

ARTICLE 20

Adopted 11-06-2017
Amended April 11, 2022

SOLAR FACILITIES

20.1 PURPOSE

The purpose of this section is to establish requirements for construction and operation of solar 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.

20.2 APPLICABILITY

Applicability. This article shall apply to all solar 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.

20.3 DEFINITIONS

- a. **Applicant** – the person or entity who submits an application to the locality for a permit to install a solar facility project under this ordinance.
- b. **Disturbance zone** – the area within the site directly impacted by construction and operation of the solar facility.
- c. **Community Scale-Solar Facility** – A solar photovoltaic (PV) project with multiple subscribers that receive credit on their utility bill portion of the energy produced by the community solar facility.
- d. **Integrated PV** – photovoltaics incorporated into building materials, such as shingles.
- e. **Operator** – the person responsible for the overall operation and management of a solar facility.
- f. **Owner** – the person who owns all or a portion of a solar facility.
- g. **Photovoltaic or “PV”** – materials and devices that absorb sunlight and convert it directly into electricity.
- h. **Rated capacity** – the maximum capacity of a solar facility based on the sum total of each photovoltaic system’s nameplate capacity.
- i. **Site** - the entire area containing a solar facility.
- j. **Solar facility, small-scale** – a facility that either: (a) generates less than 15 kilowatts (kW) electricity from sunlight, consisting of one or more Photovoltaic (PV) systems and other appurtenant structures and facilities within the boundaries of the site; or (b) utilizes sunlight as an energy source to heat or cool buildings, heat or cool water, or produce electrical or mechanical power by means of any combination of collecting, transferring, or converting solar-generated energy; and (c) meets at least one of the following criteria: has a disturbance zone equal to or less than an acre; is mounted on or over a building, parking lot, or other previously disturbed area; or utilizes integrated PV only.

- k. **Solar facility, medium-scale** – a facility that generates electricity from sunlight primarily to reduce onsite consumption of utility power for commercial and industrial applications. Sites are between one to three acres with a maximum capacity of 999 kW.
- l. **Solar facility, utility-scale** – a facility that generates electricity from sunlight which will be used to provide electricity to a utility provider. Sites are generally over two acres and have a capacity in excess of one megawatt (1 MW).

20.4 ZONING DISTRICTS

(a) Solar facilities shall be permitted in zoning districts as follows:

Solar Facility	Agricultural	Low Density Agricultural	Business B-1	Industrial M-1
<i>Small-scale</i>	By-right	By-right	By-right	By-right
<i>Medium-scale</i>	SEP	SEP	SEP	By-right
<i>Utility-scale</i>	SEP	SEP	SEP	SEP

- (b) Small-scale solar Facilities may be installed in the Agriculture, Residential, Business, and Industrial Districts, to provide electricity to individual structures; provided a site plan 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. This type of small-scale solar facility shall not be required to meet the requirements of a Special Exception Permit.
- (c) Medium-scale solar facilities may be installed in the Industrial M-1 District 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; and the system is located on the property or structure to be served. This type of medium-scale solar facility shall not be required to meet the requirements of a Special Exception Permit.
- (d) Any Solar facility installed upon a roof top shall submit a site plan to the Zoning Administrator and an engineering study to the Building Official Office for review.

20.5 APPLICATIONS AND PROCEDURES

In addition to the requirements of the Mecklenburg County Zoning Ordinance and Special Exception Permit requirements, applications for a solar facility (medium-scale and utility-scale) shall include the following information:

- (a) Pre-application meeting. Schedule a pre-application meeting with the Zoning Administrator to discuss the location, scale and nature of the proposed use and what will be expected during that process.
- (b) Comprehensive Plan Review. A 2232 review by the County is required by the *Code of Virginia* (§15.2-2232) for utility-scale solar facilities. This Code provision provides for a review by the Planning Commission of public utility facility proposals to determine if their general or approximate location, character and extent are substantially in accord with the Comprehensive Plan or part thereof.

- (c) SEP application. A complete SEP application including:
 - 1. Documents demonstrating the ownership of the subject parcel(s).
 - 2. Proof that the applicant has authorization to act upon the owner's behalf.
 - 3. Identification of the intended utility company who will interconnect to the facility.
 - 4. List of all adjacent property owners, their tax map numbers and addresses.
 - 5. A description of the current use and physical characteristics of the subject parcels.
 - 6. A description of the existing uses of nearby properties.
 - 7. Project Description
 - 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 and expected footprint of solar equipment to be constructed.
 - 9. Aerial imagery which shows the proposed location of the solar facility, fenced area and driveways 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.

- 7. 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 the subject parcels.
 - (2) Property lines and setback lines.
 - (3) Existing and proposed buildings and structures; including preliminary locations of the proposed solar panels and related equipment; the location of proposed fencing, driveways, internal roads, and structures; and the location of points of ingress/egress.
 - (4) The location and nature of proposed buffers and screening elements, including vegetative and constructed buffers.
 - (5) Existing and proposed access roads, drives, turnout locations, and parking. However, this requirement shall not exceed VDOT requirements for other types of projects in the underlying zoning district.
 - (6) Location of substations, electrical cabling from the solar facility systems to the substations, ancillary equipment, buildings, and structures including those within any applicable setback.
 - (7) Fencing or other methods of ensuring public safety.
 - (8) Fourteen 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.
 - (9) 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 and screening plan, coverage map, and additional information that may be necessary for a technical review of the proposal.

- 8. Concept plan compliance. The facility shall be constructed and operated 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) process.

9. Decommissioning plan. A detailed decommissioning plan, certified by an engineer, which shall include the following:
 - (1) The anticipated life of the project;
 - (2) The estimated decommissioning cost in current dollars;
 - (3) How said estimate was determined;
 - (4) The method of ensuring that funds will be available for decommissioning and removal;
 - (5) The method that the estimated decommissioning cost will be kept current; and
 - (6) The manner in which the project will be decommissioned and the site restored.

The applicant shall provide a cost estimate for the decommissioning of the facility shall be prepared by a professional engineer or contractor who has expertise in the removal of the solar farm. The decommissioning cost estimate shall explicitly detail the cost and shall include a mechanism for calculating increased removal costs due to inflation and without any reduction for salvage value. This cost estimate shall be recalculated every five (5) years and the surety shall be updated in kind.

10. A proposed method of providing appropriate escrow, surety or security for the cost of the decommissioning plan.
11. Traffic study submitted with application modelling the construction and decommissioning processes. County staff will review the study in cooperation with VDOT.
12. An estimated construction schedule.
13. Wetlands shall be inventoried, delineated, and avoided.
14. Environmental inventory and impact statement regarding any site and view shed impacts, including direct and indirect impacts to national and state forests, national or state parks, wildlife management areas, conservation easements, or any known historic or cultural resources within three (3) miles of the proposed project.
15. A visual impact analysis to demonstrate through project siting and proposed mitigation, if necessary, 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.

20.6 NEIGHBORHOOD MEETING

- (a) 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 summary of any input received from members of the public at the meeting.

20.7 MINIMUM DEVELOPMENT STANDARDS

- a) 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) acres.
 - (2) The equipment, improvements, and structures of a utility-scale solar facility shall be in accord with acreages recommended in the Comprehensive Plan for the site on which the solar facility is located as shown on the approved concept plan.
 - (3) 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.
 - (4) Provide an inventory of all solar facilities – existing or proposed – within a four (4) mile radius.
- b) A utility-scale solar facility shall be constructed and maintained in substantial compliance with the approved concept plan.
- c) The minimum setback to all property lines shall be 150 feet.
- d) 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.

- e) 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 extending from the property line that shall be landscaped with plant materials consisting of an evergreen and deciduous mix (as approved by County staff), except to the extent that existing vegetation or natural land forms on the site provide such screening as determined by the Zoning Administrator. In the event, existing vegetation or land forms 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.
- f) The facilities shall be enclosed by security fencing on the interior of the buffer area (not to be seen by other properties) not less than seven (7) feet in height and topped with razor/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 SEP and the facility's decommissioning.
- g) Ground cover on the site shall be native vegetation and maintained in accordance with established performance measures or SEP conditions.
- h) 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.
- i) 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.
- j) 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.
- k) A utility-scale solar facility shall comply with all permitting and other requirements of the Virginia Department of Environmental Quality.
- l) 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.
- m) Lighting fixtures as approved by the County to minimize off-site glare and shall be the minimum necessary for safety and/or security purposes. 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.
- n) No signage of any type may be placed on the facility other than notices, warnings, and identification information required by law.
- o) 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.

- p) At all times, the solar facility shall comply with the County’s noise ordinance.
- q) Any other condition added by the Planning Commission or Board of Supervisors as part of a SEP approval.

20.8 DECOMMISSIONING

The following requirements shall be met:

- (a) Solar facilities which have reached the end of their useful life or have not been in active and continuous service for a period of one (1) year 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.
- (b) The owner or operator shall notify the Zoning Administrator by certified mail of the proposed date of discontinued operations and plans for removal.
- (c) 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 uses. The site shall be graded and re-seeded to restore it to as natural a condition as possible, unless the land owner requests in writing that the access roads or other land surface areas not be restored, and this request is approved by the Board of Supervisors (other conditions might be more beneficial or desirable at that time).
- (d) The site shall be re-graded and re-seeded to as natural condition as possible within 12 months of removal of solar facilities. Re-grading and re-seeding shall be initiated within a six-month period of removal of equipment.
- (e) Decommissioning shall be performed in compliance with the approved decommissioning plan. The Board of Supervisors may approve any appropriate amendments to or modifications of the decommissioning plan.

- (f) Hazardous material from the property shall be disposed of in accordance with federal and state law.
- (g) 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.
 - i. 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.
 - ii. 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 plan. The County may approve the partial release of escrow funds as portions of the approved decommissioning plan are performed.
 - iii. The amount of funds required to be deposited in the escrow account shall be the full amount of the estimated decommissioning cost without regard to the possibility of salvage value.
 - iv. The owner or occupant shall recalculate the estimated cost of decommissioning every five years. If the recalculated estimated cost of decommissioning exceeds the original estimated cost of decommissioning 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 of decommissioning is less than ninety percent (90%) of the original estimated cost of decommissioning, then the County may approve reducing the amount of the escrow account to the recalculated estimate of decommissioning cost.
 - v. The County may approve alternative methods to secure the availability of funds to pay for the decommissioning of a utility-scale solar facility, such as a performance bond, letter of credit, or other security approved by the County.
- (h) 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.

20.9 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.

20.10 CONDITIONS

- (a) The Board of Supervisors may consider conditions addressing a proposed solar 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 Special Exception Permit.
 - (2) The Special Exception Permit may require the applicant to submit an erosion and sediment control plan for review by the County or by a qualified third party, however, the third party review shall not supersede any requirements imposed by state agencies. The applicant shall construct, maintain, and operate the solar facility in compliance with the approved plan.
 - (3) The Special Exception Permit may require the applicant to submit a stormwater management plan for review by the County or by a qualified third party. The applicant shall construct, maintain, and operate the solar facility in compliance with the approved plan.
 - (4) 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 Special Exception Permit will be terminated and system removed from the property.
 - (5) The proposed utility-scale solar facility must be reviewed and approved pursuant to § 15.2-2232 (Code of Virginia).
 - (6) The owner and operator shall give the County written notice of any change in ownership or any change in the operator.
 - (7) The applicant shall pay a supplemental application fee to cover the reasonable and actual cost of any review of the erosion and sediment control plan or the stormwater plan by a qualified third party.

20.11 Utility-Scale Solar Facility

- 1. A utility-scale solar facility will not be located within one (1) mile of any town boundary.
- 2. The area, within which all construction, material storage, grading and related activities for the utility-scale solar facility occurs, will be no more than a total of five (500) acres.
- 3. A utility-scale solar facility will not be located within two (2) miles of another approved or constructed Utility-Scale, Small-Scale, or Community-Scale Solar facility to mitigate the impacts related to the scale of the use.
- 4. No solar project will be located within one (1) mile of FAA (Federal Aviation Administration) regulated airport unless the applicant submits as part of its

application written certification from the FAA that the location of the facility poses no hazard and will not interfere with, airport operations.

20.12 Small-Scale Solar Facility

1. A small-scale solar facility will not be located within one (1) mile of any town boundary.
2. The area, within which all construction, material storage, grading and related activities for the small-scale solar facility occurs, will be no more than a total of fifty (50) acres.
3. A small-scale solar facility will not be located within two (2) miles of another approved or constructed Utility-Scale, Small-Scale, or Community-Scale solar facility to mitigate the impacts to the scale of the use.
4. No solar project will be located within one (1) miles of FAA (Federal Aviation Administration) regulated airport unless the applicant submits as part of its application written certification from the FAA that the location of the facility poses no hazard and will not interfere with, airport operations.

20.13 Community-Scale Solar Facility

1. A community-scale solar facility will not be located within one (1) miles of any town boundary.
2. The area, within which all construction, material storage, grading and related activities for the community-scale solar occurs, will be no more than a total of fifty (50) acres.
3. A community-scale solar facility will not be located within two (2) miles of another approved or constructed Utility-Scale, Small-Scale, or Community-Scale solar facility to mitigate the impacts to the scale of the use.
4. No solar project will be located within one (1) mile of FAA (Federal Aviation Administration) regulated airport unless the applicant submits as part of its application written certification from the FAA that the location of the facility poses no hazard and will not interfere with airport operations.