waterways, and floodplains.
 4. Locations and types of soils on site.
 5. Areas of steep slopes.
 6. Existing and proposed buildings and structures including preliminary locations of the proposed solar panels and related equipment.
 7. Existing and proposed points of ingress/egress including access roads, drives, turnout locations, and parking.
 8. Location of substations, electrical cabling from the solar facility systems to the substations, ancillary equipment, buildings, and structures including those within any applicable setback.
 9. Fencing or other methods of ensuring public safety.
 10. Locations of topsoil to be removed and preserved.
 11. Locations of stormwater drainage and erosion and sediment control features.
 12. Setbacks.
 13. The location and nature of proposed buffers and screening elements, including vegetative and constructed buffers.
- (c) An estimated construction schedule.
- (d) Environmental inventory and impact statement regarding any site and viewshed impacts, including direct and indirect impacts to national and state forests, national or state parks, wildlife management areas, conservation easements, recreational areas, or any known historic or cultural resources within three (3) miles of the proposed project using information

provided by the Virginia Department of Environmental Quality (DEQ), the Virginia Department of Conservation (DCR), Virginia Department of Wildlife Resources (DWR), Virginia Department of Historic Resources (DHR), and/or a report prepared by a qualified third party, such as ConserveVirginia or Virginia Cultural Resource Information System.

- (e) A visual impact analysis demonstrating project siting and proposed mitigation, if necessary, so that the solar facility minimizes impact on the visual character of the County.
 - 1. The applicant shall provide accurate, to scale, photographic simulations showing the relationship of the solar facility and its associated amenities and development to its surroundings. The photographic simulations shall show such views of solar structures from locations such as property lines and roadways, as deemed necessary by the County in order to assess the visual impact of the solar facility.
 - 2. The total number of simulations and the perspectives from which they are prepared shall be established by the zoning administrator after the pre-application meeting.

- (f) Solar facility inventory. An inventory of all solar facilities – existing or proposed – within a four (4) mile radius.

- (g) Draft traffic study. The study shall include modelling the construction and decommissioning processes. County staff will review the study in cooperation with VDOT.

- (h) Draft landscaping plan. The plan shall indicate:
 - 1. All ground cover, screening and buffering materials, landscaping, and elevations.
 - a. Ground cover shall be native vegetation where compatible with site conditions.
 - b. Screening vegetation shall include pollinator plants where compatible with site conditions.
 - c. Only EPA approved herbicides shall be used for vegetative and weed control at the solar energy facility by a licensed applicator. No herbicides shall be used within 150 feet of the location of an approved ground water well. The Applicant shall submit an herbicide land application plan prior to approval of the certificate of occupancy (or equivalent). The plan shall specify the type of herbicides to be used, the frequency of land application, the identification of approved groundwater wells, wetlands, streams, and the distances from land application areas to features such as wells, wetlands, streams, and other bodies of water. The operator shall notify the County prior to application of pesticides and fertilizers. The County reserves the right to request soil and water testing.
 - 2. Locations of wildlife corridors.
 - 3. Maintenance requirements.

- (i) Draft decommissioning and reclamation plan. A detailed decommissioning and reclamation plan, certified by an engineer, which shall include the following:
1. The anticipated life of the project. The applicant shall provide the basis for determining the anticipated life of the project.
 2. The estimated decommissioning and reclamation cost in current dollars. The applicant shall provide a cost estimate for the decommissioning and reclamation of the facility prepared by a professional engineer or contractor who has expertise in the removal of solar facilities. The decommissioning and reclamation cost estimate shall explicitly detail the cost without any reduction for salvage value.
 3. The method of ensuring that funds will be available for decommissioning and reclamation. A proposed method of providing appropriate escrow, surety, or security for the cost of the decommissioning and reclamation plan. The surety shall be updated when the decommissioning and reclamation cost estimate is updated. The estimated cost of decommissioning shall be guaranteed by the deposit of funds in an amount equal to the estimated cost in an escrow account at a federally insured financial institution approved by the County unless otherwise provided for in subsection d below.
 - a. The applicant shall deposit the required amount into the approved escrow account before any building permit is issued to allow construction of the solar facility.
 - b. The escrow account agreement shall prohibit the release of the escrow funds without the written consent of the County. The County shall consent to the release of the escrow funds upon on the owner's or occupant's compliance with the approved decommissioning and reclamation plan. The County may approve the partial release of escrow funds as portions of the approved decommissioning plan are performed.
 - c. The amount of funds required to be deposited in the escrow account shall be the full amount of the estimated decommissioning and reclamation cost.
 - d. The County may approve alternative methods to secure the availability of funds to pay for the decommissioning and reclamation of a solar facility, such as a performance bond, letter of credit, or other security approved by the County.
 4. The method that the estimated cost will be kept current. The decommissioning and reclamation cost estimate shall include a mechanism for calculating increased removal costs due to inflation. This cost estimate shall be recalculated every five (5) years and the surety shall be updated accordingly. If the recalculated estimated cost exceeds the original estimated cost by ten percent (10%), then the owner or occupant shall deposit additional funds into the escrow account to meet the new cost estimate. If the recalculated estimated cost is less than ninety percent (90%) of the original estimated cost, then the County may approve reducing the amount of the escrow account to the recalculated estimate of cost.
 5. The manner in which the site will be decommissioned and reclaimed. This will include:
 - a. Notice to the Zoning Administrator by certified mail and in person of the proposed date of discontinued operations and plans for removal.
 - b. A traffic study submitted with application modelling the decommissioning processes. County staff will review the study in cooperation with VDOT.
 - c. An estimated deconstruction schedule.
 - d. Removal of all solar electric systems, buildings, cabling, electrical components, security barriers, roads, foundations, pilings, and any other associated facilities, so that any agricultural ground upon which the facility and/or system was located is again tillable and suitable for agricultural or forestall uses.

- e. The site shall be graded and re-seeded or replanted within 12 months of removal of solar facilities to restore it to as natural a pre-development condition as possible. Re-grading and re-seeding or replanting shall be initiated within a six-month period of removal of equipment. Any exception to site restoration, such as leaving access roads in place or re-seeded or replanted must be requested by the landowner in writing, and this request must be approved by the Board of Supervisors.
- f. Hazardous material from the property shall be disposed of in accordance with federal and state law.
- (j) Additional information may be required as determined by the Zoning Administrator, such as a scaled elevation view of the property and other supporting drawings, photographs of the proposed site, photo or other realistic simulations or modeling of the proposed project from potentially sensitive locations as deemed necessary by the Zoning Administrator to assess the visual impact of the project, landscaping plan, coverage map, and additional information that may be necessary for a technical review of the proposal.

Sec. 16-406 Minimum development and performance standards

- (a) A utility-scale solar facility shall be constructed, operated, and maintained in substantial compliance with the approved concept plan with allowances for changes required by the Virginia Department of Environmental Quality (DEQ) Permit by Rule (PBR) or State Corporation Commission (SCC) permit process.
- (b) Location standards for utility-scale solar facilities. The location standards stated below for utility-scale solar facilities are intended to mitigate the adverse effects of such uses on adjoining property owners, the area, and the County.
 - 1. The minimum area of a utility-scale solar facility shall be more than 100 acres.
 - 2. The equipment, improvements, structures, and percent of acreage coverage of a utility-scale solar facility shall be shown on the approved concept plan and site plan. The percent of acreage coverage shall not exceed 65%.
- (c) Height.
 - 1. The maximum height of the lowest edge of photovoltaic panels shall be 10 feet as measured from the finished grade. The maximum height of the highest edge of photovoltaic panels shall not exceed 15 feet as measured from the finished grade.
 - 2. The maximum height of other facility structures shall not exceed 15 feet. This limit shall not apply to utility poles or the interconnection to the overhead electric utility grid.
 - 3. The Board of Supervisors may approve a greater height based upon the demonstration of a significant need where the impacts of increased height are mitigated.
- (d) Setbacks. Solar facilities shall meet all setback requirements for primary structures for the zoning district in which the facility is located and the requirements set forth below (the more restrictive requirements shall apply).
 - 1. The minimum setback of structures and uses associated with the facility, including fencing, PV panels, parking areas, and outdoor storage, but not including landscaping and berming, shall be:
 - a. 150 feet from adjacent property lines.
 - b. 150 feet from all public rights-of-way.
 - c. 300 feet from a dwelling.

2. The Planning Commission or Board of Supervisors may require increased setbacks up to 400 feet in situations where the height of structures or the topography affects the visual impact of the facility.
 3. These setback requirements shall not apply to internal property lines of those parcels on which a solar facility is located.
 4. Access, erosion and stormwater structures, and interconnection to the electrical grid may be made through setback areas provided that such are generally perpendicular to the property line.
- (e) Buffer. The buffer shall be located within the setbacks required under this Section and shall run around the entire perimeter of the property. The buffer shall be maintained for the life of the facility.
- (f) Screening. The facilities, including security fencing that is not ornamental, shall be screened from the ground-level view of adjacent properties or a public street in the buffer zone. Screening may also be required in other locations to screen specific uses or structures. A recommendation that the screening and/or buffer creation requirements be waived or altered may be made by the Planning Commission when the applicant proposes to use existing wetlands or woodlands to satisfy the screening requirement. The wetlands or woodlands shall be permanently protected as a designated buffer and the overall buffer shall measure at least 150 feet. Screening methods may include:
1. Existing Screening: Existing vegetation, topography, buildings, open space, or other elements located on the site may be considered as part of the required screening. Existing trees and vegetation may be retained within the buffer area except where dead, diseased, or as necessary for development or to promote healthy growth.
 2. Vegetative Screening: In the event existing vegetation or landforms providing the screening are inadequate or disturbed, new plantings shall be provided in a landscaped strip at least 50 feet wide. Landscaping intended for screening shall consist of a combination of non-invasive species, pollinator species, and native plants, shrubs, trees, grasses, forbs, and wildflowers. Trees intended for screening shall consist of a combination of evergreen and deciduous trees that are 5-6 ft. in height at time of planting. A triple row of trees shall be placed on average at 15 ft. on center. A list of appropriate plant materials shall be available at the Planning Office. Species listed on DCR's Invasive Plant Species list shall not be used.
 3. Berming: Berms shall generally be constructed with a 3:1 side slope to rise ratio, 4-6 ft. above the adjacent grade, with a 3 ft. wide top with appropriate pollinator-friendly native plants, shrubs, trees, forbs, and wildflowers. The outside edges of the berm shall be sculpted such that there are vertical and horizontal undulations to give variations in appearance. When completed, the berm should not have a uniform appearance like a dike.
 4. Opaque Architectural Fencing. Fencing intended for screening shall be at least 75 percent visually solid as viewed on any line perpendicular to the fence from adjacent property or a public street. Such fencing may be used in combination with other screening methods but shall not be the primary method. A typical example is the use of wood privacy fencing and landscaping to screen structures such as substations. Depending on the location, ornamental features may be required on the fence. Fencing material shall not include plastic slats.

- (g) Security Fence. The facilities shall be enclosed by security fencing not less than six (6) feet in height and topped with barbed wire, as appropriate. A performance bond reflecting the costs of anticipated fence maintenance shall be posted and maintained. Failure to maintain the security fencing shall result in revocation of the CUP and the facility's decommissioning.
- (h) Ground cover on the site shall be native vegetation and maintained in accordance with the landscaping plan in accordance with established performance measures. A performance bond reflecting the costs of anticipated maintenance shall be posted and maintained. Failure to maintain the ground cover shall result in revocation of the CUP and the facility's decommissioning. The operator shall notify the County prior to application of pesticides and fertilizers. The County reserves the right to request soil and water testing.
- (i) The Applicant shall identify access corridor(s) for wildlife to navigate through and across the Solar Facility. The proposed wildlife corridor(s) shall be shown on the site plan submitted to the County. Areas between fencing shall be kept open to allow for the movement of migratory animals and other wildlife.
- (j) The design of support buildings and related structures shall use materials, colors, textures, screening, and landscaping that will blend the facilities to the natural setting and surrounding structures.
- (k) The owner or operator shall maintain the solar facility in good condition. Such maintenance shall include, but not be limited to, painting, structural integrity of the equipment and structures, as applicable, and maintenance of the buffer areas and landscaping. Site access shall be maintained to a level acceptable to the County. The project owner shall be responsible for the cost of maintaining the solar facility and access roads, and the cost of repairing damage to private roads occurring as a result of construction and operation.
- (l) Inspections.
 - 1. The Applicant will allow designated County representatives or employees access to the facility for inspection purposes with 24-hour notice.
 - 2. The Applicant shall reimburse the County its costs in obtaining an independent third-party to conduct inspections required by local and state laws and regulations.
- (m) A utility-scale solar facility shall be designed and maintained in compliance with standards contained in applicable local, state, and federal building codes and regulations that were in force at the time of the permit approval.
- (n) The applicant shall provide proof of adequate liability insurance for a solar facility prior to beginning construction and before the issuance of a zoning or building permit to the zoning administrator.
- (o) Lighting fixtures as approved by the County shall be the minimum necessary for safety and/or security purposes to protect the night sky by facing downward and to minimize off-site glare. No facility shall produce glare that would constitute a nuisance to the public. Any exceptions shall be enumerated on the Concept Plan and approved by the zoning administrator.
- (p) No signage of any type may be placed on the facility other than notices, warnings, and identification information required by law.

- (q) At all times, the solar facility shall comply with the County's noise ordinance.
- (r) Coordination of local emergency services. Applicants for new solar facilities shall coordinate with the County's emergency services staff to provide materials, education and/or training to the departments serving the property with emergency services in how to safely respond to on-site emergencies.
- (s) Decommissioning
 1. Solar facilities which have reached the end of their useful life or have not been in active and continuous service for a period of six (6) months shall be removed at the owner's or operator's expense, except if the project is being repowered or a force majeure event has or is occurring requiring longer repairs; however, the County may require evidentiary support that a longer repair period is necessary.
 2. The owner or operator shall notify the zoning administrator by certified mail and in person of the proposed date of discontinued operations and plans for removal.
 3. Decommissioning shall include removal of all solar electric systems, buildings, cabling, electrical components, security barriers, roads, foundations, pilings, and any other associated facilities, so that any agricultural ground upon which the facility and/or system was located is again tillable and suitable for agricultural or forestall uses. The site shall be graded and re-seeded to restore it to as natural a pre-development condition as possible or replanted with pine seedlings to stimulate pre-timber pre-development conditions as indicated on the Concept Plan. Any exception to site restoration, such as leaving access roads in place or seeding instead of planting seedlings must be requested by the landowner in writing, and this request must be approved by the Board of Supervisors.
 4. The site shall be re-graded and re-seeded or replanted within 12 months of removal of solar facilities. Re-grading and re-seeding or replanting shall be initiated within a six-month period of removal of equipment.
 5. Decommissioning and reclamation shall be performed in compliance with the approved decommissioning and reclamation plan. The Board of Supervisors may approve any appropriate amendments to or modifications of the decommissioning plan.
 6. Hazardous material from the property shall be disposed of in accordance with federal and state law.
 7. If the owner or operator of the solar facility fails to remove the installation in accordance with the requirements of this permit or within the proposed date of decommissioning, the County may collect the surety and the County or hired third party may enter the property to physically remove the installation.
- (t) Any other condition added by the Planning Commission or Board of Supervisors as part of a CUP approval.

Sec. 16-407 Special provisions for battery facilities

In addition to the above general provisions, application requirements, and development and performance standards, the following additional requirements shall be met for the approval of a Battery Energy Storage Facility:

- (a) Battery Energy Storage Facilities shall be constructed, maintained, and operated in accordance with national industry standards and regulations including the most current adopted edition of the National Electrical Code, International Fire Code of the International Code Council, and the National Fire Protection Association Fire Code. The batteries will be NFPA (National Fire Protection Agency) compliant. In the event of a conflict between the national industry standards and these Conditions, the national industry standards shall control so that as technology advances, updated technology may be used.
- (b) Battery cells shall be placed in a Battery Energy Storage System (“BESS”) with a Battery Management System (“BMS”). The BESS shall provide a secondary layer of physical containment to the batteries and be equipped with cooling, ventilation, and fire suppression systems. Each individual battery shall have 24/7 automated fire detection and extinguishing technology built in. The BMS shall monitor individual battery module voltages and temperatures, container temperature and humidity, off-gassing of combustible gas, fire, ground fault and DC surge, and door access and be able to shut down the system before Thermal Runaway takes place.
- (c) The Battery Energy Storage System will be placed on an appropriate foundation and screened with vegetation outside of environmentally sensitive areas.
- (d) Access to all batteries and electrical switchgear shall be from the exterior for normal operation and maintenance. Access to the container interior shall not be permitted while the system is in operation except for safety personnel and first responders.
- (e) Qualifications and experience from selected developers and integrators shall be provided including disclosure of fires or other hazards at facilities.
- (f) Safety testing and failure modes analysis data from selected developers and manufacturers shall be provided.
- (g) The latest applicable product certifications shall be provided.
- (h) The Solar Facility operator or owner shall be responsible for any environmental remediation required by the county or the state and the costs of such remediation. All remediation shall be completed in a timely manner.

- (i) Battery storage shall be developed in collaboration with technical experts and first responders to utilize technology-appropriate best practices for safe energy storage systems including, but not limited to, the following:
 - 1. Adequate access/egress for the first responders;
 - 2. Adequate facility signage (on battery chemistry and person to contact);
 - 3. Accessible Safety Data Sheets;
 - 4. System-specific emergency response plans;
 - 5. Training for first responders on the type of system, potential hazards and risks, and system-specific emergency response plans;
 - 6. Adequate water sources and fire suppression appliances for the fire fighters if required in the emergency response plans;
 - 7. Signage on Hazardous Materials present in the vicinity;
 - 8. Emergency lighting;
 - 9. Separate battery modules to make it easier to isolate a failed battery from the rest;
 - 10. Sufficient disconnect and shutdown capability including a master kill switch to disable and discharge batteries;
 - 11. System-appropriate sensors and alarms;
 - 12. Air ventilation and fire suppression systems;
 - 13. Drainage for water runoff; and
 - 14. Other practices as recommended by experts or local first responders.

- (j) The Solar Facility operator or owner shall conduct regular on-site inspections of the battery units and submit a written report to the Zoning Administrator on their condition, at least once every six (6) months. The Solar Facility operator or owner shall conduct monthly inspections electronically of the battery units and submit a written report to the Zoning Administrator.

Sec. 16-408 Special provisions for substations

In addition to the above general provisions, application requirements, and development and performance standards, the following additional requirements shall be met for the approval of a substation:

- (a) Siting. Substations located within the Solar Facility shall be sited in accordance with these regulations.

- (b) Term and Special Permits. Substations included as part of the Solar Facility shall have the same term as the Solar Facility. However, Substations may have a life longer than that of the larger Solar Facility, and, alternatively, may individually and not as part of a Solar Facility receive a Conditional Use Permit in accordance with these regulations.

Sec. 16-409 Conditions

- (a) The Board of Supervisors may consider conditions addressing a proposed solar and/or battery facility, including, but not limited to, the following:
 - 1. A solar facility shall be constructed, maintained, and operated in substantial compliance with:
 - i. The development standards under this article.
 - ii. The approved concept plan.
 - iii. Any other conditions imposed pursuant to a Conditional Use Permit.

- (b) Site Plan Requirements. In addition to all Virginia site plan requirements and site plan requirements of the Zoning Administrator, the Applicant shall provide the following plans for review and approval for the Solar Facility prior to the issuance of a building permit:
 - 1. *Construction Management Plan.* The Applicant shall prepare a “Construction Management Plan” for each applicable site plan for the Solar Facility, and each plan shall address the following:
 - i. Traffic control methods (in coordination with the Virginia Department of Transportation [VDOT] prior to initiation of construction):
 - a. Lane closures
 - b. Signage
 - c. Flagging procedures
 - ii. Site access planning. Directing employee and delivery traffic to minimize conflicts with local traffic.
 - iii. Site security. The Applicant shall implement security measures prior to the commencement of construction of Solar Facilities on the Project Site.
 - iv. Lighting. During construction of the Solar Facility, any temporary construction lighting shall be positioned downward, inward, and shielded to eliminate glare from all adjacent properties. Emergency and/or safety lighting shall be exempt from this construction lighting condition.
 - v. Water Supply. In the event that on-site wells are used during construction of the solar energy facility, the Applicant shall prepare and submit for review to the County hydrogeologic information necessary for the County to determine the potential impact to pre-existing users for the same aquifer proposed to be used for the solar energy facility and a plan to mitigate impacts to pre-existing users within the area of impact of the Project. If the County, in consultation with the Department of Environmental Quality, determines that the installation of a well will not adversely affect existing users, the Applicant may proceed with well construction in compliance with approval by the Department of Environmental Quality. At the end of the construction of the solar energy facility, the well shall not thereafter be used except only for personal toilet and lavatory facilities as required by the Uniform Statewide Building Code for operations and maintenance buildings.
 - 2. *Construction Mitigation Plan.* The Applicant shall prepare a “Construction Mitigation Plan” for each applicable site plan for the Solar Facility, and each plan shall address the effective mitigation of dust, burning operations, hours of construction activity, access and road improvements, and handling of general construction complaints as set forth and described in the application materials and to the satisfaction of the Zoning

Administrator. Damage to public roads related to construction activities shall be repaired as soon as possible and not postponed until construction completion. The Applicant shall provide written notice to the Zoning Administrator of the plans for making such repairs, including time within which repairs will be commenced and completed, within thirty (30) days of any written notice received from the Zoning Administrator.

- i. Driving of posts shall be limited to 7:00 am to 6:00 pm, Monday through Saturday. Driving of posts shall be prohibited on state and federal holidays. The Applicant may request permission from the County Administrator to conduct post driving activity on Sunday, but such permission will be granted or denied at the sole discretion of the County Administrator.
 - ii. Other construction activity on-site shall be permitted Monday through Sunday in accordance with the provisions of the County's Noise Ordinance.
 - iii. During construction, the setbacks may be used for staging of materials and parking. No material and equipment laydown area, construction staging area, or construction trailer shall be located within 200 feet of any property containing a residential dwelling.
 - iv. Construction lighting shall be minimized and shall be directed downward.
3. *Erosion and Sediment Control Plan.* The County will have a third-party review with corrections completed prior to County review and approval. The owner or operator shall construct, maintain, and operate the project in compliance with the approved plan. An E&S bond (or other security) will be posted for the construction portion of the project. In addition to state and local requirements, the plan shall:
 - i. Clearly show existing and proposed contours; and
 - ii. Note the locations and amount of topsoil to be removed (if any) and the percent of the site to be graded.
4. *Stormwater Management Plan.* The County will have a third-party review with corrections completed prior to County review and approval. The owner or operator shall construct, maintain, and operate the project in compliance with the approved plan. A storm water control bond (or other security) will be posted for the project for both construction and post construction as applicable and determined by the Zoning Administrator.
5. *Landscaping Plan.* The Applicant will submit a final landscaping plan for review and approval by the Zoning Administrator. The owner or operator shall construct, maintain, and operate the facility in compliance with the approved plan. A separate security shall be posted for the ongoing maintenance of the project's land cover and vegetative buffers in an amount deemed sufficient by the Zoning Administrator. Failure to maintain the landscaping in accordance with the plan may result in the issuance of a notice of violation by the Zoning Administrator. The Applicant (or the operator) shall promptly communicate with the Zoning Administrator within 30 days of the date of the notice of violation and submit a plan in writing satisfactory to the Zoning Administrator to remedy such violation no later than 180 days after the date of the notice of violation. Failure to remedy the violation before the end of the 180-day cure period may result in revocation of the CUP.
 - i. Ground cover shall be native vegetation where compatible with site conditions and, in all cases, shall be approved by the Zoning Administrator.
 - ii. Screening vegetation shall include pollinator plants where compatible with site conditions and, in all cases, shall be approved by the Zoning Administrator.

- iii. Only EPA approved herbicides shall be used for vegetative and weed control at the solar energy facility by a licensed applicator. No herbicides shall be used within 150 feet of the location of an approved ground water well. The Applicant shall submit an herbicide land application plan prior to approval of the certificate of occupancy (or equivalent). The plan shall specify the type of herbicides to be used, the frequency of land application, the identification of approved groundwater wells, wetlands, streams, and the distances from land application areas to features such as wells, wetlands, streams and other bodies of water. The operator shall notify the County prior to application of pesticides and fertilizers. The County reserves the right to request soil and water testing.
- 6. *Decommissioning and Reclamation Plan.* The Applicant will submit a final decommissioning and reclamation plan in accordance with these regulations for review and approval by the Zoning Administrator.
- 7. The Applicant shall reimburse the County its costs in obtaining independent third-party reviews as required by these conditions.
- (c) The design, installation, maintenance, and repair of the Solar Facility in accordance with the most current National Electrical Code (NFPA 70) available (2014 version or later as applicable).
- (d) If the solar facility does not receive a building permit within eighteen (18) months of approval of the Conditional Use Permit, the Permit shall be terminated.
- (e) If the solar facility is declared to be unsafe by the zoning administrator or building official, the facility must be in compliance within fourteen (14) days or the Conditional Use Permit shall be terminated, and system removed from the property.
- (f) The owner and operator shall give the County written notice of any change in ownership, operator, or Power Purchase Agreement within thirty (30) days.