Charlotte County Planning Commission
250 LeGrande Avenue, Suite A
Charlotte Court House, VA 23923

Thursday, May 15, 2025
7:00 PM

- Call to Order
- Invocation
- Consider Approval of Agenda
- Consider Approval of April Minutes
- Recess for Public Hearing – Conditional Use Permit - Red Oak Excavating / Mary Ellen Hall Material Storage Yard with Parking
    - Call Public Hearing to Order
    - Staff Report
    - Applicant Comments
    - Public Comments
    - Commissioner Questions/Comments
    - Adjourn Public Hearing & Reconvene Regular Meeting
- Consider Conditional Use Permit Application for Material Storage Yard
- General Public Comment Period
- 2232 Comprehensive Plan Compliance Review - Taro Solar – Berkley Group (via Zoom)
- Discuss Battery Energy Storage Zoning Amendment
    - Fire Risks
    - Decommissioning
    - Tier 1 Battery Energy Storage Systems (600 KWh or less)
    - Minimum Lot Size
- Set Regular June Meeting Date (June 19th is the Juneteenth state holiday)
- Set Public Hearing for Battery Energy Storage Ordinance
- Staff Report
- Commissioners' Time
- Adjourn

Charlotte County Planning Commission
April 17, 2025 7:00 pm
Charlotte County Administration Office

Present:		Absent:
Miller Adams	Hazel Bowman Smith*	Patrick Andrews
James Benn	Belinda Strom	Kerwin Kunath
Andrew Carwile	David Watkins, Jr.	Richard Vaughan
Curtis Morton	Eugene Wells	
Mike Price		

**Board of Supervisors Representative – Non-voting*

Staff in Attendance: Monica Elder, Assistant County Administrator
Chris Russell, Public Safety Director

Chairman Benn called the meeting to order at 7:00 pm and Mike Price gave the invocation.

Motion was made by Andrew Carwile to approve the agenda as presented. Eugene Wells seconded the motion and the motion carried with all members present voting yes.

Curtis Morton made the motion to approve the March 20th meeting minutes as presented. David Watkins seconded the motion, and the motion carried with all members present voting yes.

Public Hearing – Patel Conditional Use Permit for Gas Station / Convenience Store
Chairman Benn recessed the meeting to hold a public hearing on J. Mukeshkumar Patel's conditional use permit application for a proposed convenience store / gas station to be located on property currently owned by Diane Raines, identified as Tax Parcel #85-A-110, located at 17700 Kings Highway, Wylliesburg, & formerly operated as Sundae's Restaurant.

Staff provided a report, reviewing general project information, zoning requirements, criteria to be considered, recommended conditions, and options. The applicant declined the opportunity to address the Commission.

Written comments provided by citizen Sandra Towne were read. Ms. Towne expressed concerns regarding litter that may result from the use and recommended including a condition to address the issue. Commissioner Strom inquired if Ms. Towne's concern could be addressed through a condition. Staff advised that a condition requiring outdoor trash receptacles for customer use may be helpful and would be easier to enforce than litter control requirements.

There being no further public comments, the public hearing was then adjourned.

Eugene Wells then made the motion to recommend approval of Mr. Patel's conditional use permit application with conditions. Curtis Morton seconded the motion, and the motion carried with all members voting yes. After further discussion of trash receptacles, Commissioners determined one receptacle for each fueling position was needed. Eugene Wells then made an amended motion to recommend approval of Mr. Patel's conditional use permit application with staff's recommended

conditions and a condition requiring eight outdoor trash receptacles for customer use. Curtis Morton seconded the motion, and the motion carried with all members present voting yes.

General Public Comment Period
There were no public comments.

Battery Energy Storage Systems
Chairman Benn explained that the Commission was continuing their review of the three issues related to battery energy storage that were discussed at the previous meeting. He noted that Supervisor Smith also had brought up a concern regarding lot sizes for utility-scale battery storage.

Fire Risks
Staff reported that ordinance requirements related to fire protection are often restated in project conditions with additional requirements such as cost reimbursement for emergency response, provision of protective equipment, and fire safety coordination. Staff shared comments provided by Aaron Berryhill with the Department of Energy related to the importance of including national standards and equipment spacing requirements. Comments provided by the seven local fire chiefs were also presented.

Chairman Benn called on Public Safety Director Chris Russell for comments. Mr. Russell explained that, per the previous applicant, East Point Energy, fires at battery energy storage systems typically should be allowed to burn out on their own. Mr. Russell noted that the systems include monitoring equipment to identify abnormal activity as well as fire suppression systems. He explained that smoke could be a concern during a battery energy storage system incident, and proper siting is key to minimizing impacts. He also discussed the need to properly train volunteers without placing an unnecessary burden on them.

By consensus Commissioners agreed to add equipment spacing requirements to the ordinance, as recommended by Mr. Berryhill. Commissioners discussed including Dominion Energy's specifications Mr. Berryhill shared, asking staff to use those specifications to develop draft regulations.

By consensus the Commission agreed to include language in the ordinance (1) requiring the facility owner/operator to reimburse local fire, emergency medical services, and law enforcement for expenses incurred as a result of a fire event and (2) requiring the provision of material data sheets as part of the site plan review.

Commissioners then discussed the costs residents may incur if a fire incident occurred at a facility and the need for the applicant/owner to reimburse evacuees. Also discussed were evacuations occurring in other localities as a result of incidents associated with private businesses; the extent of evacuations; notifications for impacted citizens; and oversight of reimbursements. Noting that the ordinance requires an emergency plan and the County's Emergency Operations Plan addresses evacuation procedures, staff expressed concerns that the level of detail discussed was beyond the scope of the zoning ordinance. Chairman Benn confirmed the draft ordinance's fire safety section required an emergency plan, emergency contact information, and material data sheets. After conferring with the Commissioners, Chairman Benn asked staff to contact Appomattox and Mecklenburg regarding evacuations and report back in May.

Decommissioning

Staff reported on the accuracy of decommissioning estimates, sharing input from Mr. Berryhill and engineers from Summit, Timmons, & Kimley-Horn that have worked on battery energy projects. Staff then provided the following options for consideration, which the Commission accepted by consensus:

- Revising 10-24-15 to specify the estimate shall be provided by an independent third-party professional engineer with expertise in Battery Energy Storage Facility construction and industrial site decommissioning
- If the ordinance is adopted, including a condition requiring the applicant to provide a copy of their agreement with the battery manufacturer or supplier prior to issuance of the building permit.

Tier Divisions

Staff provided options for a three-tier definition of battery energy storage that would include two categories for on-site systems (600 kWh or less), and another for utility scale systems greater than 600 kWh. Staff reported that while no local ordinance with a three-tier division had been identified, East Point had advised that Fauquier County might have additional information based on their recent research. Staff also reported that Mr. Berryhill and several of the engineers contacted about decommissioning had provided input on a three-tier system, stressing the challenges related to varying needs of individual users, growth in use, and monitoring on-site system installations.

Commissioners discussed the current use of batteries in the County, household needs, and potential changes in uses. Commissioner Carwile inquired about electric charging stations since they often have battery backups. Staff reported there were no public charging stations in the County yet and Chris Russell reported that the schools had three for electric buses that were obtained through a grant. By consensus, Commissioners decided to defer a decision on the issue.

Other Issues

Chairman Benn asked Supervisor Smith for additional input on minimum lot sizes for battery energy storage. Supervisor Smith stressed the importance of establishing a larger lot size requirement for utility-scale systems to ensure adequate buffering, recommending a five-acre minimum. The Commission then asked staff to research acreage requirements.

Staff Report

Referring to the staff report in the packet, staff provided updates on approved solar projects and solar applications and reported that the Board of Supervisors voted to make no changes to the makeup of the Planning Commission after further discussion regarding the inclusion of town representatives.

Commissioner's Time

As a follow-up to the staff report, Belinda Strom explained that PJM would be doing another study on the transmission line capacity, so it was not clear at this point if the 115kV line that CPV, Courthouse Solar, and other projects originally planned to connect to would need to be upgraded to a 230 kV line. She stated that if required, the upgrade would impact more than just the solar project landowners since easements across other properties would be required.

Miller Adams inquired about the efficiency of the two operational solar facilities in the County, noting that the panels at both Red House and Twitty's Creek did not seem to be tracking correctly. Staff offered to reach out to the companies to obtain production figures.

Adjourn

David Watkins made the motion to adjourn. Miller Adams seconded the motion, and the motion carried.

Red Oak Excavating
Conditional Use Permit Application Review
May 15, 2025

General Information

Application Date: April 22, 2025

Applicant: Red Oak Excavating

Current Property Owner: Red Oak Excavating & Mary Ellen Hall

Tax Parcel: Portions of 90-4-14C & 90-4-14

Zoning District: General Agriculture

Location: 5192 Barnesville Highway, Red Oak, VA 23964

Parcel Acreage: 56 Acres Total
Project to Occupy 20.33 Acres (1.182 acres of 90-4-14C & 19.155 acres of 90-4-14)

Current Property Use: 90-4-14C – Red Oak Excavating Business Location
90-4-14 – Agricultural & timber land, Verizon cell tower site (10,000 square ft. lease)

Future Land Use Map Designation: Agricultural Forest & Rural Use

Proposed Use: Open Materials Storage Yard with Vehicle Parking. Yard will be fenced in as shown on the site plan; no buildings are proposed at this time, but storage sheds or office trailer(s) could be added in the future with an approved zoning permit. Dominion Energy intends to lease the yard for use during the transmission line project and may use it for other projects as well.

Setbacks: No structures are currently planned for the site. Therefore, it complies with setback requirements which include a front setback of 125' from the center of the road, side yards of 50', and a 70' rear yard.

Ingress/Egress: The applicant proposes using Red Oak Excavating's existing 45' commercial entrance on Barnesville Highway (Route 15) for ingress and egress. VDOT reviewed the entrance plan and determined it meets their standards and no access improvements are required.

Parking: Meets Requirements - Ten parking spots planned

Screening: Not required – Per Zoning Ordinance §10-7-9, parking lot screening is only required for lots with twenty spaces or more.

Zoning References for Open Storage Yards:

Article 9, Use Matrix

Types	Zoning Districts				
	General Agricultural	Intensive Agriculture	General Residential	Village Center	General Industrial
Open Storage Yard	C				B

10-7-9. Parking lots—screening.
For the purposes of this section the term "parking lot" shall mean and refer only to a parking lot containing twenty (20) or more spaces.

Adjacent Parcel List :

Tax Map #	Owner Name	Acres	Land Use
90-3-5	Dejarnette Jean C & Rogers Pearson Jr	4.73	Open land (near adjacent)
90-3-5B	Dejarnette Jean C & Rogers Pearson Jr	5.23	Single Family Dwelling (near adjacent)
90-3-5C	Dejarnette Rogers Pearson Jr	0.45	Abandoned Dwelling (near adjacent)
90-3-5G	G & S Investments LLC	50.65	Timber land & open land with outbuildings
90-3-5H	Chumley William B & Sarah C	4.62	Single Family Dwelling (near adjacent)
90-3-5J	G & S Investments LLC	0.6	Open land (near adjacent)
90-4-14A	Clements Adaline Gilreath	2.39	Single Family Dwelling (near adjacent)
90-4-14B	Clements Adaline Gilreath	3.04	Open land
90-4-16	Tate Shauna Nicole	7.75	Timber land
90-5-2	Perkins Rachel Lillian	2	Timber land (near adjacent)
90-5-3	Leach Carolyn	3	Single Family Dwelling
90-4-16A	Tate Shauna Nicole	5.66	Single Family Dwelling (near adjacent)
90-A-74	Carnes Laura T	6.21	Single Family Dwelling
90-A-74A	Dulick Daisy Lorraine	29.04	Timber land & open land
90-A-75	Hightower Ruth T Life	0.5	Single Family Dwelling
90-A-75A	Moore Tina Hightower	4.24	Single Family Dwelling
95-1-10A	Winiarski Paul D	9.36	Single Family Dwelling & Timber (near adjacent)
95-1-13	Hall Mary Ellen	110	Timber land & open land
95-A-65	Hightower Ruth T Life	13.45	Timber land & open land
95-A-65B	Newcomb Donald R & Jeanne K	29.37	Single Family Dwelling & Timber land
95-A-65C	Moore Tina Hightower	0.6	Open land

CUP Application Considerations:
Issues to be considered when reviewing a conditional use permit applications per Zoning Ordinance Section 2-8-7.6:

a) Whether the proposed use is consistent with the comprehensive plan.

b) Whether the impacts of the proposed use on surrounding properties and public facilities, services, and infrastructure will be adequately mitigated so as to protect adjacent owners and the general public.

c) The compatibility of the proposed use with other existing, planned, or proposed uses in the neighborhood, and adjacent parcels.

d) The timing and phasing of the proposed development and the duration of the proposed use.

e) Whether the proposed use will result in the preservation or destruction, loss or damage of any significant topographic or physical, natural, scenic, agricultural, archaeological or historic features.

f) Whether the proposed use at the specified location will contribute to or promote the welfare of the public.

g) Whether the proposed use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the comprehensive plan.

h) The effect of the proposed use in enhancing affordable shelter opportunities for residents of the County.

Recommended Conditions

1. The applicant/owner shall adhere to all federal, state, and local laws, regulations, ordinances and permit requirements for the construction and operation of the proposed facility.
2. The project shall be constructed and operated in substantial compliance with the application provided and the approved site plan.
3. Approved zoning and building permits must be obtained prior to placing any structures on the material storage yard.
4. No physically damaged solar panels or any portion or debris thereof shall be stored on site.
5. The County Administrator, Building Official, Zoning Administrator, or any other parties designated by those County officials, shall be allowed to enter the property to check for compliance with the provisions of this permit, with reasonable advanced notice and subject to the security, health and safety standards and regulations that apply to the project site.
6. Any infraction of the above-mentioned conditions may lead to a stop order and revocation of the Conditional Use Permit, if it be the wishes of the Charlotte County Board of Supervisors.

Conditional Use Permit Actions:

The Planning Commission has three options to consider. Please note the findings below are just potential findings and the Commission should incorporate any findings they deem appropriate.

- Option 1 – Approval of the Application
  I move to recommend to the Board of Supervisor's that Red Oak Excavating's Conditional Use Permit for a material storage yard with parking, as presented, be approved with conditions, based on the following findings:

- Approval of the proposed use supports the Comprehensive Plan goal of supporting the expansion of a diversified economy.
- The proposed use is compatible with adjacent uses.
- The nature of the use does not negatively impact the rural character of the community.

- Option 2 - Denial of the Application
  I move to recommend to the Board of Supervisor's that Red Oak Excavating's Conditional Use Permit for a material storage yard with parking, as presented, be denied, based on the following findings:

  - The proposed use is not compatible with the rural character of the community.
  - The proposed use has negative impacts that cannot be mitigated. (Please specify)

- Defer making a decision on the application until another specified meeting date

Attachments:

1) Conditional Use Permit Application
2) GIS Map
3) Preliminary Site Plan

CONDITIONAL USE PERMIT APPLICATION
Charlotte County, Virginia

250 LeGrande Avenue, Suite A, PO Box 608, Charlotte Court House, VA 23923
Phone: 434-542-5117 Fax: 434-542-5248

PROPERTY DESCRIPTION

Tax Map Parcel Number(s): 90-4-14C (Partial) & 90-4-14 (Partial)
Property Address (if an E-911 address has not been assigned, provide directions to site):
5192 Barnesville Highway, Red Oak, VA 23964
Current Zoning: General Agricultural (both parcels)
Proposed Zoning: General Agricultural on a portion of 90-4-14 and General Agricultural on portion of 90-4-14C
Current Use(s): 90-4-14C - Excavating Business; 90-4-14 - Agricultural
Proposed Use: Open Materials Storage Yard with Vehicle Parking (less than 20 veh)
Total Lot Area (Acres): 20.33 acres
Does proposed use include entire property? [ ] YES [X] NO
If no, how much will be used for proposed use? 1.182 ac of 90-4-14C and 19.155 ac of 90-14-4

APPLICANT

Name: Red Oak Excavating
Mailing Address: 5192 Barnesville Hwy, Red Oak, Virginia 23964
Telephone Number(s): 434-735-8595
E-mail Address: redoakexcavating@gmail.com

PROPERTY OWNER (If different from applicant)

Name: Red Oak Excavating, Inc and Mary Ellen Hall
Mailing Address: 5192 Barnesville Hwy, Red Oak, VA 23964
Telephone Number(s): 434-735-8595 (o); 434-917-5444 (m)
E-mail Address: redoakexcavating@gmail.com

UTILITIES

Water Supply: Public Water_____ Private Well X
Is water supply [ ] New or [X] Existing?
Sewage Disposal: Public Sewer_____ Private Septic X
Is sewage TION disposal system [ ] New or [X] Existing?

APPLICANT SIGNATURES

As the Applicant, I hereby certify that this application is complete and accurate to the best of my knowledge, and I freely consent to its filing. I authorize Charlotte County officials and other authorized government agents on official business to enter the property as necessary to process this application.

Signature: Gene H. Hall
Printed Name: Gene H. Hall Jr. Date: 4/22/25

Signature: Mary Hall
Printed Name: Mary Hall Date: 4/22/25

OWNER SIGNATURES

As the Owner X or Owner's Power of Attorney _____, I hereby certify that this application is complete and accurate to the best of my knowledge, and I freely consent to its filing. I authorize Charlotte County officials and other authorized government agents on official business to enter the property as necessary to process this application.

Signature: Gene H Hall Jr
Printed Name: Gene H. Hall Jr. Date: 4/22/25

Signature: Mary Hall
Printed Name: Mary Hall Date: 4/22/25

Signature: _____
Printed Name: _____ Date: _____

*If there are more than three owners, please contact the County to request an additional signature page. All owners must sign the Conditional Use Permit application.

In accordance with the Charlotte County Zoning Ordinance, additional documents may be required before this application is considered complete. County staff can assist you in determining specific requirements associated with your application.

Charlotte County Virginia

1" =457'

Hall Property - 90-4-14 & 90-4-14-C

DISCLAIMER: This data is provided without warranty of any kind, either expressed or implied. Anyone using this map assumes all risk for the inaccuracy thereof, as Charlotte County expressly disclaims any liability for loss or damage arising from the use of said information by any third party.

- County Boundary
- Parcel Boundaries
- 1% Annual Chance Flood Hazard
- Parcel Labels
- Roads

Staff Report
Taro Solar Project
Public Facility Application Review
Code of Virginia § 15.2-2232
Charlotte County, Virginia

Report Date: May 7, 2025
Planning Commission Meeting Date: May 15, 2025

APPLICATION SUMMARY

Project:	Taro Solar, LLC, 140MW
Location:	The Project is located in northern Chalotte County, adjacent to Thomas Jefferson Hwy (Route 47) and Taro Road (Route 660), extending south to Welsh Tract Road (Route 658), 1.8 miles south of the border of Charlotte County and Prince Edward County and 2.4 miles north of Charlotte Court House town limits.
Parcel Record Numbers:	16-A-109-A, 16-A-109-D, 16-A-109-E, 27-A-1, 16-4-2, 16-A-109, 16-A-57, 16-4-1, 16-A-73, 16-A-75, 16-A-78, 16-A-80, 16-A-85, 16-A-63, 16-A-55, 16-A-67, 16-A-70, 17-A-14-A, 16-A-74, 16-A-76, 16-A-57-A, 16-A-90, 16-A-93, 16-2-4, 16-A-49, 16-A-50, 16-A-52, 16-A-53, 16-A-79, 16-A-86, 16-A-88, 16-A-89, 16-A-81, 16-A-82, 16-A-115
Proposal:	Applicant's request for review of the Taro Project pursuant to Virginia Code Section 15.2-2232
Application Submitted:	Initial Submission: October 16, 2024 Last Revision: March 21, 2025 Deemed complete on March 26, 2025
Applicant:	Taro Solar, LLC 23955 Novi Road Novi, Michigan 48375
Representative:	Anand Gangadharan NOVI Energy 248-735-6684
Owners:	Lisa Adams; Blue Rock Resources LLC; James Alvin Carrington; Geraldine M. Darnell; Cheryl G. Gee, Troy A. Gee, or Tiffany A. Gee; Austin Goldman or Sandra Goldman; Austin Goldman or Sandra Goldman or Brittni Goldman or Jasmine Goldman; Cephas Goldman & Thurma M. Goldman; Cornell B. Goldman; Cornell B. Goldman & Brandon M. Pugh; Cornell B. Goldman or Melanie Goldman; Kenneth Goldman; Justin Layne; Mill Road Logging LLC; David L. Moore; David L. Moore & Janet Evans-Watkins

PLANNING COMMISSION ACTION

The Applicant has requested that the Planning Commission review its proposed solar energy facility, as a "public utility facility" under Virginia Code Section 15.2-2232(A), to determine whether the general or approximate location, character, and extent of the proposed facility is substantially in accord with the County's Comprehensive Plan.

Staff has recommended that the Planning Commission review the request for determination under Virginia Code Section 15.2-2232 prior to any review of a conditional use permit (CUP) application. Subject to the Planning Commission's 2232 decision, the Planning Commission will separately review and consider the merits of any associated CUP Application.

The Planning Commission, with consultation from the Berkley Group, drafted a Utility-Scale Solar Comprehensive Plan Policy at meetings held on February 2, 2023, and February 28, 2023. The Berkley Group prepared revisions to drafts and recommendations based upon feedback from County staff and the Planning Commission; the final version of the draft policies was submitted to the County and Planning Commission on May 12, 2023. The County completed work with the Commonwealth Regional Council to incorporate developed policies within the then under-development Comprehensive Plan and has adopted the Comprehensive Plan inclusive of the amended policies for solar facilities; therefore, the now-adopted policy is applicable to the review of this Project.

PURPOSE OF THE REVIEW UNDER VIRGINIA CODE SECTION 15.2-2232

Virginia Code Section 15.2-2232 requires that the Planning Commission review all proposed developments that include a "public utility facility" prior to the construction or authorization of such facility. The purpose of the Planning Commission's review is to determine whether the general or approximate location, character, and extent of the proposed public utility facility is substantially in accord with the Charlotte County Comprehensive Plan or part thereof. The Planning Commission has set aside time at its May 15, 2025 meeting to afford residents an opportunity to offer their comments to the Planning Commission. The Planning Commission must advise the Board of Supervisors of its determination. If appealed by the Applicant, the Board of Supervisors may overrule the action of the Planning Commission.

PROPOSED DEVELOPMENT

The Applicant proposes to construct a 140 megawatt (alternating current) photovoltaic solar energy generation facility. The Project is located in northern Charlotte County, adjacent to Thomas Jefferson Hwy (Route 47) and Taro Road (Route 660), extending south to Welsh Tract Road (Route 658). The location is 1.8 miles south of the border of Charlotte County and Prince Edward County and 2.4 miles north of Charlotte Court House town limits. The Project is comprised of 35 parcels totaling approximately 2,117 acres, while the Applicant's conceptual drawings show approximately 1,073 acres in the Project footprint to be within the fence-line. The developed area of the Project will span just over half (51%) of the entirety of the 35 parcels. Existing residential use within the Project area will remain on six acres.

The Project infrastructure will consist primarily of approximately 304,850 solar modules, 36 inverters pads, and above ground utility poles. PJM has determined that Courthouse, Tall Pines, CPV County Line, and Quarter Horse must connect to a new 230 kV transmission line, which has not yet been designed or constructed. PJM will be reviewing their decision again in August based on changes in their project queue. If the 230 kV line is required, line construction is expected to begin in September 2025 and will take 42–48 months to complete. The substation will be approximately 250' x 400' and

will include electrical equipment such as medium voltage transformers, switchgear, and dead-end structures. Substation equipment will be mounted on concrete pads, foundations, and piles.

The Applicant proposes a 75-foot side setback to neighboring properties and a 125-foot front setback. The Applicant proposes a 500' equipment setback from Taro Road. The proposed setback areas will include a 25-foot vegetative buffer (consisting of existing and future growth provided by the Applicant). The proposed buffer will consist of undisturbed existing forested areas, proposed evergreen trees, proposed native pollinator plants, and proposed shrubs with consultation with County staff and VA-DEQ. The vegetated buffer will be shifted at least 15' away from Taro Road and Welsh Tract Road to improve site entrance visibility. The Project will have six gated entrances to public roads, including five entrances on Taro Road and one entrance on Welsh Tract Road. The southernmost entrance on Taro Road will only be used during operations.

The Applicant will provide a 400' setback from any existing on-site and off-site residential structures and all Project fence lines would be a minimum of 75' from the property lines of parcels not in the Project.

EXISTING CONDITIONS AND ZONING

The Parcels within the Project area are currently zoned General Agricultural and are identified as Agricultural, Forestry, and Rural Areas on the Future Land Use Map. The Project area is made up of the following existing land uses: 69 acres of agricultural, 731 acres of recently timbered and cleared forest, 556 acres of natural forest, 550 acres of planted forest, 6 acres of residential, 59 acres of transmission corridor, and 146 acres of wetlands and waterbodies.

The Project site contains areas of steep slopes, and the Applicant has indicated that the site may require grading the existing topography to accommodate anticipated and required stormwater management; additional information should be provided to identify the areas of steep slopes relative to the siting of infrastructure and necessary grading. The Applicant otherwise proposes to avoid grading steep slopes. Generally, through conditions, the County precludes development of slopes greater than 15%. The applicant indicates that 146 acres of wetlands, streams, and water bodies are located on the Project site; plans indicate that limits of work will be offset 100' from the limits of the wetlands and streams.

There are two dams located adjacent to the Project Site: Roanoke Creek Dams #6A and #31B. These dams are managed by Southside Soil and Water Conservation District (SWCD). The Project will setback two hundred feet (200') from the dam reservoir easement, as defined by the top-of-dam elevation. Taro will also avoid developing within the inundation zones downstream of these two dams. Furthermore, Taro will provide an access road to Dam 31B from Taro Road for dam monitoring and maintenance. A detailed map of the dam setbacks and boundaries is shown in drawing TS-SL-204. These boundaries have been approved by Southside SWCD.

According to the Application and Department of Conservation and Recreation's (DCR) ConserveVirginia data, there are no known historic and scenic resources within the Project limits. Additionally, portions of the area are designated as having Very High and High Forest Conservation and Watershed Impact values ranking Highest to Medium impact by DCR.

Regarding the value of agricultural soils, the Applicant will avoid modifying grades where practicable, existing farm roads will be utilized, equipment to lessen compaction will be used, and topsoil will be preserved to replace after construction.

Regarding interconnection impacts, recent changes in regional transmission planning have delayed several local solar projects. PJM has determined that Courthouse, Tall Pines, CPV County Line, and Quarter Horse must connect to a new 230 kV transmission line, which has not yet been designed or constructed. PJM will be reviewing their decision again in August based on changes in their project queue. If the 230 kV line is required, line construction is expected to begin in September 2025 and will take 42–48 months to complete. Taro Solar is expected to face the same interconnection requirement as these Projects are all located in the same transmission corridor.

The Project is located with the same 5-mile radius as the recently approved Tall Pines, County Line, Gibson, and Austin Goldman V solar projects, and therefore the total fenced acreage for utility-scale solar facility developments exceeds 3% of the land area within a 5-mile radius of the Project site. The proposed density of solar facilities totals 6.69% if the Project is approved. The Applicant requests a waiver for this metric. It should be noted, the Austin Goldman V Project Owner terminated the Conditional Use Permit, and the associated Project parcel has been acquired by the Taro Solar Project.

ADJACENT AND SURROUNDING USES

The areas surrounding the proposed Project area share the same land use and zoning characteristics – rural, agricultural, forestry uses – as well as the same land use classifications.

Saint Andrews Church and the local church cemetery are in the immediate vicinity of the Project. The setback distance from this church is four-hundred feet (400'), identical to that of all residential buildings located in and around the Site boundaries. The nearest equipment is located 951 feet from the church cemetery and the proposed laydown yard is located 535 feet away from the church cemetery. The proposed substation is setback 1,000 feet.

Should the Project Conditional Use Permit be approved, the Applicant has indicated that they intend to conduct a cultural and historical resources assessment to identify any additional cemeteries or gravesites located on the Site. If any unknown cemetery or gravesite is discovered, Taro will provide a setback from the boundary as recommended and approved by the Virginia Department of Historic Resources. A gravesite has been identified at the northern end of the Project Site. The Applicant proposed a setback to avoid accidental disturbance of the gravesite and a plan for access that requires a signed waiver, logging, and supervision of gravesite visitors.

The Plans include buffers and setbacks to mitigate any visual impact associated with the Project to the adjacent uses.

COMPREHENSIVE PLAN CITATIONS

The Comprehensive Plan (2024) was adopted in April 2024. The Plan explicitly addresses utility-scale solar facilities. The following policies and recommendations should be considered:

> *The County will continue to allow small-scale solar facilities (15 kW or less) as by-right uses in all zoning districts, and large- and utility-scale solar facilities (999 kW or less and 1 MW or greater, respectively) as uses requiring a Conditional Use Permit in the General Agricultural, Intensive Agricultural, and General Industrial zoning districts. Additionally, the County will support opportunities to encourage "community scale" solar facilities, projects less than 5 MW in capacity and with a project area no greater than 50 acres. Ideally these projects will result in the local use or distribution of renewably generated electricity, the reduction of local consumption of utility transmitted electricity, and/or the reduction of electric utility rates for residents and businesses within the County. Finally, while zoning and*

development regulations and standards limit the total potential development area of utility-scale solar facilities in the County, utility-scale solar facility development in excess of 4% of the County's total land area should be evaluated to determine whether individual projects are consistent with policy recommendations and criteria, do not limit opportunities for growth and development or viability of agricultural or forestry activities, do not negatively impact natural, cultural, or historical resources, and do not result in conflicts and incompatibility between land uses.

In addition to the regulations and standards for large- and utility-scale solar facilities within the Zoning Ordinance, and requirements and standards applicable to the consideration of all Conditional Use Permits and for Public Facilities Review as outlined in Article 2 of the Zoning Ordinance, Conditional Use Permit applications for utility-scale solar facilities must be evaluated based upon the following criteria. Conditions may be imposed upon individual Conditional Use Permits to ensure consistency with these criteria and to ensure compliance with regulations and standards contained in the Zoning Ordinance. Conditions may also be imposed to mitigate potential or anticipated negative impacts associated with the design or location of a facility. Individual Conditional Use Permit applications may be denied where one or more of these criteria cannot possibility be met, outright or through the imposition of conditions.

1. *Active components (i.e., solar panels, substations, inverters, and the like) or developed features (i.e., fences, gates, maintenance/operations buildings, etc.) of utility-scaled solar facilities shall not be located or designed to be in such proximity to residences or historic, cultural, recreational, and environmentally sensitive areas and resources to result in negative impacts to their use, value, or importance individually or to the County. Appropriate buffers and screening shall be incorporated to address project proximity to residences, historic and cultural resources.*

2. *Facilities, including fencing and support equipment, should be significantly and sufficiently screened from the ground-level view of adjacent properties and rights-of-way by a buffer zone that shall consist of natural vegetation and landforms and/or be landscaped with plant materials consisting of an evergreen and deciduous mix. Landscaping materials should be native to the County and exclude the use of invasive species. Additional screening and/or setbacks shall be proposed or required to mitigate the potential impacts of a project owing to the location or design.*

3. *The need for wildlife corridors will be evaluated in the design of facilities and the latest guidance of state environmental departments should be considered; for instance, the Virginia Department of Wildlife Resources has Solar Energy Facility Guidance which includes recommendations for wildlife passages and fencing.*

4. *The total fenced acreage for utility-scale solar facility developments in the County would exceed 3% of any 5-mile radius limit only when determined to be warranted based upon identified benefits to the County.*
5. *Facilities should generally be located no closer than 1 mile from any town boundary, but, based upon appropriate siting and design, may be located as close as one-half (½) mile to the boundaries of the Towns of Phenix, Charlotte Court House, and Drakes Branch.*

6. *Facilities should generally be located in close proximity to transmission line corridors to reduce the need for significant new infrastructure. However, community-scale*

projects, which rely on lower-voltage distribution lines, should not be similarly limited. Any generation lead lines (gen-tie) should be located underground or buffered to block visibility from roadways.

7. *Projects should incorporate setbacks consistent with the requirements of the Zoning Ordinance, but generally, setbacks should be sufficient to ensure that project components are sited an appropriate distance from property lines, roads, and residences. Discretion should be used in requiring greater setbacks based upon the location, scale, and design of individual projects, with specific consideration to greater setbacks from U.S. 360 and other major thoroughfares to accommodate highest and best use development potential of property fronting these roads.*

8. *Utility-scale solar projects should not be precluded from and are encouraged to allow for the continued residential, agricultural, or other use of portions of project parcels, or the incorporation of agricultural, commercial, industrial, or passive recreational uses within project sites. Additionally, project developers are encouraged to put undeveloped project land into a conservation easement to limit or restrict further development of the property.*

9. *Facilities should provide maximum economic benefits to the County as demonstrated by thorough economic analysis.*

STAFF ANALYSIS AND COMMENTS

A. Applicant's Position

In the signed application materials dated October 16, 2024, the Applicant provided the CUP application and signatures. A revised Project Application was submitted to the County on November 25, 2024, February 19, 2025, and determined to be complete on March 26, 2025.

The Applicant identifies the following items in support of its Project:

- The Project Site is located approximately 2.4 miles north of the Charlotte Court House town limit.
- The Charlotte County Future Land Use Map designates the property for Agriculture, Forestry & Rural Uses.
- The Project will bring economic benefit to the County in the form of tax revenue and the indirect benefit from the temporary influx of local service and retail demand from workers during project construction.
- The Project Site is located on the existing transmission line to enable the efficient and economic export of power while mitigating the need for long interconnection tie lines and buildout of new electrical transmission infrastructure.

B. Staff Analysis

Staff has analyzed the proposed Project, including revisions and additional information, and considered the above referenced recommendations and criteria from the County's Comprehensive Plan; Staff comments relative to these criteria are as follows:

1. *Active components (i.e., solar panels, substations, inverters, and the like) or developed features (i.e., fences, gates, maintenance/operations buildings, etc.) of utility-scaled solar facilities shall not be located or designed to be in such proximity to residences or historic, cultural, recreational, and environmentally sensitive areas and resources to result in negative impacts to their use, value, or importance individually or to the County. Appropriate buffers and screening shall be incorporated to address project proximity to residences, historic and cultural resources.*

   Staff Comments: Consideration of this criteria is relevant to the Project's relationship to the St. Andrews cemetery, which is immediately adjacent to the Project, as well as the gravesite indicated at the northern end of the Project Site, and potential for other historic and cultural resources to be within the Project site. Based upon the report and the proposed plan, Staff is generally of the opinion that the active components (i.e., solar panels, substations, inverters, and the like) or developed features (i.e., fences, gates, maintenance/operations buildings, etc.) of the project may not be located or designed to be in such proximity to either cemetery to result in negative impacts to its use, value, or importance individually or to the County.

   The St. Andrews Church cemetery will maintain direct access from a public road. However, during consideration of the conditional use permit, further consideration should be given to conditions on protection and access to the gravesite identified and to gravesites yet unknown in the Project Site. The Applicant proposes to allow access to gravesites in pre-arranged and supervised visits. It is Staffs opinion that this mitigates the lack of access resulting from equipment and fencing, and that any further gravesites identified during the Applicant's cultural resources assessment may require revaluation of the access plan.

   Beyond consideration of project impacts to the cemetery and gravesite, overall land use impacts of the project need to be taken into account. While the Project site is generally surrounded by properties zoned and used for agricultural and forestry purposes, the scale and location of the proposed facility, when considered in combination with the adjacent Tall Pines project, introduce significant compatibility issues.

   The Taro Solar Project directly abuts the Tall Pines Project, a sizeable facility whose fenced and buffered area spans approximately 1,430 acres (or 2.84% of the 5-mile radius) immediately adjacent to the Taro site. When considered in combination with the proposed Taro Project, which includes 1,131 acres (2.25% of the 5-mile radius), these two projects alone represent a cumulative 5.09% of land area in the 5-mile radius.

   This immediate adjacency and cumulative visual and environmental impact undermine the intent of land use compatibility as expressed in the Comprehensive Plan. The combined footprint of these two projects not only amplifies their visibility and potential disturbance to surrounding uses, but also forms a contiguous block of industrial-scale development in an otherwise rural and agricultural context. This pattern contradicts the County's planning goals of maintaining dispersed siting and preserving rural character. Additionally, such concentration creates an over-intensification of solar infrastructure in this immediate area of the County, presenting potential long-term land use conflicts, and preempting future opportunities for agricultural or forestal re-use.

2. *Facilities, including fencing and support equipment, should be significantly and sufficiently screened from the ground-level view of adjacent properties and rights-of-*

way by a buffer zone that shall consist of natural vegetation and landforms and/or be landscaped with plant materials consisting of an evergreen and deciduous mix. Landscaping materials should be native to the County and exclude the use of invasive species. Additional screening and/or setbacks shall be proposed or required to mitigate the potential impacts of a project owing to the location or design.

Staff Comments: The Applicant proposes a 75-foot setback to neighboring properties and a 125-foot setback to the state road centerline. The Applicant proposes a 500' equipment setback from either side of Taro Road. The proposed setback areas will include a 25-foot vegetative buffer (consisting of existing and future growth provided by the Applicant). The proposed buffer will consist of undisturbed existing forested areas, proposed native evergreen trees, proposed native pollinator plants, and proposed shrubs with consultation with County staff and VA-DEQ. Staff is of the opinion that the facility is significantly and sufficiently screened from the ground-level view of adjacent properties and rights-of-way. Further consideration should be given to landscaping materials and additional screening during consideration of the conditional use permit.

3. *The need for wildlife corridors will be evaluated in the design of facilities and the latest guidance of state environmental departments should be considered; for instance, the Virginia Department of Wildlife Resources has Solar Energy Facility Guidance which includes recommendations for wildlife passages and fencing.*

   Staff Comments: The fenced area of the site at 1,073 acres does warrant the inclusion of wildlife corridors through the site. The applicant proposed wildlife corridors and area management in consistency with the Virginia DW's Solar Facility Guidance. The proposed corridors can be found on drawing sheet TS-SL-203.

4. *The total fenced acreage for utility-scale solar facility developments in the County would exceed 3% of any 5-mile radius limit only when determined to be warranted based upon identified benefits to the County.*

   Staff Comments: The Project is located within the same 5-mile radius as several previously approved utility-scale solar facilities, including Tall Pines, County Line, and Gibson. When evaluated under the Comprehensive Plan's density criterion, the Taro Project contributes to a significant exceedance of this threshold.

   Specifically:

   - The Taro Project alone proposes 1,131 fenced acres, representing 2.25% of the 5-mile area.
   - Combined with Tall Pines, which includes 1,430 fenced plus buffer acres (2.84%), the total area from these two adjacent projects equals 2,561 acres, or 5.09% of the 5-mile radius, exceeding the limit even without considering additional approved projects.
   - The combined total of all previously approved facilities (excluding the now-withdrawn Austin Goldman V, whose land has been absorbed into the Taro Project) already totals 1,934 acres, or 4.44%, surpassing the 3% density threshold before Taro is even added.

   Importantly, the immediate adjacency of the Taro and Tall Pines projects amplifies their combined impact. Portions of the two projects directly abut one another, resulting in a

contiguous block of solar development. This concentration of utility-scale infrastructure creates a critical mass of industrialized land use, which diminishes the rural character of the area, limits the County's long-term planning flexibility, and undermines the preservation and land use balance goals articulated in the Comprehensive Plan.

The Applicant has requested a waiver from the 3% density threshold; however, Staff finds that no specific, tangible benefits have been provided to justify such a waiver. The Applicant cites general economic benefits, such as temporary construction employment and increased tax revenue, which are typical of most solar projects. These benefits are not unique, not substantial, and do not sufficiently offset the long-term impacts of the density exceedance.

Furthermore, the Applicant has not proposed any mechanisms, such as conservation easements, local energy use commitments, or sustained community benefits, that would mitigate the scale and intensity of the project or provide compensatory value to the County.

In light of the above, Staff concludes that the Taro Project's contribution to cumulative solar development density, particularly in direct conjunction with the adjacent Tall Pines project, is not consistent with the intent and policy thresholds of the Comprehensive Plan and does not warrant an exemption from the established density criteria.

5. *Facilities should generally be located no closer than 1 mile from any town boundary, but, based upon appropriate siting and design, may be located as close as one-half (½) mile to the boundaries of the Towns of Phenix, Charlotte Court House, and Drakes Branch.*

   Staff Comments: The Project is not located closer than 1 mile to a town boundary.

6. *Facilities should generally be located in close proximity to transmission line corridors to reduce the need for significant new infrastructure. However, community-scale projects, which rely on lower-voltage distribution lines, should not be similarly limited. Any generation lead lines (gen-tie) should be located underground or buffered to block visibility from roadways.*

   Staff Comments: The Project is located directly on the transmission line corridor, however, as noted, the existing transmission line infrastructure is not sufficient for planned loads.

7. *Projects should incorporate setbacks consistent with the requirements of the Zoning Ordinance, but generally, setbacks should be sufficient to ensure that project components are sited an appropriate distance from property lines, roads, and residences. Discretion should be used in requiring greater setbacks based upon the location, scale, and design of individual projects, with specific consideration to greater setbacks from U.S. 360 and other major thoroughfares to accommodate highest and best use development potential of property fronting these roads.*

   Staff Comments: Proposed setbacks have been previously noted. Staff is of the opinion that proposed setbacks are sufficient to ensure that project components are sited an appropriate distance from property lines, roads, and residences.

8. *Utility-scale solar projects should not be precluded from and are encouraged to allow for the continued residential, agricultural, or other use of portions of project parcels, or the incorporation of agricultural, commercial, industrial, or passive recreational uses within project sites. Additionally, project developers are encouraged to put undeveloped project land into a conservation easement to limit or restrict further development of the property.*

   Staff Comments: The Project incorporates existing residential uses within the Project. While no conservation easements have been proposed, the Applicant proposes undisturbed wildlife corridors. It is Staff's opinion that the Applicant should be encouraged to place lands in wildlife corridors under conservation easement.

9. *Facilities should provide maximum economic benefits to the County as demonstrated by thorough economic analysis.*

   Staff Comments: The Applicant largely points to the economic benefits associated with the tax revenue generated by the project, as well as secondary benefits of temporary increased local procurement of goods by workers present during project construction. While Staff is of the opinion that some portion of produced energy may be utilized locally, there is no inherent economic benefit to the County associated with this production beyond increased tax revenue. Staff is of the opinion that the facility will have positive short-term employment impacts through construction activities, while there will be minimal long-term employment impacts once in operation. It should be noted, that almost 15% of general funds in the County proposed FY26 budget are from Solar projects.

STAFF RECOMMENDATION

Staff has evaluated the proposed Project in the context of the adopted 2024 Comprehensive Plan, including all relevant goals, policies, and evaluation criteria for utility-scale solar facilities. **Based on this analysis, Staff finds that the Project does not align with the County's land use vision or policy framework for the following key reasons:**

- **The Project would result in total fenced solar development within the 5-mile radius reaching 6.69%, more than double the Comprehensive Plan's 3% density threshold, without any specific or substantial benefits identified to justify an exception.**
- **The immediate adjacency of the Taro Project to the previously approved Tall Pines Project results in a contiguous solar development footprint of over 2,500 acres (5.09%), creating a disproportionate concentration of industrial-scale infrastructure that is incompatible with the County's and the immediate area's rural, agricultural character and land use planning objectives.**
- **The cumulative scale and proximity of these projects severely restrict future land use flexibility, compromise rural landscape continuity, and contradict the Comprehensive Plan's emphasis on dispersed siting and balanced land use.**
- **No compensatory measures, such as conservation easements, local energy benefits, or long-term community investments, have been proposed to mitigate these impacts or to demonstrate alignment with the Plan's intent.**

Accordingly, Staff finds that the proposed facility is not substantially in accord with the Charlotte County Comprehensive Plan, or any component thereof, and therefore recommends denial of the application.

As set forth by the Code of Virginia, the question before the Planning Commission with this 2232 application is:

> **Whether the general location or approximate location, character, and extent of the proposed solar energy facility <u>is substantially in accord</u> with the Comprehensive Plan or part thereof.**

- The Planning Commission should consider all relevant portions of the Comprehensive Plan in its analysis.

- The Planning Commission should carefully and thoroughly document its reasons for whatever conclusion it reaches.

- The Planning Commission has three options:

    a. Determine that the application is not substantially in accord with the Comprehensive Plan with written reasons for its decision.
    b. Determine that the application is substantially in accord with the Comprehensive Plan with written reasons for its decision.
    c. Defer making a decision on the comprehensive plan compliance review for further discussion and consideration (within the 60-day window).

<u>Attachments</u>:
A – Project Application submitted October 16, 2024, November 25, 2024, February 19, 2025, and determined to be complete on March 26, 2025.

DRAFT PLANNING COMMISSION ACTIONS

<u>Option 1 – Applicant's proposal is not substantially in accord with the Comprehensive Plan</u>

I move that the Taro Solar, LLCs proposed 140-megawatt photovoltaic solar energy facility as described in the conditional use permit application, is not substantially in accord with the Charlotte County Comprehensive Plan for the following reasons:

1. The Project would result in total fenced solar development within the 5-mile radius reaching 6.69%, more than double the Comprehensive Plan's 3% density threshold, without any specific or substantial benefits identified to justify an exception.
2. The immediate adjacency of the Taro Project to the previously approved Tall Pines Project results in a contiguous solar development footprint of over 2,500 acres (5.09%), creating a disproportionate concentration of industrial-scale infrastructure that is incompatible with the County's and the immediate area's rural, agricultural character and land use planning objectives.
3. The cumulative scale and proximity of these projects severely restrict future land use flexibility, compromise rural landscape continuity, and contradict the Comprehensive Plan's emphasis on dispersed siting and balanced land use.

4. No compensatory measures, such as conservation easements, local energy benefits, or long-term community investments, have been proposed to mitigate these impacts or to demonstrate alignment with the Plan's intent.

Option 2 – Applicant's proposal is substantially in accord with the Comprehensive Plan

I move that the Taro Solar, LLCs proposed 140-megawatt photovoltaic solar energy facility as described in the conditional use permit application, is substantially in accord with the Charlotte County Comprehensive Plan or parts thereof for the following reasons:

1. The Project parcels are zoned General Agricultural which permit the proposed use.
2. The location is more than 2 miles from the nearest town boundary.
3. The facility generates alternative, clean energy, temporarily providing a significant number of construction jobs
4. The facility will require minimal county services to operate.
5. While the proposed Project exceeds the density limit, it involves a small part of the total agricultural and forestal land in the County and there are identifiable benefits to the County.

The Secretary of the Planning Commission is directed to communicate the Planning Commission's findings to the Board of Supervisors.

Option 3 – Deferral of the application

I move that the Planning Commission defer a decision on this request under Va. Code § 15.2-2232 regarding the proposed solar energy facility as described in the conditional use permit application, until the Planning Commission meeting scheduled to begin at ____ p.m. on _____, in the Board of Supervisors meeting room.

The Secretary of the Planning Commission is directed to communicate the Planning Commission's findings to the Board of Supervisors.

PROJECT DESCRIPTION

Taro Solar LLC ('Taro' or the 'Project') intends to install a 140 MW_{AC} solar photovoltaic ('solar PV') facility in Charlotte County, Virginia. The Project is located along Taro Road, Thomas Jefferson Highway, and Welsh Tract Road. The Project is comprised of 35 contiguous parcels of land, totaling approximately 2,117 acres ('Site'). The Project will interconnect to the existing 115 kV 'Pamplin Substation' to 'Chase City Substation' transmission line that traverses the Site.

Site Description

The Site consists of the following properties:

Table 1: Taro Parcels

Parcel	Acreage	Owner
16-A-109-A	40	ADAMS LISA R
16-A-109-D	10	
16-A-109-E	4	
27-A-1	1,043	BLUE ROCK RESOURCES LLC
16-4-2	9	CARRINGTON JAMES ALVIN
16-A-109	10	DARNELL GERALDINE M
16-A-57	4	GEE CHERYL G OR TROY A OR TIFFANY A
16-4-1	10	GOLDMAN AUSTIN D OR SANDRA P
16-A-73	16	
16-A-75	61	
16-A-78	35	
16-A-80	62	
16-A-85	72	
16-A-63	17	GOLDMAN CEPHAS L & THURMA M
16-A-55	44	GOLDMAN CORNELL B
16-A-67	16	
16-A-70	14	
17-A-14-A	93	GOLDMAN CORNELL B & PUGH BRANDON M
16-A-74	19	GOLDMAN CORNELL B OR MELANIE
16-A-76	42	
16-A-57-A	4	GOLDMAN KENNETH A
16-A-90	8	LAYNE JUSTIN
16-A-93	31	
16-2-4	46	MILL ROAD LOGGING LLC
16-A-49	17	
16-A-50	7	
16-A-52	175	
16-A-53	4	
16-A-79	28	
16-A-86	4	
16-A-88	12	MILL ROAD LOGGING LLC
16-A-89	51	

16-A-81	5	MOORE DAVID L
16-A-82	20	
16-A-115	84	MOORE DAVID L & JANET EVANS-WATKINS

The total property is approximately 2,117 acres in size. The Site is currently zoned as General Agricultural and is primarily used for timber and small-scale agriculture. According to the Article 9 Use Matrix of the Charlotte County Zoning Ordinance, a Conditional Use Permit ('CUP') is required for utility-scale solar energy systems in a General Agricultural zoning district.

Minimum setback distances are provided in Table 2 below. Vegetated buffers are located within front and side setbacks and are also provided in Table 2. Setbacks are shown in the Site layout drawing TS-SL-202 and a cross-sectional view of typical setbacks and buffer distance is included as drawing TS-SL-400.

Table 2: Setback and Buffer Distance

Setback or Buffer	Feet
Vegetated Buffer	25' (Minimum)
Side Equipment Setback	75'
Front Equipment Setback	125'
Wetlands Setback	100'
Transmission Setback – from Center	75'
Residential and House of Worship Setback – from Building Perimeter	400'

The Current land usage at the Site is summarized in Table 3 below.

Table 3: Land Use Acreages

Land Use	Acreage
Agricultural	69
Cleared Area (Recently Timbered)	731
Natural Forest	556
Planted Forest	550
Residential	6
Transmission Corridor	59
Wetlands & Waterbodies	146
TOTAL	**2,117**

Taro identified approximately 146 acres of wetlands, water bodies, and streams. To limit wetland disturbance, the Project will use existing roads and culverts to cross streams and wetlands. The project will only need to install one new stream crossing. The project will coordinate with the Virginia Department of Environmental Quality ('DEQ') to request a Virginia Water Protection ('VWP') permit to install a new culvert in that location. A detailed wetlands map is shown in drawing TS-SL-201.

The Site includes 100-year floodplains, as identified by the Federal Emergency Management Agency ('FEMA'). Solar equipment will not be installed in the floodplains. A detailed floodplains map is shown in drawing TS-SL-201.

There are two dams located in the immediate vicinity of the Site: Roanoke Creek Dams #6A and #31B. Taro coordinated with the Southside Soil and Water Conservation District ('SWCD') to ensure that the

Project will not impact on the operation and maintenance of the dams. The Project will setback two-hundred feet (200') from the dam reservoir easement, as defined by the top-of-dam elevation. Taro will also avoid developing within the inundation zones downstream of these two dams. Furthermore, Taro will provide an access road to Dam 31B from Taro Road for dam monitoring and maintenance. A detailed map of the dam setbacks and boundaries is shown in drawing TS-SL-204. These boundaries have been approved by Southside SWCD.

Residential structures external to the property boundary will have a four-hundred foot (400') setback. Residential structures within the property boundary that will continue residential use will also have a four-hundred foot (400') setback from the structure. Additionally, Project equipment will have a five-hundred foot (500') setback from Taro Road on both sides. Taro will provide unobstructed access to the parcels located inside the Project footprint and will leave exiting driveways and access routes in place to the extent possible. Taro will provide improved access routes to areas outside the Project that are disturbed by the Project footprint.

Additionally, Saint Andrews Church and the local church cemetery are in the immediate vicinity of the Project. The setback distance from this church is four-hundred feet (400'), identical to that of all residential buildings located in and around the Site boundaries. The Project will not disturb the church cemetery nor any walkways in or around the cemetery. The nearest equipment is located 951 feet from the church cemetery and the proposed laydown yard is located 535 feet away from the church cemetery. The proposed substation is located much further away at 1,000 feet. Once the Project Conditional Use Permit is approved, Taro will conduct a cultural and historical resources assessment to identify any cemeteries located on the Site. If a cemetery or gravesite is discovered, Taro will provide a setback from the boundary as recommended and approved by the Virginia Department of Historic Resources.

Due to equipment limitations, solar PV equipment will not be installed on slopes greater than 15% in the north-to-south direction. Grading will be limited to the greatest extent practicable, except as may to be necessary to accommodate anticipated and required stormwater management, by avoiding development of steep slopes (those greater than 15% measured over a distance of 400 feet) in the North to South direction.

The total fenced area is 1,073 acres, or 51% of the total Site area. Considering area for easements, setbacks, buffer zones, and slope constraint, the disturbed area will be approximately 1,079 acres, or 51%, of the total Site area. This is measured as the usable land area within the Project fence line (not including slope constrained areas within the Project fence line) and developed land outside the Project fence line such as entrance roads and Project electrical lines.

The Project will have six (6) gated entrances to public roads. Timmons Group conducted a traffic survey and provided measurements for horizontal and vertical sightlines for all planned entrances per Virginia Department of Transportation (VDOT') guidelines. The entrances are described as follows:

- Five (5) entrances along Taro Road
    - **South Entrance from Taro Road:** one (1) entrance north of the intersection between Taro Road and Thomas Jefferson Highway on Parcel 16-A-53. This entrance will not be used during construction and will only be used during the operating period. This entrance will have a curve warning sign with a 30 mph advisory speed.
    - **Main Entrance & Central Entrance from Taro Road:** two (2) entrances near the center of the Site, south of Saint Andrews Church on Parcels 16-A-70 and 16-A-73. Vegetated

buffers will be shifted 15 feet away from Taro Road and Welsh Tract Road to improve sightline distances.

- **Margaret Lane Entrance & North Entrance from Taro Road:** two (2) entrances near the intersection between Taro Road and Margaret Lane on Parcels 16-A-85 and 16-A-109-D.

- **Entrance from Welsh Tract Road:** one (1) entrance at Welsh Tract Road near the southernmost border of the Site, south of the railroad on Parcel 27-A-1.

Each entrance will include appropriate warning signage that includes the 911 address, owner's information, and a 24-hour emergency contact number. The main entrances along Taro Road and the southernmost entrance along Welsh Tract Road will all have state-of-the-art security systems featuring gate sensors, 24/7 video monitoring, and distributed lighting where appropriate for operations and maintenance.

Lighting throughout Taro will be shielded and positioned away from adjacent properties to minimize light spillage, as well as being dark-sky compliant. Noise levels on site will never exceed 50 dbA unless written approval is given from affected adjoining landowners.

The perimeter of the Project will include a continuous, twenty-five foot (25') wide vegetated buffer. The vegetated buffer will include existing growth where possible and planted vegetation where necessary to obscure the ground-level view of the Project from adjacent properties and roads. Vegetated buffers will be shifted at least fifteen feet (15') away from Taro Road and Welsh Tract Road to improve site entrance visibility. The vegetated buffer will be maintained throughout all site boundaries and will only be interrupted as needed to accommodate site entrances, existing roads, railways, electrical lines, and other utility easements.

The areas used for solar PV equipment will be encompassed by a continuous perimeter fence. In accordance with Charlotte County Zoning Ordinance Section §10-23-10, Taro is currently proposing a six foot (6') tall chain-link fence topped with three (3) barbed wires. The Final Design of the Project will comply with the Department of Wildlife Resources guidance regarding fence height at the time of construction. Internal roads throughout the Site will be compacted dirt or gravel roads with a minimum width of fifteen feet (15'). The internal roads will be used for operations, maintenance, and construction.

Equipment

The Project will install approximately 304,850 solar modules mounted to single-axis tracking systems in one module in portrait (1P) orientation. The modules will be UL listed and designed with antireflective coating. The tracking system consists of galvanized steel and/or aluminum components and is supported by steel piles driven approximately six feet (6') to ten feet (10') into the ground. At the greatest tilt angle, the maximum solar module height over level ground will be approximately eight feet (8') to nine feet (9') above ground level. In cases where the ground dips under the row, the maximum height will not exceed fifteen feet (15') above the lowest level of the dip. Ground cover throughout the Site will consist of planted seed grass under the solar modules, which will be a species compatible with the local environment.

The Project will include thirty-six (36) inverter skids, each housing an individual inverter and transformer, mounted on a mat pad.

The substation will be approximately 250' x 400' and will include electrical equipment such as medium voltage transformers, switchgear, and dead-end structures. Substation equipment will be mounted on concrete pads, foundations, and piles. The remaining area will have crushed stone ground cover and will

be encompassed by a chain-link fence. All electrical equipment will meet the National Electrical Code and State Building codes. In accordance with Charlotte County Zoning Ordinance 10-23-7, the height of all equipment will not exceed twenty-five feet (25').

The Project controls building will be a prefabricated metal building approximately 40' x 30' x 12' high.

There is an existing overhead utility line and transmission line running through the Project. Electrical wiring connecting the modules to the substation will run underneath these existing lines.

Equipment specifications and quantities are subject to change during final engineering design due to site conditions, equipment availability, and market conditions. However, the overall intent and design practices will be maintained.

Community Meeting

Taro will host a Community Meeting within thirty (30) days of the County accepting Taro application as complete. Taro will notify adjacent landowners to the Project and the Zoning Administrator in writing of the date, time, and location of the meeting at least seven (7) days and no more than fourteen (14) days prior. Within the same timeline, Taro will advertise the Community Meeting in a newspaper of record in the County for the public. Taro will present maps, preliminary layouts, and other material related to the Project to the public and Taro will also provide feedback on any questions from the public. Following the Community Meeting, Taro will submit a summary of input and questions from the public to the Zoning Administrator.

Community Impact

While siting and designing the Project, Taro took careful consideration to mitigate the impact of the Project on the community. The Project is located far away from major public roads and highways. The design provides ample setbacks and buffers between adjoining property owners and the public. The selected panels include an anti-reflective coating and the viewshed from nearby residences and roadways will be screened by the vegetated buffer around the perimeter of the property.

The landscape inside of the Project boundary is primarily forest. There are strips of agricultural land located along Taro Rd and across from Saint Andrew's Church. However, due to setbacks from the road, residential buildings, and the church, the Project will mostly avoid these areas. Thus, the Project will not displace a significant amount of agricultural land.

The closest town to the Site is Charlotte Court House. The southernmost Site boundary is located 12,658 feet (2.40 miles) away from Charlotte Court House town limit and the southernmost solar module is located 12,814 feet (2.43 miles) from the town limit.

If the Project is approved, it will exceed the 3% limit for solar development within a 5-mile radius, as set by Zoning Ordinance 10-23-5. Taro Solar requests that the Board of Supervisors exercise its discretion to issue a waiver with respect to the density limitation.

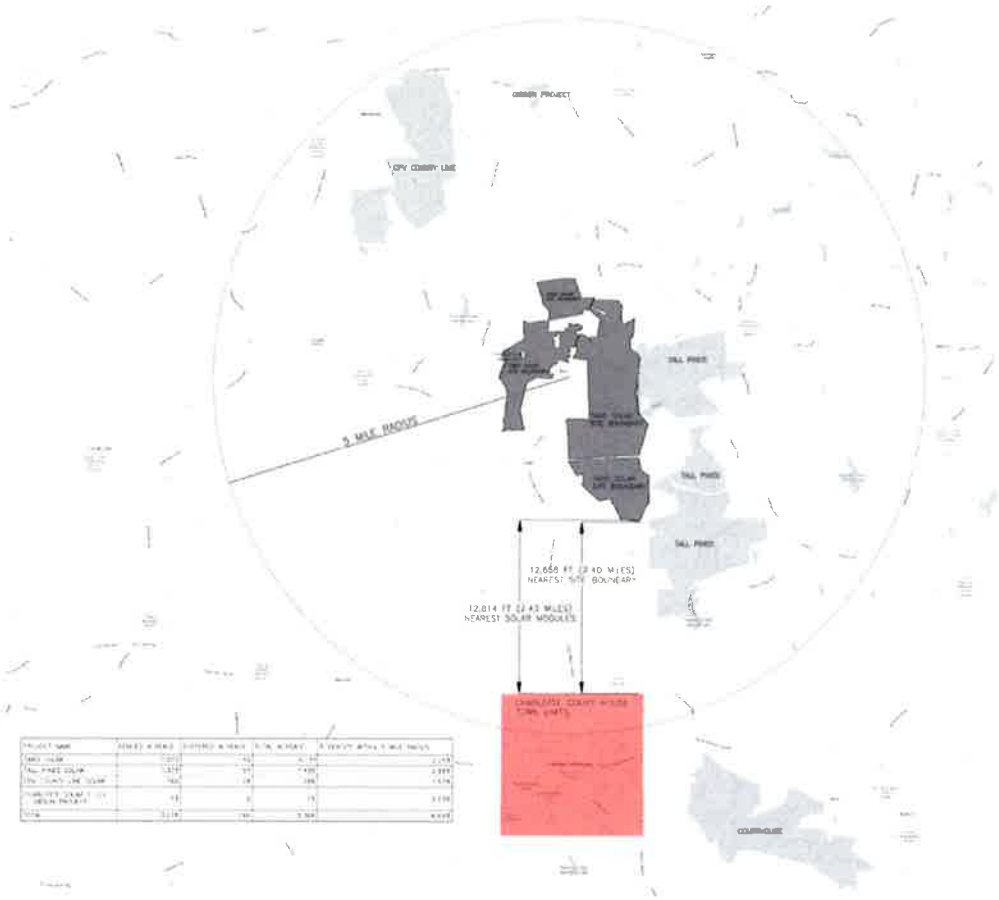


Figure 1: Taro Solar 5-mile Radius

Figure 1 and drawing TS-SL-101 depict the proposed solar projects in Charlotte County that are located within the 5-mile radius of Taro Solar as well as the distance from the Project to the Town of Charlotte Court House. The radius includes the CPV County Line, Tall Pines, and Gibson Solar projects. Together, the projects cover 6.69% of the 5-mile radius. Like the other solar projects in the area, Taro is located directly on the existing transmission line to enable the efficient and economic export of power while mitigating the need for long interconnection tie lines and buildout of new electrical transmission infrastructure.

Taro Solar will bring significant economic benefits to Charlotte County. The Project will provide tax revenue to the County and will not require significant public services. In addition, local firms and workers will benefit directly from local procurement of goods and services, hotels, restaurants, and businesses. Similarly, stores will also indirectly benefit from the increased revenue brought in by the hundreds of jobs required for the construction of the Project. Prior to construction, Taro will meet with first responders to discuss Project activities on site, familiarize first responders with the property, and answer any questions. During this meeting, a safety plan will be put in place to ensure workers' safety, minimize risk, provide locations of warning signage at entrances and throughout the Site, and provide first responders with layouts with locations of roads and entrances to the Site in case of emergency.

Decommissioning

Timmons Group developed a decommissioning plan for the Project. The estimated decommissioning cost is $12,925,467. Per the Zoning Ordinance, salvage value will not be used in calculating the appropriate escrow, surety, or security for the cost of the decommissioning and reclamation of the project. Full details are available in the attached decommissioning plan.

LAND MANAGEMENT PLAN

Taro Solar LLC ('Taro' or the 'Project') intends to install a 140 MW_{AC} solar photovoltaic ('solar PV') facility on approximately 2,117 acres in Charlotte County, Virginia. Considering the area for easements, setbacks, buffer zones, and slope constraints, the disturbed area will be approximately 1,079 acres. In accordance with the Charlotte County Zoning Ordinance, Taro submits this draft land management plan to the County for their review as a part of the Conditional Use Permit Application.

Vegetated Buffer and Supplemental Plantings

The Project area is depicted in Figure 1 below.

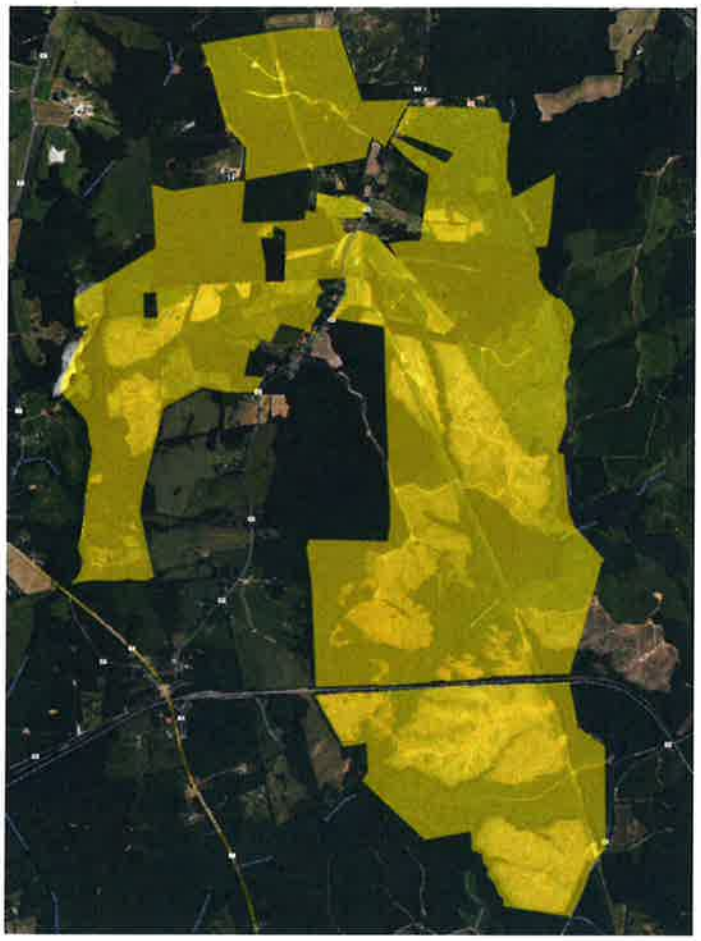


Figure 1: Taro Solar Footprint

The entire perimeter of the Project will include a continuous, twenty-five foot (25') wide vegetated buffer). The buffer will consist of undisturbed forested areas that currently exist, native pollinator plants, evergreen trees, and shrubs sized and selected in consultation with Charlotte County and the Virginia Department of Environmental Quality ('DEQ'). The vegetated buffers will have no planned tree cutting or clearing of surface level vegetation nor will roads, fences, or other project improvements be made in these areas apart from Project entrance roads and electrical and utility crossings as needed. Vegetated buffers

will be shifted at least fifteen feet (15') away from Taro Road and Welsh Tract Road to improve site entrance visibility.

Where gaps are present in the existing vegetation or where the screening is disturbed, as determined by the Zoning Administrator, approved supplemental plantings will be added to facilitate effective visual screening of the Project. Supplemental planting of trees and shrubs will consist of a six-foot (6') in height and 2.5-inch caliber of tress staggered in double rows with ten-foot (10') centers in the existing twenty-five-foot (25') buffers.

Routine Maintenance of Landscaping

Taro Solar employees will conduct routine maintenance of landscaping, including mowing, trimming, and spraying. The amount of mowing will vary seasonally, with increased frequency during the growing season. The area will also be regularly monitored for invasive plant and grass species.

Spraying will be used for excessive weed growth, driveways, gates, fence lines, and around the inverter skids as needed. Taro will only use United States Environmental Protection Agency ('EPA') approved herbicides for vegetative and weed control, applied by a licensed applicator. Taro will submit an herbicide management plan to the County details the type of herbicides to be used as well as a description of the locations and frequency of application. Taro will notify the County prior to application of herbicides. The County reserves the right to request soil and water testing.

Stormwater Management

The facility will be constructed and operated in accordance with DEQ stormwater management regulations, which may require additional Best Management Practices. The Project will develop a Stormwater Pollution Prevention Plan ('SWPPP') in accordance with DEQ's guidance for utility-scale solar PV facilities at the time of construction. The SWPPP will incorporate riparian buffers and sediment basins as needed to control runoff.

Figure 2 depicts the preliminary stormwater management system for the Project as well as the disconnected impervious areas within the Project boundaries.

Figure 2: Taro Solar Stormwater Management Plan

Natural flow patterns were incorporated into the design to mitigate the grading and water retention requirements. The stormwater management system will reduce the effects of erosion and prevent sediments from draining into the natural streams onsite.

Grading

Grading on site will be limited to the greatest extent possible, except as may be necessary to accommodate anticipated and required stormwater management, by avoiding the development of steep slopes (those greater than 15% measured over a distance of 400 ft) in the North to South direction. Topsoil on Site will be placed on areas where grading occurs to the maximum extent possible. Within the Project boundary, no more than 500 acres of the land area shall be disturbed without soil stabilization. Soil stabilization refers to the application of seed and straw to disturbed areas. Taro will submit the final grading plan to the Zoning Administrator as a part of the building permit application.

Additional Site Maintenance

Throughout the life of the Project, Taro will collect and remove any damaged panels or debris from the site. Damaged panels will be stored in a location protected from weather, wildlife, and from any contract with the ground or water.

Taro will not disturb the wildlife corridors except as needed to remove deadfall or other potential risks to project safety and security. A map of all wildlife corridors is included as drawing TS-SL-203.

Access to Cemeteries and Gravesites

Taro identified a small family gravesite off Taro Road. Taro will conduct a cultural and historical resources assessment in coordination with the Virginia Department of Historic Resources ('DHR') to identify any unknown and unrecorded cemeteries and gravesites. Taro will provide a setback from the boundary as recommended and approved by the Virginia DHR to avoid accidental disturbance during construction and will meet all VA Code §57-27.1 access requirements for access to cemeteries and gravesites located on private property. Taro will allow monitored access to cemeteries to (i) family members or descendants of deceased persons buried there, (ii) any cemetery plot owner, and (iii) any person engaging in genealogy research, who has given reasonable notice to the owner of record, Taro, or both. Cemeteries which are located within the fence line of the Taro Project will have gated access. Taro personnel will escort visitors to the relevant cemetery and will keep a log of all visitations. Visitations will need to be scheduled with Taro and Taro reserves the right to designate the frequency, hours, and duration of the access. Taro and the landowner(s), in the absence of gross negligence or willful misconduct, shall be immune from liability in any civil suit claim, action or cause of action arising out of the access granted for the purposes of cemetery or grave visitation. Visitors will not be allowed to operate motor vehicles on the property. Any person entering onto the project site to access a gravesite or cemetery shall be responsible for conducting themself in a manner that does not damage the private lands, cemeteries or gravesites, or equipment and does not put themselves at risk of harm. Visitors will need to sign a waiver indicating such and will be provided personal protective equipment by Taro staff. Any person denied reasonable access may bring an action in the Charlotte County circuit court to enjoin the owner of the property and/or Taro from denying the person reasonable ingress and egress to the cemetery or gravesite. In granting such a relief, the court may (i) set the frequency of access, hours and duration of the access, and (ii) award reasonable attorney fees and costs to the person denied such access.

TIMMONS GROUP
ENGINEERING | DESIGN | TECHNOLOGY

Taro Solar

Decommissioning Plan

Charlotte County, Virgina

Date: 2/14/2025

This cost estimate was not based on detailed construction drawings but is typical for a project of this size and type. The listed equipment quantities are subject to change based on the actual installed facilities. An updated decommissioning plan and decommissioning cost estimate will be provided prior to start of construction.

Prepared For:

NOVI ENERGY | Clean Energy. Sustainable Communities.

Taro Solar
Decommissioning Plan

CLIENT NAME	Taro Solar, LLC
PROJECT NAME	Taro Solar
LOCATION	2041 Taro Rd Cullen, VA 23934 Charlotte County, VA
PROJECT	Solar PV Electric Generating Facility

Rev.	Date	Description	Prepared	Checked	Approved
0	9/6/2024	Released for Client Use	NBF	KJ	AC
1	9/16/2024	Released for Client Use	NBF	KJ	AC
2	9/26/2024	Released for Client Use	NBF	KJ	AC
3	11/10/2024	Released for Client Use	NBF	KJ	AC
4	1/30/2025	Released for Client Use	NBF	KJ	AC
5	2/14/2025	Released for Client Use	NBF	KJ	AC

Table of Contents

1 Introduction

The Taro Solar Project (Project) is a 140-Megawatt (MW) photovoltaic (PV) solar project located at 2041 Taro Rd, Cullen, VA 23934. Charlotte County. The Project is anticipated to operate for 35 years.

At the end of the anticipated operational life of the Project, a decision would be made to extend the life of the Project or to decommission it. If the Project is to be decommissioned, Taro Solar or its successor in interest, will be responsible for the removal, recycling, and disposal of all solar arrays, inverters, transformers, and other structure on the Project site, depending upon the proposed future use of the Project site. Taro Solar anticipates using the best available recycling measures at the time of decommissioning.

The PV facility spans approximately: (total area: 2,060 acres), (fenced: 1,073 acres) and will interconnect to 115 kV Utility electrical system. Within 12 months of initiating the decommissioning, the Project Owner will safely have the relevant components removed from the land and will then restore the site as described below.

This Plan lays out the procedures for restoring the site to its original use, based on the recent historical land use of the property or other economical land uses as desired by the relevant landowner, at the end of the Facility's operational life. The Plan describes procedures for the removal of Facility components. The components of the Facility are shown in the Appendix A (to be provided when it become available.

This Decommissioning Plan was developed in accordance with the decommissioning provisions of the Charlotte County Ordinance. The Decommissioning Plan ensures that when the Project is decommissioned, the site restoration will be accomplished in a way that is environmentally sound, safe, and protects the public health and safety. Decommissioning is a general term used to describe a formal process to remove something from active status whereas restoration objectives aspire to return the land to its former state.

Future conditions that could affect decommissioning are largely unknown at this time; however, the best available technologies and management practices will be deployed to ensure successful project decommissioning and site restoration.

2 Project Components

Appendix A provides detailed information regarding the anticipated location and description of the Facility components. The Facility generally consists of the equipment and infrastructure listed below:

- Steel Piers and Racking
- PV Panels

- Inverters
- Step Up Transformers
- Electrical Collection Lines (underground, and Overhead)
- Grounding System
- Access Roads
- Gen-tie Transmission Line
- Collector Substation
- Data Acquisition System (DAS)
- Fencing, Gating, and Safety Features
- Operations and Maintenance (O&M) Building (TBD)
- Weather Stations

3 Regulatory Compliance

Prior to the commencement of decommissioning, Taro Solar will perform the appropriate due diligence requirements and obtain the necessary Charlotte County, state, and federal approvals to complete decommissioning activities. To mitigate any environmental impact from decommissioning, Taro Solar will assess the necessary permits and approvals in the future regulatory environment to maintain regulatory compliance. Anticipated types of evaluations may include the following:

- Review of on-site jurisdictional status and potential impacts to wetlands and waterbodies to comply with the Clean Water Act.
- Consultation with the United States Fish and Wildlife Service to evaluate compliance with the Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and any other relevant regulations at the time of decommissioning.
- Consultation with the Virgina Department of Environmental Quality for compliance with any pertinent state regulatory requirements.
- Completion of a Phase I Environmental Site Assessment in support of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) protection.
- Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP).
- Charlotte County building, road, discharge, or erosion control permits (as necessary).
- Special state or local hauling permits (as necessary).

4 Decommissioning

The Project will be decommissioned at the end of its useful life. The Project is presumed to be at the end of its useful life if the facility generates no electricity for a continuous period of 12 months. Taro Solar will notify the Zoning Administrator by certified mail of the proposed date of discontinued operations and plans for removal. The following general decommissioning activities will occur.

Once the solar facility has been removed, it is expected that the site will be returned to as close to its original condition as possible. Some minor grading may be required; topsoil (if removed) will be reapplied to allow for reseeding and growth. Site restoration will occur no more than twelve (12) months after notification of decommissioning.

The following general decommissioning activities will occur:

Decommissioning Sequence:

1. Obtain required site permits from Authority Having Jurisdiction (AHJ)
2. Disconnect all utility grid power
3. Move all disconnects to the off position
4. Disconnect all above ground wirings, cables, and electrical connections
5. Remove all PV Modules
6. Remove Inverters, mounting equipment, and posts
7. Remove all electrical equipment, and their foundations
8. Remove DAS equipment, feeders, and conduit
9. Remove all above ground mounting equipment components and posts
10. Excavate and remove Underground feeders and conduit
11. Remove all MV feeders and MV poles
12. Removal of Collector Substation
13. Removal of Gen-tie Transmission line
14. Remove access road
15. Remove all fencing
16. Fill/Grade/Seed as needed

Some components may be left in place under certain circumstances. Electrical lines that will not impact future use of the Project Area or Substation foundation (at least 3 feet in depth) may be left in place per renewable industry practices. Steel piles, where full removal is unattainable, may be cut and left in place at a depth of 3 feet or greater below the ground surface. Additionally, landowners may desire that private access roads remain in place for their use. Taro Solar will obtain a written request from the landowner for a road or structure (such as the stormwater features or fencing) to remain in place.

5 Materials, Recycling, and Disposal

Many components of the Facility, such as racking, wiring, piles, and panels, retain value over time. Panels, while slightly less efficient, may be reused elsewhere, or components may be broken down and recycled. Recycling of solar panels and equipment is rapidly evolving and can be handled through a combination of sources such as certain manufacturers, PV Cycle (an international waste program founded by and for the PV industry), or waste management companies. More than 90 percent of the semiconductor material and glass can be reused in new modules and products. Other waste materials that hold no value will be recycled or disposed of via a licensed solid waste disposal facility. If recycling of solar panels is not feasible, disposal will be accomplished in accordance with AHJ requirements.

6 Site Restoration

Following the completion of decommissioning activities, it is anticipated that the site will primarily be converted back to the pre-construction land uses. Decommissioning of the Facility, including the removal of materials followed by site restoration, should be completed in approximately 12 months.

7 Decommissioning Cost Estimate

7.1 OPINION OF PROBABLE DECOMMISSIONING COST

Detailed Project Description: Taro Solar is a 140 MWac in Charlotte County, Virgina. At: (Long, Lat): (37.14, -78.64)

Table 7-1: Estimated Decommissioning Cost:

PV Module Removal	QUANTITY	UNITS	Unit Cost	Total	Comment
# Solar Panels: 620 Watts/panel	304,848	EA	$7.0	$2,133,936	Disassembly, Haul Off-site
SUBTOTAL				$2,133,936	
Foundations Structural Removal	**QUANTITY**	**UNITS**	**Unit Cost**	**Total**	**Comment**
# Panel Support Steel Piles	48,164	EA	$15	$2,133,936	Disassembly, Haul Off-site
Tracker: 2, 3 and 4 string tables	3,520	EA	$300	$1,056,000	Disassembly, Haul Off-site
SUBTOTAL				$3,189,936	
Electrical Equipment Removal	**QUANTITY**	**UNITS**	**Unit Cost**	**Total**	**Comment**
Inverters: SMA 4,2004200 UP-US (CEC)_1.3	36	EA	$3,500	$126,000	Disassembly, Haul Off-site
MV Transformers, (4,600 kVA)	36	EA	$6,500	$234,000	Disassembly, Haul Off-site
Tracker Motor- Fixed	3,520	EA	$15	$52,800	Disassembly, Haul Off-site
SUBTOTAL				$412,800	
Collector Substation Removal	**QUANTITY**	**UNITS**	**Unit Cost**	**Total**	**Comment**
Circuit Breakers 34.5 kV	4	EA	$9,500	$38,000	Disassembly, Haul Off-site
HV Circuit Breakers 115 kV	1	EA	$12,500	$12,500	Disassembly, Haul Off-site
Substation Steel	1	LOT	$350,000	$350,000	Disassembly, Haul Off-site
Foundation/Fence	1	LOT	$225,000	$225,000	Disassembly, Haul Off-site
Main Power Transformers 115 - 34.5 kV 64/128/160 MVA	1	EA	$95,000	$95,000	Disassembly, Haul Off-site
Substation Control House	1	EA	$55,000	$55,000	Disassembly, Haul Off-site
Capacitor Bank (final TBD)	N/A	EA		$0	Disassembly, Haul Off-site
SUBTOTAL				$775,500	
Electrical Wires Removal 10%	**QUANTITY**	**UNITS**	**Avg Unit Cost**	**Total**	**Comment**
MV Cables /Conductors	58,851	FT	$20	$117,702	Removal, Excavation
DC/LC Conductor	620,000	FT	$5	$310,000	Removal, Excavation
SUBTOTAL				$427,702	

Fence/land, Removal/Restoration	QUANTITY	UNITS	Unit Cost	Total	Comment
Fence Perimeter	135,593	FT	$1	$135,593	Disassembly, Haul Off-site
Site Remediation (disturbed area)	980	Acre	$5,500	$5,390,000	Decompaction/Seeding
Storm Water Management Ponds	140	EA	$1,500	$210,000	Minimal Restoration
Engineering & Permitting				$250,000	Budgeted
SUBTOTAL				$5,985,593	

Summary of Estimate	
PV Module Removal	$2,133,936
Foundations Structural Removal	$3,189,936
Electrical Equipment Removal	$412,800
Collector Substation	$775,500
Electrical Wires Removal	$427,702
Fence/land, Removal/Restoration	$5,985,593
ESTIMATED GRAND TOTAL	**$12,925,467**

Data Sources:

1. Material List and Quantities: Based on schematic design.
2. Unit Price Values: Based on R.S. Means and typical quantities for various components.

7.2 NET DECOMMISSIONING COST

The net decommissioning cost: Per Charlotte County's Ordinance, the Estimated Salvage Value will not be used in calculating the appropriate escrow, surety, or security for the cost of the decommissioning and reclamation of the project.

7.3 DECOMMISSIONING ASSUMPTIONS

To develop a cost estimate for the decommissioning of the Taro Solar Project, Timmons Group made the following assumptions and costs were estimated based on current pricing, technology, and regulatory requirements. The assumptions are listed in order from top to bottom of the estimate spreadsheet. We developed time and materials-based estimates considering composition of work crews.

1. Decommissioning year is based on a 5-year initial period for the financial security. The projected life of the project is 35 years.
2. This Cost Estimate is based on design information provided to the Timmons Group by Taro Solar in August 2024 up to February 2025.
3. Common labor will be used for the majority of the tasks except for heavy equipment operation. Pricing is based on local Southeast US labor rates.

4. Permit applications required include the preparation of a Stormwater Pollution Protection Plan (SWPPP) and a Spill Prevention Control and Countermeasure (SPCC) Plan.
5. Road gravel removal was estimated on a time and material basis using a 16-foot width and an 8-inch thickness for the access roads. Substation aggregate is included in the substation quantities. Since the material will not remain on site, a hauling cost is added to the removal cost. Road aggregate can often be disposed of by giving to landowners for use on driveways and parking areas. Many landfills will accept clean aggregate for use as "daily cover" and do not charge for the disposal.
6. Grade Road Corridor reflects the cost of mobilizing and operating light equipment to spread and smooth the topsoil stockpiled on site to replace the aggregate removed from the road.
7. Erosion and sediment control along road reflects the cost of silt fence on the downhill side of the road and surrounding all on-site wetlands.
8. Topsoil is required to be stockpiled on site during construction, therefore this topsoil is available on site to replace the road aggregate, once removed. Cost to decompact roadway areas is estimated as $1,000 per acre (based on previous bid prices), and revegetation on removed road area, which includes seed, fertilizer, lime, and care until vegetation is established is $4,000 per acre. The majority of the project area is "over-seeded" since the decommissioning activities are not expected to eliminate the existing grasses and vegetation under the arrays or heavily compact the soils. Over-seeding does not include fertilizer and lime, which is estimated at $5,500 per acre.
9. Fence removal includes loading, hauling, and recycling or disposal. Fences and posts weigh approximately 2.3 pounds per foot.
10. Array support posts are generally lightweight "I" beam sections installed with a piece of specialized tracked equipment. Crew productivity is approximately 240 posts per day, and the same crew and equipment should have a similar productivity removing the posts, resulting in a per post cost of approximately $15.00. We assume a cost of $15.00 per post to include hauling fees and contingencies.
11. A metal recycling facility (FOSS Recycling) is located in Virgina and is relatively close to the project site. Steel scrap pricing was acquired from www.scrapmonster.com.
12. The solar panels used are assumed to be 620 Watts. Panels can easily be disconnected, removed, and packed by a three-person crew at a rate we estimate of 12 panels per hour.
13. No topsoil is planned to be removed from the site during decommissioning and most of the site will not have been compacted by heavy truck or equipment traffic, so the site turf establishment cost is based on RS Means unit prices for applying lime, fertilizer, and seed at the price of per acre plus an allowance for some areas to be decompacted.
14. There is an active market for reselling and recycling electrical transformers and inverters with several national companies specializing in recycling. We have assumed a 20% recovery of these units based on field experience with used transformers as opposed to trying to break them down into raw material components.
15. The underground collection lines are assumed to be aluminum conductor.
16. Care to prevent damage and breakage of equipment, PV modules, inverters, capacitors, and SCADA will be exercised, but removal assumes unskilled common labor under supervision.

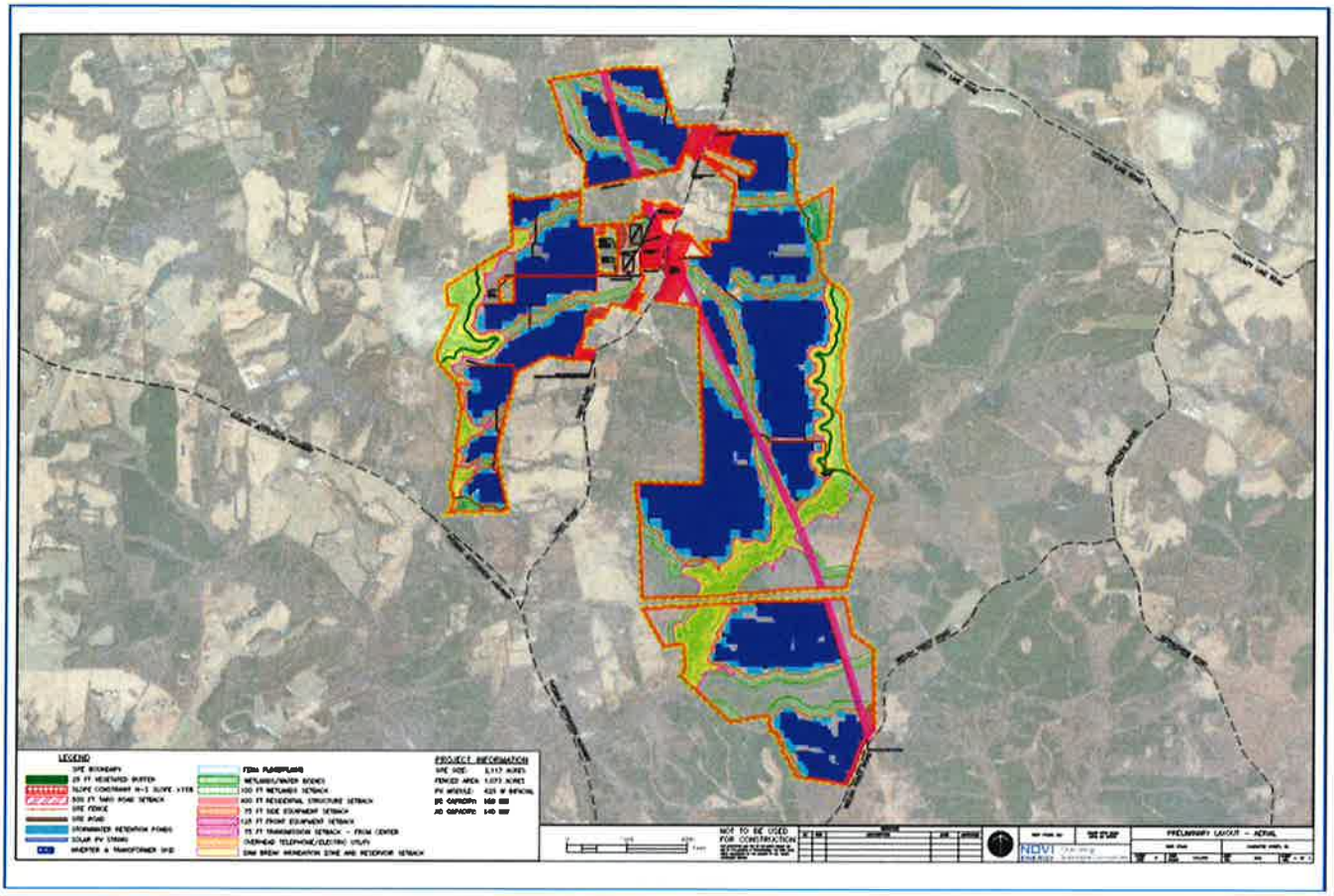
17. For all medium voltage transformers, breakers and other items, Southeastern Transformer Company in Dunn, NC provides complete repair, upgrading and recycling and resale for all items mentioned above. Their website is: https://www.setransformer.com. They have a national presence.
18. For any and all recycling and upgrading, Solomon Corporation offers the same set of services for transformer repair and recycling and complete substation decommissioning services. With seven different locations, Solomon is one of several vendors that can decommission and recycle the components as noted above. Their website is: https://www.solomoncorp.com/. Solomon Corporation is only one of many transmissions, and distribution recycle and decommissioning shops that do this mainly to harvest the components.
19. For recycling conductor, General Cable and Southwire both utilize extensive scrap procurement programs to reuse copper and aluminum conductor harvested from projects such as this one to supplement and reduce their raw material costs.
20. Here is the link to the General Cable program: General Cable Recycling https://es.generalcable.com/na/us- can/socialresponsibility/sustainability/recycling
21. According to the International Renewable Energy Agency (IRENA), more than 90% of all the materials are high grade silicon, aluminum and glass and are typically harvested to produce new panels. This is far less expensive than buying unprocessed raw materials for production.
22. The Solar Energy Industries Association (SEIA) has an approved set of PV recycling vendors that specialize in doing this today and they can be found at: https://www.seia.org/initiatives/seia-national-pv-recycling-program.
23. First Solar, which has been active in the solar industry since its inception, takes solar modules and recycles 90% of the semiconductor material which is then reused in new modules. 90% of the glass product can be reused as new glass products, including panels and fiber optic cable. Information about First Solar's recycling program is at: http://www.firstsolar.com/en/Modules/Recycling.

8 Financial Assurance

The full decommissioning cost, without salvage value, will be guaranteed by escrow at a federally insured financial institution, irrevocable letter of credit, or surety bond before a building permit is issued to the project. The decommissioning cost guarantee will remain valid until the solar energy system has been fully decommissioned. If the Project Owner fails to remove the installation in accordance with the requirements of the Conditional Use Permit or within the proposed date of decommissioning, the County may collect the bond or other surety and the County or hired third-party may enter the property to physically remove the installation. Based on industry trends, the projected and actual costs of decommissioning are expected to go down over time based on improvements both to best practices in calculating these costs and the decommissioning process itself. Project Owner will reevaluate decommissioning costs with a qualified engineering consultant every five years during the life of the Project. If the recalculated estimate exceeds the original estimated decommissioning cost by 10 percent or more, the Project Owner will increase the guarantee to meet the new cost estimate. If the recalculated estimate is less than 90 percent of the

original estimated cost of decommissioning, the County may approve reducing the guarantee.

Appendix A – Site Plan


LEGEND
PROJECT INFORMATION
NOT TO BE USED FOR CONSTRUCTION
PRELIMINARY LAYOUT - AERIAL

TARO SOLAR ADJOINING LANDOWNERS		
Parcel ID	Landowner Name	Mailing Address
16-A-43	ANDERSON JAMES MICHAEL & BARBARA J	109 UNION ST, SALEM, VA 24153-4153
16-A-36	ATKINS PHYLLIS C & MARION J ATKINS	5595 THOMAS JEFFERSON HWY, CHARLOTTE CH, VA 23923-3923
16-A-45	BAKER PATTIE L	1435 TARO RD, CULLEN, VA 23934-3934
16-A-48		
17-A-17	BLUE ROCK RESOURCES LLC	PO BOX 256, DILLWYN, VA 23936-3936
27-A-2		
27-A-32		
27-A-92		
27-A-93		
16-A-49-A	BROWN BRENDA EDMONDS	17 BURTON RD, CUMBERLAND, VA 23040-3040
16-4-4	CARRINGTON GEORGE WAYNE OR WANDA LYNNE	6302 DENNISON DR, CLINTON, MD 20735-0735
16-4-3	CARRINGTON PIERRE L OR PIERRE L II OR	3723 KRYSIA CT, ANNANDALE, VA 22003-2003
16-A-107	CARRINGTON PIERRE L & MARTHA M	
27-A-17	CRAWFORD HANNAH (LIFE) & OTHERS	132 NORTH RODECKER DR, AZUSA, CA 91702-1702
27-A-30		
26-1-6	DIXON LARRY B	414 AZALEA ROAD, CHARLOTTE COURT HOUSE, VA 23923-3923
26-1-7		
26-7-3		
16-2-3	DIXON ROBERT E & CYNTHIA W	4600 THOMAS JEFFERSON HWY, CULLEN, VA 23934-3934
16-A-24		PO BOX 4098, MIDLOTHAIN, VA 23112-3112
16-A-114-A	FAINE BARBARA D	2082 TARO ROAD, CULLEN, VA 23934-2313
16-A-96	FISHER AARON & MARY J	700 ALMOND LANE, CULLEN, VA 23934-3934
27-A-5	GAINES JUAN EDWARD & GAINES ORLANDO EVERETT & CLARK ESTER FLEET	4812 ST ANDREW WAY, FORTH SMITH, AR 72903-2903
27-A-4	GAINES HENRY	3085 WELSH TRACT RD, CHARLOTTE CH, VA 23923-3923
27-A-4-A	GAINES HENRY & MARY E	
27-A-31	GAINES SAMUEL T & EDYTHE R ESTATE	424 HARRY TRUMAN DR, LARGO, MD 20774-0774
16-A-60	GEE KEVIN T & CHERYL G	1641 TARO RD, CULLEN, VA 23934-9701
16-A-92	GEESAMAN STEVEN N & KELLIE S	4400 COUNTRY LINE ROAD, CULLEN, VA 23934-2001
16-A-56-A	GOLDMAN CORNELL B	2041 TARO RD, CULLEN, VA 23934-2313
16-A-1-4	GOLDMAN KENNETH A & MARCIA L	1607 TARO RD, CULLEN, VA 23934-2310
16-A-56	GOLDMAN MARY ETHEL	1855 TARO RD, CULLEN, VA 23934-3934
16-A-1-3	GOLDMAN RALPH JR & LINDA REDD	1587 TARO RD, CULLEN, VA 23934-2309

16-A-64	GOLDMAN RUSSELL EMMANUEL	7800 RED HOUSE RD, PHENIX, VA 23959-9649
26-A-68	GREEN CARRINGTON	PO BOX 14, CULLEN, VA 23934-3934
16-A-54	GREEN PATTIE EST	464 DARBS BRIDGE RD, CHARLOTTE CH, VA 23923-3923
16-A-49-B	GREENTOP LUMBER	370 VINCENT STORE RD, CHARLOTTE CH, VA 23923-2923
16-3-3	GREGG ADLANCY A & SARAH G PARKER & OTHERS	107 NORTH ST, ROCKVILLE, MD 20850-0850
16-3-7	HALL KIMBERLY GREGG	
16-A-77	HASKINS PAULINE WALKER SMITH ESTATE	1535 COUNTRY RD, SAXE, VA 23967-3967
16-A-77-A		
16-A-94	HERTZLER NOAH S & BARBARA H	3700 TARO RD, CULLEN, VA 23934-3934
16-A-113-D	HURT KORIE D & LISA JEFFERSON	2120 TARO RD, CULLEN, VA 23934-2314
16-A-82-C	JENKINS APRIL M	2165 TARO RD, CULLEN, VA 23934-2314
16-A-82-D		
16-A-82-B	JENKINS DANNY P & NELLIE C	2159 TARO RD, CULLEN, VA 23934-2314
26-A-46-A	KEIFER MARY KATHERINE &	EDWARD LAYNE, 615 TARO RD, CULLEN, VA 23934-3934
26-A-49	LAYNE EDWARD & SHARON	615 TARO RD, CULLEN, VA 23934-2340
16-A-39	LAYNE EDWARD R	
26-A-58	LEIMBERGER HERMAN TIMOTHY	455 TARO ROAD, CULLEN, VA 23934-3934
26-A-70-A		
16-2-2	LEWIS MARY BEDFORD & OTHERS	5202 THOMAS JEFFERSON HWY, CULLEN, VA 23934-3934
16-A-112	LINDSEY KAREN EUGENIA	8005 13TH. ST. APT.201, SILVER STRING, MD 20910-0910
16-A-111	MARSHALL KAREN LINDSEY	8005 13TH ST. APT.201, SILVER SPTRING, MD 20910-0910
16-A-113-A		
16-A-113-B		
16-A-113-C		
17-A-14	MARTIN JAMES M & DIANN M	2073 SHADE LANE, ALTAVISTA, VA 24517-4517
27-A-32-C	MATHIS ADAM F & ELIZABETH E	6069 CASTLE PINCES DRIVE, ROCK HILL, SC 29730-9730
16-A-84-A	MILES VERONICA DENISE	1553 TARO RD, CULLEN, VA 23934-3934
16-A-83	MOORE DAVID L	2200 TARO RD, CULLEN, VA 23934-9071
16-A-84-A		
16-A-46	MORRIS ARTRIANNA	8192 PLEASANT GROVE RD, MECHANICSVILLE, VA 23116-3116
16-A-47		
16-A-15	OTT TIMOTHY J & PENNY S	1429 WOODACRE DR, MCLEAN, VA 22101-2101
16-A-109-F	OWEN KENNETH & ALEXIS I	2672 TARO RD, CULLEN, VA 23934-2308
16-A-82-E	POTEAT SHIRLEY	5159 OVERLAND DR APT A, ROANOKE, VA 24018-9350
16-A-1-5	RICH JEAN B	7605 MOUNTAIN VIEW WAY, LANDOVER, MD 20785-0785
16-A-1-6		

16-A-1-7	RICH JEAN B	7605 MOUNTAIN VIEW WAY, LANDOVER, MD 20785-0785
16-A-1-8		
16-A-1-9		
16-A-1-10		
16-A-1-11		
16-A-1-12		
16-A-1-13		
16-A-58		
16-A-82-A	RUZZO RALPH	123 CORTE-DI-CANTANIA, CLEMENTON, NJ 08021-8021
16-A-107-A	S & N RENTALS LLC	2375 WARDS FORK MILL RD, CULLEN, VA 23934-3934
16-A-108		
26-A-47	SCHROEDER MARK W TRUSTEE	PO BOX 67, CULLEN, VA 23934-3934
16-A-20	SCHMIDT JOHN A & PEGGY S	859 WARDS FORK MILL RD
16-A-78-A	SMITH JAMES ALLEN JR	2150 OLS US HWY 29, PELHAM, NC 27311-7311
16-A-78-B	SMITH MICHAEL DAVID	1535 COUNTRY RD, SAXE, VA 23967-9545
16-A-1-2	SNEAD NATHANIEL	1577 TARO ROAD, CULLEN, VA 23934-3934
17-A-18	SPAGNOLO ANDREW	7311 TYLER AVE, FALLS CHURCH, VA 22042-2042
16-A-72	ST ANDREWS CEMETARY	PO BOX 86, CULLEN, VA 23934-3934
16-A-114-B	ST ANDREWS CHURCH	PO BOX 86, CULLEN, VA 23934-3934
16-A-71		
16-A-71-A		
16-A-87-A	STOLTZFUS IKE K & GERTRUDE S	2185 TARO RD, CULLEN, VA 23934-3934
16-A-12	SWAREY STEVEN B & SUSAN A	1854 WARDS FORK MILL RD, CULLEN ,VA 23934-3934
26-A-44	VASSAR BRENDA N & KAREN VASSAR GOODMAN	44 EVANSTON COURT, STAFFORD, VA 22556-2556
26-A-46-A		
16-A-91	WADE GUSSIE	1194 LEWIS FORD RD, BROOKNEAL, VA 24528-2748
16-A-109-C	WALKER WILLIAM C	2820 TARO ROAD, CULLEN, VA 23934-3934
16-3-5	WILKS MARY	107 NORTH ST, ROCKVILLE, MD 20850-0850
16-3-6		
16-A-1-1	WILLIAMS ALICE J	1563 TARO ROAD, CULLEN, VA 23934-3934
16-A-44	WILSON JAMES	1309 TARO RD, CULLEN, VA 23934-3934
16-A-110	WILSON NETTIE	8021 ABILINE RD, FARMILLE, VA 23901-3901
16-A-63-A	WRIGHT CURTIS DALE	1727 TARO RD, CULLEN, VA 23934-3934
26-A-43	VASSAR BRENDA N & KAREN VASSAR GOODMAN	44 EVANSTON COURT, STAFFORD, VA 22556-2556
17-A-3	YODER JOSEPH J & FANNIE	146 SPRING CREEK RD, CULLEN, VA 23934-3934
16-A-87-A	YODER SAMUEL J & LAVINA J	2195 TARO RD, CULLEN, VA 23934-3934
16-3-4	YOUNG MILTON & WILLIE J HARVEY	8309 BIRCHMERE TERRACE, ELLICOTT CITY, MD, 21043-1043

Charlotte County, Virginia
Planning Commission Report

Meeting Date: May 15, 2025

Subject Title: Battery Energy Storage Systems

STAFF REPORT

History

The Planning Commission recommended approval of a draft ordinance for battery energy storage systems (BESS) with additional research for three remaining areas of concern (fire risks, decommissioning, and Tier 1 systems). In response, The Board of Supervisors adopted a resolution to refer those three issues back to the Planning Commission for further review. The Planning Commission is reviewing these issues and is also considering a minimum lot size.

Review Timeline & Schedule

The Planning Commission has 100 days, or until June 28th, to complete their review. Should substantive changes to the previously recommended draft result, a public hearing will be required prior to making a recommendation to the Board.

Fire Risks:

Proposed Regulations:

Fire Risks are Addressed in the Draft Ordinance as follows:

- §10-24-3 – Compliance with Building Codes, Electrical Codes, & Regulatory Requirements
- §10-24-4 – Installation & Design (Tier 2 BESS)
- §10-24-7 – Spacing Requirements (Tier 2 BESS)
- §10-24-15 – Fire Protection (Tier 2 BESS)

Spacing Requirements:

Staff has incorporated draft language for spacing requirements into the ordinance as the Commission requested at their April 17th meeting. As discussed at the meeting, the language is based on Dominion Energy's specifications shared by Aaron Berryhill, Solar Program Manager for the Virginia Department of Energy.

Review proposed language in §10-24-7.

Material Data Sheets:

At the last meeting, staff recommended using a project condition to require applicants to provide safety data sheets as part of the site plan review if the ordinance is adopted. By consensus the Commission agreed. Staff updated §10-24-14, Item #7 for clarity.

Review proposed language in §10-24-14, Item #7

Reimbursement of Costs:

At the April meeting, staff recommended using a project condition rather than a regulation to require the facility owner/operator to reimburse local fire, emergency medical services, and law enforcement for expenses incurred if a fire or similar event occurs at the facility. By consensus, the Commission requested staff add a requirement in the draft ordinance for reimbursement.

Circumstances such as the cause of an incident (whether equipment failure, system design, unaffiliated third-party actions, weather event, or something else), event scale, impacts of the incident, and state & federal regulations will all play a role in the cost of the event and resulting legal actions. Due to the complexity of these issues, staff again recommends considering use of a condition rather than a regulation to address reimbursement. A condition would allow for a detailed legal review of the requirement with each project, as well as consideration of the specific site, technology, and state & federal regulations at the time an application is considered.

Consider whether use of a regulation is appropriate or if a condition is a better fit.

Evacuations:

Commissioners discussed the need to protect citizens impacted by a potential incident and requested staff contact Mecklenburg & Appomattox Counties for information on evacuations that occurred there in association with private business activities. Staff spoke with Appomattox's Director of Community Development and Mecklenburg's zoning staff and Fire/EMS Training Coordinator. Findings were as follows:

Appomattox:

- A natural gas pipeline ruptured in 2008 causing an explosion that resulted in injuries, significant property damage, and evacuations.
- Due to staff changes, key public safety personnel involved are no longer with the County
- The zoning ordinance does not address reimbursement of emergency response agencies or evacuees, nor are these being considered
- Battery Energy Storage is currently limited to inclusion in solar applications or in conjunction with substations; amendments are being considered. These amendments would also require developers to provide an associated emergency plan that addresses training and emergency response procedures

Mecklenburg:

- In July 2024 an individual not affiliated with the company hit a propane tank at Nutrien Ag Solutions' fertilizer warehouse in the Town of South Hill, starting a fire
- Except for one or two homes, evacuations were voluntary and short-term
- Run-off was a primary concern during the incident
- Neither Mecklenburg nor South Hill's zoning ordinance addresses reimbursement of emergency response agencies or evacuees

- Volunteer emergency services agencies have not yet been reimbursed by the company for their costs. (Reimbursement or a donation may be viewed as accepting responsibility which may impact legal proceedings)

Staff recommends excluding any language associated with reimbursement for evacuations from the ordinance to avoid generic regulations that may be ineffective depending on circumstances or may be unenforceable due to the limits of local authority. Language may be considered for inclusion in project conditions with legal guidance considering state code requirements at the time an application is considered.

Decommissioning:

Proposed Regulations:
§10-24-15

Findings Since the April Meeting:
Staff incorporated the following change agreed to by consensus at the April 17th meeting:

Revising §10-24-15 to specify the estimate shall be provided by an independent third-party professional engineer with expertise in Battery Energy Storage Facility construction and industrial site decommissioning

Decommissioning Action Items: None

Tier 1 BESS

Proposed Regulations:
The draft ordinance defines Tier 1 BESS as those with an aggregate energy capacity of less than or equal to 600kWh and, if in a room or enclosed area, consisting of only a single energy storage system technology. Proposed language allows Tier 1 by-right in all zoning districts.

To provide context, the average US home uses approximately 30 kWh of electricity per day while the average usage per home in Virginia is approximately 35 kWh per day. A typical 600 kWh unit that can be mounted on a trailer approximately 8' long X 3' wide X 5' high.

Activity Since the April Meeting:
At the April 17th meeting, Commissioners asked staff to contact Fauquier County regarding their research on three-tiered battery energy storage classification systems. Staff spoke with Fauquier County Planner Kara Marshall who worked on their battery energy storage ordinance, which was adopted in April. Staff findings were as follows:

- Fauquier adopted a two-tiered system that aligns with our proposed draft ordinance after doing a similar ordinance comparison and other research
- While alternative tier categories were considered, Fauquier determined the two-tiered system, divided at 600 kWh, aligns with national standards and is consistent with regulations across the state

- Challenges with dividing the Tier 1 category further were discussed, with specific concerns focusing on determination of an appropriate point to separate the categories, potential changes in future needs, and monitoring & enforcement

Tier 1 – BESS – Recommended Options for Consideration (Select one):

1. Make no changes.

2. Establish a three-tier system as follows:

Type	Size	By-Right Districts	Conditional
Small Residential	150 kWh or less	All	
Large Residential / Commercial	151 kWh to 600 kWh	Ag, Intensive Ag, Gen Ind	Residential & Village Center
Utility-Scale	Greater than 600 kWh		Ag, Intensive Ag, Gen Ind

3. Establish a three-tier system as follows:

Type	Size	By-Right Districts	Conditional
Small Residential	150 kWh or less	All	
Large Residential / Commercial	151 kWh to 600 kWh	Ag, Intensive Ag, Gen Ind	
Utility-Scale	Greater than 600 kWh		Ag, Intensive Ag, Gen Ind

Minimum Lot Size

At the April 17th meeting, Commissioners discussed establishing a larger lot size requirement for utility-scale systems to ensure adequate buffering, with Supervisor Smith recommending a five-acre minimum. The Commission then asked staff to research minimum acreage requirements.

Activity Since the April Meeting:

In addition to those localities included in the initial regulatory comparison, staff reviewed a number of other local ordinances. Of those reviewed, only one had a minimum acreage requirement; Prince George County has a five-acre minimum for buffering purposes.

Action Item: Review & consider draft language in §10-24-2, Item #1

Staff Review Record

Exhibits

Battery Energy Storage Draft Regulations

Battery Energy Storage Systems
Draft Amendments to the Charlotte County Zoning Ordinance
(Appendix A of the Charlotte County Code)

Article IX. USE MATRIX

B = By Right **C = Conditional Use Permit** **T = Temporary Use Permit**

Use Types	Zoning Districts				
	General Agricultural	Intensive Agriculture	General Residential	Village Center	General Industrial
Battery Energy Storage Facilities – Tier 1	B	B	B	B	B
Battery Energy Storage Facilities – Tier 2	C	C			C

ARTICLE X. SUPPLEMENTARY REGULATIONS

Sec. 10-24. Battery Energy Storage Facilities.

10-24-1. *Principal or Accessory Use.* Tier 1 Battery Energy Storage Facilities, as defined in this ordinance, shall be considered an accessory use. Tier 2 Battery Energy Storage Facilities, as defined in this ordinance, shall be considered as a principal use. However, an existing use or an existing structure on the same lot shall not preclude the installation of a Tier 2 Battery Energy Storage Facility on such lot.

10-24-2. *Site Design.* To minimize impacts to adjacent properties and maximize buffers, Tier 2 Battery Energy Storage Facilities shall:

1. Have a minimum lot size of five acres
~~1.~~2. Be sited toward the interior of the lot to buffer the facility from the surrounding areas
~~2.~~3. Have a 20-foot minimum buffer within the fenced area of the facility, located between the system components and the fencing
~~3.~~4. Take advantage of existing topography, structures, and vegetation to provide extra screening
5. Be sited to avoid wetlands, floodplains, and any other environmental concerns.

10-24-3. *Compliance with Building Codes, Electrical Codes, and Other Regulatory Requirements.* Battery Energy Storage Facilities shall be constructed, maintained, and operated in accordance with all applicable local, state, and federal codes and standards, including but not limited to applicable fire, electrical, and building codes adopted by the County; National Fire Protection Association (NFPA) 855, Standard for the Installation of Stationary Energy Storage Systems; Underwriters Laboratories (UL) 9540A, Standard for Test Method for Evaluating Thermal Runway Fire Propagation in Battery Energy Storage Systems; and Virginia's stormwater management and erosion and sediment control requirements. Applicable requirements are those in effect at the time of construction and equipment installation.

10-24-4. *Installation and Design.* Battery cells in a Tier 2 Battery Energy Storage Facility 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, fire alarm, fire and heat monitoring, and fire suppression systems.

10-24-5. *Location.* Absent specific authorization by the Board of Supervisors as part of a Conditional Use Permit, no Tier 2 Battery Energy Storage Facility shall be located within one (1) mile of an existing town boundary. Under circumstances deemed appropriate by the Board of Supervisors, the Board may approve a Tier 2 Battery Energy Storage Facility location closer than (1) mile to an existing town boundary and establish the permitted distance from such system to an existing town boundary, provided that no project is approved closer than one (1) mile to the Town of Keysville, or closer than one-half (1/2) mile to the Towns of Phenix, Charlotte Court House, and Drakes Branch.

10-24-6. *Setbacks.*

1. Tier 1 Battery Energy Storage Facilities shall conform to all minimum building setback requirements for principal structures of the zoning district in which they are located, or fifty (50) feet, whichever is greater.
2. Unless otherwise prescribed by the Board of Supervisors as a condition of approval for a Conditional Use Permit, Tier 2 Battery Energy Storage Facilities shall conform to the following setbacks: a minimum setback of 150 feet from the center line of any state maintained road abutting the property; a minimum setback of 150 feet from all other property lines with the exception of those property lines that are inside the project's boundaries and which do not abut property located outside the project area; and a minimum of 400 feet from all off-site residential structures and places of assembly as defined in this ordinance.

10-24-7. *Spacing Requirements.* Tier 2 Battery Energy Storage Facilities shall adhere to the following spacing requirements:

1. Containers/structures or groups of containers/structures with 8 MWh or less of batteries shall have 25 feet spacing between other containers/structures or other groups of containers/structures containing batteries. 25 feet of separation shall also be provided to other site buildings/structures or equipment.
2. Containers/structures with greater than 8 MWh of batteries shall have 50-foot spacing between containers/structures or any other site building/structure/equipment and shall have individual rooms limited to 8 MWh or less of batteries with firewalls (4 hour rated masonry block) between all battery rooms. 50 feet of spacing shall also be provided to other site buildings/equipment.
3. Firewalls adhering to all of the following standards may be used in lieu of the 25-foot separation for containers/structures or groups of containers/structures with 8 MWh or less of batteries:
    a. Firewalls shall extend vertically to a point at least 30 inches above the top surface of the roof of the system enclosure;
    b. Firewalls shall extend horizontally at least 30 inches beyond the ends of the system enclosure.
    c. Firewalls shall be rated for 4 hours per ASTM E119 testing or equivalent.
    d. Firewalls shall not be provided on the side of the enclosure that contains the equipment access doors.
    e. Clearances between the system enclosure and the firewall shall consider the following:
        i. Fire department access requirements (firefighting, access to sample ports, access to FDC, etc.)
        ii. HVAC and emergency ventilation requirements
        iii. Maintenance / inspection requirements
        iv. Exterior appliances on the system enclosure
        v. Conduit routing
        vi. Battery Installation
        vii. System replacement

10-24-87. *Height.* Battery Energy Storage Facilities shall comply with the building height limitations for principal structures of the underlying zoning district.

10-24-98. *Lighting.* Lighting of the battery energy storage systems shall be limited to that minimally required for safety and operational purposes and shall meet all requirements of this ordinance.

10-24-109. *Utilities.* All on-site utility lines shall be placed underground to the extent feasible and as permitted by the serving utility, with the exception of the main service connection at the utility company right-of-way and any new interconnection equipment, including without limitation any poles, with new easements and right-of-way.

10-24-1140. *Fencing for Tier 2 Battery Energy Storage Facilities.* Tier 2 Battery Energy Storage Facilities shall be enclosed by security fencing. Fencing height shall comply with the Virginia Department of Wildlife Resources' most recent guidance at the time project construction

begins. If the Department of Wildlife Resources has not established guidance, security fencing shall be a minimum of seven feet in height and, in addition, shall have an anti-climbing device at least one foot in height.

10-24-12~~11~~ *Screening for Tier 2 Battery Energy Storage Facilities.* The entire Tier 2 Battery Energy Storage Facility, including fencing, shall be screened from ground-level view of adjacent properties by a landscaped buffer zone at least 25 feet wide consisting of an mix of native evergreen and deciduous species as approved by the Zoning Administrator; a planted berm; or a combination of the two methods, unless otherwise prescribed by the Board of Supervisors as a condition of approval for a Conditional Use Permit. Opaque fencing slats of an approved color may be required to enhance screening at the Zoning Administrator's discretion. Existing mature tree growth and natural landforms on the site shall be preserved to the maximum extent possible and may be used in whole or in part to provide the required screening if they provide adequate screening from public view as determined by the Zoning Administrator. In the event that existing vegetation or landforms providing screening are disturbed, new plantings shall be provided which accomplish the same.

10-24-13~~12~~. *Noise Limits for Battery Energy Storage Facilities.* After completion of construction, noise levels measured at the property line during standard operations shall not exceed 60 dbA. Applicants shall submit equipment and component manufacturers' noise ratings to demonstrate compliance. The applicant shall be required to provide Operating Sound Pressure Level measurements from a reasonable number of sampled locations at the perimeter of the battery energy storage system to demonstrate compliance with this standard.

10-24-14~~13~~. *Removal of Damaged Components.* Any damaged Battery Energy Storage Facility components or portions thereof shall be collected by the facility operator and removed from the site or stored on site in a location protected from weather and wildlife and from any contact with ground or water until removal from the site can be arranged; storage shall not exceed thirty (30) days. If not returned to the manufacturer, damaged components shall be transferred directly to an approved recycling facility or disposal site in accordance with local, state, and federal laws.

10-24-15~~14~~. *Fire Protection for Tier 2 Battery Energy Storage Facilities.*

1. *"Non-combustible" Buffer.* A minimum 20-foot "non-combustible" gravel buffer shall be established around the perimeter of Tier 2 Battery Energy Storage facilities to help prevent the spread of fire and provide access for emergency vehicles if needed. The applicant shall maintain the buffer throughout the life of the facility to ensure it remains free of combustible materials and provides emergency vehicle access.
2. *Emergency Access:* Access to the property for emergency services shall be provided in a manner acceptable to the Charlotte County Zoning Administrator and the Charlotte County Director of Public Safety.
3. *Safety Operation Standards.*

a. Each individual battery shall have 24/7 independently monitored automated fire detection and extinguishing technology built in.
b. The Battery Management System 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.
c. The Battery Management System shall be capable of shutting down the system before thermal runaway takes place.

4. *Emergency Plan.* Applications for battery energy storage facilities shall include an Emergency Plan that, at minimum, contains the following:
   a. Procedures to be followed in response to notifications provided by the battery energy storage management system that could signify potentially dangerous conditions
   b. Emergency procedures to be followed in case of fire, explosion, release of liquids or vapors, damage to critical moving parts, or other potentially dangerous conditions, including shutting down equipment, de-energizing, or isolating equipment and systems to reduce the risk of fire, electric shock, release of hazardous materials, and personal injuries; summoning service and repair personnel; and providing agreed upon notification to fire department personnel for potentially hazardous conditions in the event of a system failure.
   c. Procedures and schedules for conducting drills of procedures a and b.
   d. Procedures for safe start-up following cessation of emergency conditions.
   e. Procedures for dealing with battery energy storage system components damaged in a fire or other emergency event.
   f. A water containment plan to address potentially contaminated water associated with a fire, explosion, or hazardous materials incident.
   g. Procedures for inspection and testing of associated alarms, interlocks, and controls.
   h. Procedures and schedule for training local first responders on the contents of the plan and appropriate response actions.
5. *Warning Signage*. A 911 address sign shall be posted in a clearly visible manner. NFPA 704 placards and appropriate warning signage that complies with NFPA 855 and identifies the owner and a 24-hour emergency contact phone number shall be placed on all entrances.
6. *Experience and Expertise:* Qualifications and experience of developers and selected integrators shall be provided, including disclosure of fires or other hazards at facilities.
7. *Public Safety Information:* The applicant shall provide s~~S~~afety data sheets ~~shall be provided~~ to the Zoning Administrator and Director of Public Safety as part of their Site Plan review and shall provide updated data sheets as needed to ensure information on file with the County is current throughout the life of the project.
8. *Emergency Response Training*: The applicant shall coordinate with the Director of Public Safety to schedule and conduct training of emergency response personnel

regarding system components, site design, potential hazards and risks, and system-specific emergency response plans.

10-24-1615. *Decommissioning of Tier 2 Battery Energy Storage Facilities.*

1. Applications for Tier 2 Battery Energy Storage Facilities shall include a draft decommissioning plan detailing the anticipated life of the project, the estimated decommissioning cost in current dollars, an explanation of how the cost was determined, the method of ensuring funds will be available for decommissioning, a mechanism for calculating increased removal costs due to inflation, and an explanation of the decommissioning process. The decommissioning estimate shall be prepared and stamped by an independent third-party professional engineer who has expertise in Battery Energy Storage Facility construction and industrial site decommissioning ~~the removal of Battery Energy Storage Facilities~~. Salvage value shall not be considered when determining the estimated decommissioning cost.
2. The full estimated decommissioning cost shall be guaranteed by escrow at a federally insured financial institution, irrevocable letter of credit, or surety bond before a building permit is issued for the project. The decommissioning cost guarantee shall remain valid until the facility has been fully decommissioned. If the facility owner/operator 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 bond or other surety and the County or hired third party may enter the property to physically remove the installation.
3. The decommissioning cost estimate shall be recalculated every five (5) years at the facility owner's expense by an independent third-party professional engineer who has expertise in Battery Energy Storage Facility construction and industrial site decommissioning~~the removal of Battery Energy Storage Facilities~~ or by a third-party professional engineer approved by the County. If the recalculated estimate exceeds the original estimated decommissioning cost by 10% or more, the facility owner/operator shall increase the guarantee to meet the new cost estimate. If the recalculated estimate is less than 90% of the original estimated cost of decommissioning, the County may approve reducing the guarantee.
4. Tier 2 Battery Energy Storage Facilities which have reached the end of their useful life or have not been in active service for a period of one (1) year shall be removed at the facility owner/operator's expense. This period may be extended by the Zoning Administrator if evidence is provided that the delay is due to circumstances beyond the facility owner/operator's reasonable control.
5. The facility owner/operator shall notify the Zoning Administrator by certified mail of the proposed date of discontinued operations and plans for removal.
6. The facility owner/operator shall have twelve (12) months to complete the decommissioning of the facility.
7. Decommissioning shall be performed in compliance with the approved final decommissioning plan and shall include removal of all battery energy storage system

components, structures, equipment, pads or foundations, cabling, roads, security barriers, transmission lines, and any other associated facilities from the site, so that any agricultural ground upon which the facility and/or system was located is again tillable and suitable for agricultural uses. All materials removed from the property, including hazardous materials, shall be disposed of in accordance with local, state, and federal law. Any contaminated soil, as determined by independent testing, shall be removed and disposed of in accordance with local, state, and federal law. Disturbed earth shall be graded and re-seeded. However, the landowner may request that access roads, stormwater management features, or other land surface areas not be restored. Approval of such landowner requests shall be at the zoning administrator's discretion.

10-24-1~~7~~~~16~~. *Application Requirements for Tier 2 Battery Energy Storage Facilities.* Prior to submitting an application for a Tier 2 Battery Energy Storage Facility, applicants shall have a pre-application meeting with the Zoning Administrator or his/her designee to discuss the location, scale and nature of the proposed project and the application review process. Applications for Tier 2 Battery Energy Storage Facilities shall include the following items:

1. A completed Charlotte County Conditional Use Permit Application
2. A detailed project description including an overview of the project location; approximate capacity; description of proposed equipment including the approximate number of batteries and containers, information on the technology being used, and equipment safety features; description of screening and fencing methods; expected footprint of the equipment to be installed, and buffering; and a breakdown of the project land by type, with associated percentages (i.e., planted pines, forested, agricultural, pasture, etc.)
3. Aerial imagery showing the proposed location, fenced area and driveways with the closest distance to all adjacent property lines, dwellings, and places of assembly specified.
4. Fourteen hardcopies (11"X17" or larger) and one electronic copy of a preliminary plan prepared by a licensed professional engineer including the following:
    a) Parcel numbers for the proposed site and adjacent properties
    b) Property lines
    c) Existing roads
    d) Existing buildings and structures
    e) Proposed roads, buildings and structures including preliminary layout of the facility and related equipment, fencing, driveways, internal roads, structures and the location of points of ingress/egress.
    f) Distances from proposed battery energy storage systems to property lines
    g) The location of proposed buffers and screening elements
    h) Location of substation and means of connecting to the substation, ancillary equipment, buildings, and structures including those within any applicable setback.
5. A draft decommissioning plan as specified in Section 10-24-15; a final plan shall be

provided as part of the site plan review process.

6. A draft emergency plan including the information specified in Section 10-24-14; a final plan shall be provided as part of the site plan review process.
7. A land management plan that includes a detailed description of plant selections for the landscaped buffer, maintenance of the "non-combustible" buffer, weed control methods for the facility, and general site maintenance information.
8. Any additional items or information the County may require in order to assess compliance with this ordinance.

10-24-1817. *Community meeting.* Within 30 days of the zoning administrator providing an applicant notice that their Tier 2 Battery Energy Storage Facility application is complete, a public meeting shall be held with the planning commission to give the community an opportunity to hear from the applicant and ask questions regarding the proposed facility. The meeting shall adhere to the following:

1. The applicant shall inform the zoning administrator 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 a newspaper of record in the county 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 that will accommodate persons with disabilities. Should a suitable location near the project site not be available, a location in a neighboring jurisdiction may be used as long as it is no greater than ten (10) miles from the project site.
4. The meeting shall give members of the public the opportunity to review application materials, ask questions of the applicant and provide feedback; and
5. The applicant shall provide to the zoning administrator a summary of any input received from members of the public at the meeting.

10-24-1918. *2232 Comprehensive Plan Review.* A 2232 review by the County is required by the Code of Virginia (§15.2-2232) for Tier 2 Battery Energy Storage 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.

ARTICLE XII. DEFINITIONS

Battery Energy Storage Facility. One or more battery cells for storing electrical energy, stored in a Battery Energy Storage System ("BESS") with a Battery Management System ("BMS").

Not to include a stand-alone 12-volt car battery or an electric motor vehicle or consumer products. Battery Energy Storage Facilities are classified as follows:

A. Tier 1 Battery Energy Storage Facilities have an aggregate energy capacity less than or equal to 600kWh and, if in a room or enclosed area, consist of only a single energy storage system technology.

B. Tier 2 Battery Energy Storage Facilities have an aggregate energy capacity greater than 600kWh or are comprised of more than one storage battery technology in a room or enclosed area.

Battery Energy Storage System. A physical container providing secondary containment to battery cells that is equipped with cooling, ventilation, fire suppression, and a Battery Management System.

Battery Management System. An electronic system that protects energy storage systems from operating outside their safe operating parameters and disconnects electrical power to the battery energy storage system or places it in a safe condition if potentially hazardous temperatures or other conditions are detected.

Charlotte County, Virginia

Planning Commission Report

Meeting Date: May 15, 2025

Subject: General Staff Report

General Staff Report

1. **Approved Solar Project Updates:**

   NOTE: Dominion will be present at the meeting on May 14th to provide project updates. This update will include a request related to the Randolph Solar Project.

   CPV County Line Solar- This project is on hold. The most recent report issued by PJM indicated CPV County Line would need to connect to a not-yet-designed 230 kV line. Another PJM report is expected in August; however, since the developer removed this project from the PJM queue, it will not be included in the August analysis. Assuming the 230 kV line will be required, this project is not expected to be operational until 2030-2031.

   Charlotte Solar 1 - Gibson Project – No update. The developer expected to receive updated figures from the utility in April that will help determine if the project is financially viable.

   Tall Pines Solar – This project is still in the PJM queue and will be reviewed again by PJM in the August analysis. If the 230kV line is still required for Tall Pines, the project's estimated completion date is approximately 2030 or 2031. No other updates are available.

   Courthouse Solar- Civil work began on this project on April 28th with Depcom serving as the general contractor. Currently, a new entrance on George Washington Hwy. (Route 40) just southeast of Shady Oaks Lane and across from Union Cemetery Road is being installed. Civil work is expected to take about two years to complete. If PJM confirms the project needs to connect to the new 230 kV transmission line, equipment would be installed at a later date, with an estimated completion date of 2030. After review the requirements for burning, Depcom and their civil subcontractor have determined use of air curtains to direct smoke upwards, as the County requires, would preclude any cost savings so they intend to chip and haul.

   Randolph Solar – Staff has no changes to report.

   - Phase 1 design, 200MWs, is about 30% completed and is expected to be 90% completed by the end of 2025. Approvals and permitting are expected to be completed in 2026. Construction is expected to begin in Q2 of 2027.
   - Phase 2 timeline, 300MWs, schedule runs from 2028-2031.
   - Phase 3, 300MWs, schedule runs from 2029-2032.
   - Dominion is working towards establishing a laydown yard & office site on parcels 85-1-3 & 85-A-131 on Hebron Church Road. Both parcels are part of the approved permit and have been purchased by Dominion. Randolph is working with staff and VDOT on other permits associated with the site.
   - Dominion has a $500K siting agreement payment due to the county by April 30, 2025.

- This project will move forward on schedule without the need for a new powerline as it will connect to an existing line that has the necessary capacity.

Quarter Horse Solar – The Quarter Horse amendment was only recently approved, so the project schedule will not be impacted by the 230 kV line if required, with operations still estimated to begin in 2030.

2. **Other Solar Project Applications**

Red Oak Solar – Last staff review was in October 2024, no resubmittal received. The developer has inquired about battery energy storage systems and the status of the ordinance, expressing interest in changing their project to a battery energy storage facility. NOTE: At this time, a battery energy storage application cannot be accepted since the use is not currently allowed.

Taro Solar – The Taro Solar community meeting was held on April 24th at the project site. The applicant has submitted his follow-up report as required and the Planning Commission begins their 2232 Comprehensive Plan Compliance review on May 15th. The full project application is available on the County's solar development webpage.

Other projects – Staff recently met with a developer interested in applying for a small project (approximately 5 MW) in the Drakes Branch area. Staff has received multiple inquiries about this area recently due to the existing transmission line and available capacity. No new applications have been received.

3. **Other Conditional Use Permits**

On May 14th, the Board of Supervisors will hold their public hearing on Mr. Patel's application for a gas station / convenience store at the former Sundae's Restaurant property in Wylliesburg.

4. **Twitty's Creek Solar Site Visit**

At the request of Commissioner Belinda Strom, staff is coordinating a site visit at Twitty's Creek for interested commissioners. Four Commissioners expressed interest in participating. Staff has provided potential dates, but as of May 9th the site manager has not confirmed their availability.

5. **Certified Planning Commissioner Training Program**

We encourage all Planning Commissioners to complete the Certified Planning Commissioner Training Program. An in-person class will be held in Richmond in late July and September. Program cost is covered by the County. If you are interested in attending, please let staff know and we will assist you with registration. Details are available at https://cura.vcu.edu/land-use-education/

6. **Upcoming Meetings & Public Hearings for Conditional Use Permits**

June Meeting – Public Hearing for the Battery Energy Storage Ordinance
June Meeting – Public Hearing for a telecommunication tower on Barnesville Hwy. in Red Oak
June Meeting – Continue the Taro Solar Review