

## MEMORANDUM

To: Planning Commission

From: Austin R. Mitchell, Zoning and Subdivision Administrator *ARM*

CC: Paul Harvey, Community Development Director

Subject: Special Use Permit Request #PL-18-103 (Depot Road)

Date: August 17, 2018

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**BACKGROUND:** This request is from Kyle West with Depot Solar Center, LLC, agent for Charles Arthur, II and William Arthur, for a special use permit to construct a solar energy project on property zoned Agricultural.

Public hearings scheduled: P/C: August 27, 2018; B/S: October 2, 2018

Location / Election District: Depot Road, Rustburg, VA 24588 / Rustburg Election District

Tax map number(s) / total acreage: 34-A-1, 34-1-1, 34-1-2, 34A-1-2, 34A-1-3, 34A-1-4, 34A-1-5, 34A-1-9, 34A-1-10 & 34A-1-11 / 317.25 +/- acres

Magisterial District and Population: Long Mountain; 10,762 in 2010 increasing to 11,160 by 2020.

Owner/ Applicant contact information: Depot Solar Center, LLC, 321 East Main Street, Charlottesville, VA 22902; 434-299-0335.

Comments: Depot Solar Center, LLC proposes to construct a 15 MWAC solar energy project on approximately 150 acres of the property. The solar farm will consist of photovoltaic modules mounted on aluminum or steel racking structures on posts set in the ground no more than twelve (12) feet in height. Separate concrete pads would house inverters and transformers. A fence would enclose the site. All the arrays would be wired together and interconnected to the Appalachian Power grid at an existing substation. The PEC met on February 11, 2016 to discuss the plan. Comments from that meeting are included in this packet. The narrative includes an analysis of the traffic impact of the project and a decommissioning plan.

### DISCUSSION:

Land Use/Floodplain: The area is mostly residential in nature. Zoning in the vicinity is Residential – Multi Family, Industrial – General, Industrial – General, Conditional, and Agricultural. The property does not lie within any FEMA 100-yr. floods plains.

Access and Traffic: The area can be accessed from Depot Road (Route 622 – avg. daily traffic 710 vehicles). The applicant will work with VDOT for the approval of entrances prior to final site plan approval. The traffic impact in the narrative proposes a route for traffic during construction that avoids travel through the majority of Rustburg. The change in traffic caused by this request will be very minimal after construction.

Utilities: No occupied structure is proposed, therefore water and sewer facilities are not applicable.

Conditions: The Planning Commission may recommend, and the Board of Supervisors may impose any reasonable conditions upon approval of the permit. Staff recommends the following conditions:

1. The applicant utilizes the site in conformance with the use described in the narrative and shown on the site plan submitted with this request;
2. The applicant show additional vegetative buffer along Depot Road on the final site plan and the County inspect the vegetative buffer and require further screening if the County determines additional screening is necessary;

3. Construction traffic follow the route proposed in the narrative; and
4. The applicant follow the decommissioning plan, including providing a performance bond or other agreed-upon secured funding source, as approved by the Board of Supervisors.

Comprehensive Plan: Property is located in an area designated as transitional and medium to high density mixed.

**RECOMMENDATION:** This request can be generally consistent with the Comprehensive Plan if the Commission finds that there is a public need or convenience provided by the facility. If the Commission chooses to recommend approval, the motion should include a determination that the development of the project is substantially in accord with the Comprehensive Plan under Section 15.2-2232 of the Code of Virginia.

For reference: Excerpts from Code of Virginia -Zoning

§ 15.2-2200. Declaration of legislative intent.

This chapter is intended to encourage localities to improve the public health, safety, convenience and welfare of its citizens and to plan for the future development of communities to the end that transportation systems be carefully planned; that new community centers be developed with adequate highway, utility, health, educational, and recreational facilities; that the need for mineral resources and the needs of agriculture, industry and business be recognized in future growth; that residential areas be provided with healthy surroundings for family life; that agricultural and forestal land be preserved; and that the growth of the community be consonant with the efficient and economical use of public funds.

§ 15.2-2283. Purpose of zoning ordinances.

Zoning ordinances shall be for the general purpose of promoting the health, safety or general welfare of the public and of further accomplishing the objectives of § [15.2-2200](#). To these ends, such ordinances shall be designed to give reasonable consideration to each of the following purposes, where applicable: (i) to provide for adequate light, air, convenience of access, and safety from fire, flood, crime and other dangers; (ii) to reduce or prevent congestion in the public streets; (iii) to facilitate the creation of a convenient, attractive and harmonious community; (iv) to facilitate the provision of adequate police and fire protection, disaster evacuation, civil defense, transportation, water, sewerage, flood protection, schools, parks, forests, playgrounds, recreational facilities, airports and other public requirements; (v) to protect against destruction of or encroachment upon historic areas; (vi) to protect against one or more of the following: overcrowding of land, undue density of population in relation to the community facilities existing or available, obstruction of light and air, danger and congestion in travel and transportation, or loss of life, health, or property from fire, flood, panic or other dangers; (vii) to encourage economic development activities that provide desirable employment and enlarge the tax base; (viii) to provide for the preservation of agricultural and forestal lands and other lands of significance for the protection of the natural environment; (ix) to protect approach slopes and other safety areas of licensed airports, including United States government and military air facilities; (x) to promote the creation and preservation of affordable housing suitable for meeting the current and future needs of the locality as well as a reasonable proportion of the current and future needs of the planning district within which the locality is situated; and (xi) to provide reasonable protection against encroachment upon military bases, military installations, and military airports and their adjacent safety areas, excluding armories operated by the Virginia National Guard. Such ordinance may also include reasonable provisions, not inconsistent with applicable state water quality standards, to protect surface water and ground water as defined in § [62.1-255](#).

**COUNTY OF CAMPBELL  
APPLICATION FOR SPECIAL USE**

**Election District:** Rustburg

**Zoning Number:** PL-18-103

**Date:** July 30, 2018

**Receipt Number:** 11917

**Fee Paid:** \$ 500.00

**TO THE CAMPBELL COUNTY ZONING ADMINISTRATOR: (Re: Section 22-35)**

Application is hereby made for a Special Use Permit, in accordance with the description and for the purpose hereinafter set forth. This application is made subject to all the County and State laws, ordinances, rules and regulations now in force effecting thereto; and which are hereby agreed to by the undersigned applicant and which shall be deemed a condition entering into the exercise of the permit.

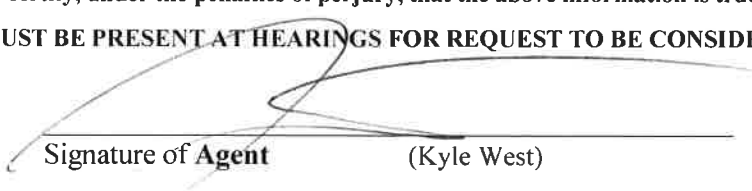
1. **Landowner's Name:** Charles Arthur, III & William Arthur
2. **Landowner's Address:** 205 Mountain Laurel Drive, Rustburg, VA 24588
3. **Occupant or User's Name:** Depot Solar Center, LLC
4. **Occupant or User's Address:** 321 East Main Street, 3<sup>rd</sup> Floor, Charlottesville, VA 22902
5. **Location of Property:** North side of Depot Road, including parcel intersected by Sawpit Road
6. **Real Estate Number:** 34-A-1, 34-1-1, 34-1-2, 34A-1-2, 34A-1-3, 34A-1-4, 34A-1-5, 34A-1-9, 34A-1-10, & 34A-1-11
- 7(a). **Zoning:** A-1, Agricultural                      7(b). **Magisterial District:** Long Mountain
8. **Acreage:** 317.25 +/- acres; 150 acres requested for permit
9. **Subdivision:** N/A
10. **Present Use:** Vacant
11. **Section(s) of the Zoning Ordinance that the permit is being applied for:** Sec. 22-16.A.68 – Solar energy project
12. **Describe Request:** Solar Energy Project
- 13(a). **Site Plan Attached:** Yes x No                             13(b). **Narrative Attached:** Yes x No
14. **Public Hearings Scheduled:** BOTH ARE IN THE HABERER BUILDING.

Planning Commission: MONDAY, August 27, 2018 at 7:00 p.m.

Board of Supervisors: TUESDAY, October 2, 2018 at 7:00 p.m.

I hereby authorize appropriate County Officials to enter upon the above-described property during normal business hours to conduct required inspections. I hereby certify, under the penalties of perjury, that the above information is true and correct.

**APPLICANT/REPRESENTATIVE MUST BE PRESENT AT HEARINGS FOR REQUEST TO BE CONSIDERED.**

  
Signature of Agent

(Kyle West)

Phone number: 434-299-0335

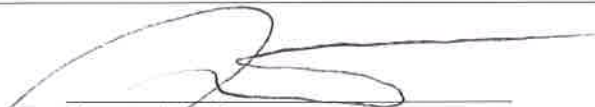
1. All applications for special use permits will be scheduled for Public Hearings by both the Planning Commission and Board of Supervisors at the earliest possible dates.
2. The applicant, his representative, or agent, must be present to discuss the request at both the Commission and Board hearings at which the request is to be considered.
3. The applicant is encouraged to submit all available information regarding the special use permit and the proposed use of the property with the application.
4. The applicant is responsible for contacting the Campbell County Utilities & Service Authority and/or the State Health Department, Virginia Department of Transportation prior to the first Public Hearing regarding the need and availability of water and sewage and Highway Department ingress and egress regulations.
5. Site plans, plats and other similar documents required for Public Hearing consideration by the Commission shall be submitted to the appropriate official(s) or office(s) at the time an applicable application is filed with same.

### **CERTIFICATION**

No member of the Campbell County Planning Commission or the Board of Supervisors has any interest in such property, individually, by ownership or stock in a corporation owning such land, partnership, as the beneficiary of a trust, or the settlor of a revocable trust and no member of the immediate household of any members of the Planning Commission or Board of Supervisors has any such interest, except as follows:

List name(s) here: \_\_\_\_\_

If none, please circle N/A

  
\_\_\_\_\_  
Signature/Applicant

State of Virginia  
County of Campbell

On this 30 day of July, 2018, Kyle West, whose name is signed to the foregoing instrument, personally appeared before me, acknowledged the foregoing signature to be his/hers, and having been duly sworn by me, made oath that the statements made in this certification are true.

My Commission expires: 5/31/2021

  
\_\_\_\_\_  
Notary Public



### **PLANNING COMMISSION RECOMMENDATION:**

APPROVAL \_\_\_\_\_ DISAPPROVAL \_\_\_\_\_ DATE \_\_\_\_\_

### **ACTION BY BOARD OF SUPERVISORS:**

APPROVED \_\_\_\_\_ DISAPPROVED \_\_\_\_\_ DATE OF FINAL ACTION \_\_\_\_\_



Thursday, November 2, 2017

Mr. Austin Mitchell  
Planner, Campbell County  
P.O. Box 100  
Rustburg, VA 24588

RE: Authorization for Agent to Act on Behalf of Owner

Dear Mr. Mitchell,

As the owners of Parcel ID#s 34-A-1, 34-1-1, 34-1-2, 34A-1-2, 34A-1-3, 34A-1-4, 34A-1-5, 34A-1-9, 34A-1-10, and 34A-1-11 in Campbell County, VA, we grant permission for representatives of Depot Solar Center, LLC and Coronal Development Services, LLC to act on our behalf in the request for a Special Use Permit to develop and construct a solar farm.

Best regards,

A handwritten signature in cursive script, reading "Charles B. Arthur, III", written over a horizontal line.

Charles B. Arthur, III

A handwritten signature in cursive script, reading "William C. Arthur", written over a horizontal line.

William C. Arthur

**MEMORANDUM  
DEPOT SOLAR CENTER  
CAMPBELL COUNTY PLANNING COMMISSION HEARING  
SEPTEMBER 24<sup>TH</sup>, 2018**

Depot Solar Center, LLC hereby submits the following memorandum with attachments including a revised site plan, revised decommissioning plan, and traffic assessment. The primary purpose of this memo is to address the concerns raised by Planning Commissioners at their August 27<sup>th</sup> hearing. In addition it identifies similarities between Depot Solar Center and Dragonfly Solar Center. The concerns were as follows:

*Decommissioning:* As discussed below, Depot is prepared to post a decommissioning bond proportional to the decommissioning bond recommended for Dragonfly Solar Center.

*Traffic Safety:* The concern was raised that traffic generated during the construction phase would be unsafe. The request was made for Depot to show evidence that all vehicles could (a) physically make the turns required to reach the project site, and (b) physically clear the railroad tracks located on Depot Road south of the project site. These concerns are addressed in the attached traffic assessment, and Depot will endeavor to comply with the recommendations.

*Viewshed:* It was suggested that the buffer proposed by the project should be extended along the full boundary of Depot Road. The attached revised site plan does this.

*Noise:* As currently designed, the noise emitted by the inverters will be approximately 20dB measured at 200 feet beyond the fence line, approximately the distance of the nearest residence. According to iac acoustics, this is approximately the same noise level of a "Whisper or rustling leaves." and much quieter than a "Quiet rural area."

*County-wide effect of solar farms on land available for agriculture:* The concern was raised that Campbell County's agricultural industry could one day be significantly affected by the propagation of solar energy generating facilities. This concern is unfounded. The size of a solar energy generating facility is limited by the utility infrastructure to which it connects. For example, a 230kV transmission line can accommodate greater power injection than a 69kV substation. Even if enough solar energy generating facilities were built such that the maximum power tolerance of Campbell County's utility infrastructure were to be reached, the total acreage of land used for solar would represent a negligible portion of total agricultural land.

The similarities between Depot and Dragonfly are notable, including but not limited to the following:

1. Located on A-1 Agricultural land owned by private landowners
2. Design consisting of posts driven into the ground, racking attached to the posts, and modules placed on the racking
3. Similar height of solar panels above grade
4. Inverters located well within the project boundary
5. Optimally located within proximity of utility interconnection infrastructure
6. Construction timeline taking place over several months
7. Surrounded by a vegetative buffer designed to mitigate the view of the project from roadways and adjacent residences

Additionally, Depot complies with the conditions that were placed on Dragonfly at the time of the approval of its Special Use Permit. Some conditions are project-specific, such as maximum acreage and inverter setback, thus are not relevant. Here is a list of relevant conditions:

1. Decommissioning bond to be posted prior to construction. Depot is prepared to post a decommissioning bond in the amount of \$483,849, which is based on the attached decommissioning plan, and proportional to the bond recommended to be posted by Dragonfly.
2. The solar facility shall be screened from adjoining public roads and residences in the areas where existing tree growth and topography do not effectively reduce visibility of the solar facility. As shown in the attached site plan, Depot complies with this condition.
3. Minimum fifty-foot setback maintained around the project boundary. As shown in the attached site plan, Depot complies with this condition.
4. As much as reasonably possible, efforts shall be made to limit heavy vehicle traffic to times outside of peak travel hours. This recommendation is included in the attached traffic assessment, and Depot will endeavor to comply.
5. Temporary Traffic Control measures, such as signage indicating the presence of heavy vehicle traffic, shall be utilized at each construction entrance. This recommendation is included in the attached traffic assessment, and Depot will endeavor to comply.

Respectfully submitted,

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Ryan Gilchrist  
Director of Project Development  
Depot Solar Center, LLC











September 24, 2018

Brian Kelly  
Coronal Energy  
321 E Main St, Unit 300  
Charlottesville, VA 22902

Subject: Depot Solar Center Decommissioning Cost Estimate

Dear Mr. Kelly:

Blue Oak Energy has prepared a Decommissioning Cost Estimate for the 15mWAC Depot Solar Center, located in Campbell County, VA.

This estimate represents a probable cost, in present value, for the decommissioning based on the assumption that the solar modules, module support structure and racking, electrical system, interconnection facilities, and other project components will be disassembled and recycled or disposed following completion of use of the solar electric power system. The cost of decommissioning will be partially offset by the scrap value of the used project components. The scrap value is presented separately and is not factored into the total Decommissioning Cost. Lifetimes of projects are assumed to be between 20 and 25 years.

### **Information Sources for This Estimate**

This estimate is based on preliminary Civil and Electrical site plans, our estimate of material quantities, our experience designing and building commercial-scale PV projects, and consultation with contractors familiar with this type of construction and facility maintenance. Wage rates used in these estimates are based on hourly wages and are determined for each discipline by the city and state nearest and most indicative of the site's location at the time of Asset Retirement Obligation (ARO) report implementation. Typical disciplines utilized for decommissioning are a principal electrician, equipment operator, and general laborer.

### **Labor Cost Methodology/Wage Determination**

Each task lists both the total worker hours needed to complete the project as well as the breakdown for each discipline. The total labor cost of that task is a function of the worker's class and time and scales with the quantity or magnitude of the task. Project-specific equipment quantities are calculated by determining the amount of teams necessary to complete each task as a function of project duration.

Hourly wages are determined for each discipline by the County, State, and General Decision Number at the time of ARO report implementation. Typical disciplines utilized for decommissioning are a principal electrician, equipment operator, and general laborer.

Worker Title	Class (if Applicable)	Fully Burdened Rate (\$/hr)	Total Rate (\$/hr)
<b>Equipment Operator</b>	-	47.00	47.00
<b>Electrician</b>	-	45.05	45.05
<b>General Laborer</b>	-	17.74	17.74
<i>Wage Source: RS Means  County, State: Campbell County, Virginia  Table: "Installing Contractor Overhead &amp; Profit"  Tabulation Date" September 6, 2018</i>			

### Decommissioning Scope

The decommissioning and restoration process consists of the following steps:

- Disassembly and removal of above-ground structures
- Removal of below-ground structures
- Restoration of project site

Above-ground structures include the solar modules, module support structures, combiner boxes, inverters, switchgear, switchboards, transformers, meteorological station, all structures or concrete pads to support them, and fences. Below-ground structures are limited to concrete pad foundations, conduit, pull boxes, and electrical conductors. For the purposes of this estimate, it is practical to assume that underground conduit under permanent concrete and asphalt surfaces will not be removed.

Following removal of all equipment and structures, the disturbed areas will be re-graded to be consistent with surrounding areas and re-seeded to promote vegetation. The cost for disposal for any materials that are not scrapped is considered incidental, unless otherwise noted.

### Decommissioning Cost Estimate

The decommissioning process has been divided into 7 general work items. Quantities are unit prices for these individual work items are presented and discussed in detail in the following paragraphs:

1. Equipment & Management
2. Module & Rack Disassembly Labor
3. Shallow Pile Foundation Removal Labor
4. Electrical Demolition Labor
5. Civil Site Reclamation Labor & Materials
6. Materials Transportation & Waste Disposal
7. Profit & Contingencies

<b>1.</b>	<b>Equipment &amp; Management</b>	
<b>1.1</b>	<b>Mobilization</b> The decommissioning and removal process will require an estimated 16 weeks.	
	Mobilization and demobilization of trash dumpsters, storage containers, pallets, portable toilets, etc. Additional information regarding mobilization can be viewed in Appendix A, Table A1.	130,196
	Mobilization, rental and maintenance, and demobilization of construction equipment, tools, and consumables. Additional information regarding mobilization of miscellaneous equipment can be viewed in Appendix A, Tables A2 and A3.	363,437
<b>1.2</b>	<b>Project Management</b> Planning and oversight is a function of system type and size.	80,000
<b>Total Estimate for Mobilization &amp; Management</b>		<b>\$573,633</b>

2.	Module & Rack Disassembly Labor				
2.1	Removal of Solar Array Removal of the individual solar modules will require laborers, off-road forklift operators, and electricians. Modules will be palletized for shipping.				
Estimated Number of PV Modules				61,432	
Worker Title		Workers per Team	Hours per Person Per Unit	Cost of Labor	
Electrician: De-energizes circuits, disconnects modules		2	0.0025	13,838	96,919
2nd Electrician: Certifies safe for Laborers					
General Laborer: Dismounts modules, palletizes, bands		2	0.005	10,898	
Equipment Operator: Off-Road Forklift, Salvage Truck		2	0.0125	72,183	
2.2	Demolition of Solar Array Demolition of the racking structure will require laborers with pneumatic impact tools or saws for the disassembly of racking members. All structural members will be collected by an end loader for transfer to salvage truck.				
Estimated Number of Trackers				771	
Worker Title		Workers per Team	Hours per Person Per Unit	Cost of Labor	
General Laborer: Demolition Team		4	0.3	16,413	27,284
Equipment Operator: End Loader, Salvage Truck		2	0.15	10,871	
Total Estimate for Module & Rack Disassembly Labor					\$124,203



<b>3. Shallow Pile Foundation Removal Labor</b>				
<b>3.1 Removal of Shallow Pile Foundation Removal</b>				
Removal of pile with vibratory extractor. Each pile will be pulled and directly loaded onto salvage truck following extractor.				
<i>Estimated Number of Piles</i>				8,496
				27,502
<i>Worker Title</i>	<i>Workers per Team</i>	<i>Hours per Person Per Unit</i>	<i>Cost of Labor</i>	
<i>General Laborer: Demolition Team</i>	2	0.025	7,536	
<i>Equipment Operator: Vibratory Pile Extractor, Salvage Truck</i>	2	0.025	19,966	
<b>Total Estimate for Shallow Pile Foundation Removal Labor</b>				<b>\$27,502</b>

4. Electrical Demolition Labor					
The majority of the electrical system is composed of string inverters, power aggregation wiring, panels, and step-up transformers. All conductors are assumed to be removed and aggregated for recycling. All subterranean conduit, conductors, and transformer pad equipment will be removed for off-site recycling.					
4.1	Excavation and Removal of Underground Conductors and Communications Cables			8,577	
The estimated cost for excavation and removal of underground direct-buried conductors for scrap and/or disposal is based on labor costs for excavation and earthwork, conduit removal, and transportation of materials in 2-person teams.					
Estimated Length (ft) of Trench			6,983		
Worker Title		Workers per Team	Hours per Person per 100 ft		Cost of Labor
General Laborer: Wire Pull Operator		2	0.15		372
Equipment Operator: Off-Road Forklift, Excavator		1	2.5	8,205	
4.2	Removal of Above-Ground Conductors			70,576	
The estimated cost for removal of above-ground conductors and grounding cable for scrap and/or disposal is based on labor costs for conductor scrapping, cable tray removal, and transportation of materials. Pull rate is assumed to be an average of 120 ft/min.					
Estimated Length (ft) of Conductors			1,269,234		
Worker Title		Workers per Team	Hours per Person per 100 ft		Cost of Labor
General Laborer: Conductor Removal from Cable Trays and Tracker Structures		1	0.075		16,887
Equipment Operator: Forklift, End Loader		2	0.045	53,689	

<b>4.3</b>	<b>Removal of Step-Up Transformers</b> Removal work includes cutting and removal of cable and conduit as well as containment of transformer for recycling or disposal.				
Number of Step-Up Transformers					6
Worker Title		Workers per Team	Hours per Person per Item	Cost of Labor	2,308
Electrician: De-Energizes Circuits		2	1	541	
2nd Electrician: Certifies Safe for Laborers					
General Laborer: Cutting Conduit/Wire, Harnessing		1	6	639	
Equipment Operator: 15-Ton Crane		1	2	1,128	
<b>4.4</b>	<b>Removal of Inverters</b> Removal of inverters from site with any support structures, cable, and conduit to a depth of 3 ft below grade.				
Number of Inverters					6
Worker Title		Workers per Team	Hours per Person per Item	Cost of Labor	1,473
Electrician: De-Energizes Circuits		1	1	270	
2nd Electrician: Certifies Safe for Laborers					
General Laborer: Cutting Conduit/Wire, Harnessing		1	6	639	
Equipment Operator: 15-Ton Crane		1	2	564	
<b>4.5</b>	<b>Removal of Switchboards</b> Removal from site with any support structures, cable, and conduit to a depth of 3 ft below grade.				
Number of Switchboards					0
Worker Title		Workers per Team	Hours per Person per Item	Cost of Labor	0
Electrician: De-Energizes Circuits, Removes Terminations		1	1	0	
General Laborer: Cutting Conduit/Wire, Harnessing		1	4	0	
Equipment Operator: End Loader, Salvage Truck		1	1	0	

<b>4.6 Removal of Additional Electrical Equipment</b> Removal of combiner/recombiner boxes, DC/AC disconnects, panel boards, and other auxiliary electrical equipment. Cost estimate accounts for equipment and labor costs for removal to a depth of 3 ft below grade.				6,972
<i>Number of Combiner and Recombiner Boxes</i>			90	
<i>Number of Ancillary Installations at Inverters</i>			37	
<i>Worker Title</i>	<i>Workers per Team</i>	<i>Hours per Person per Item</i>	<i>Cost of Labor</i>	
<i>Electrician: De-Energizes Circuits, Removes Terminations</i>	2	0.25	2,861	
<i>General Laborer: Conduit/Wire, Harnessing</i>	1	0.5	1,126	
<i>Equipment Operator: End Loader, Salvage Truck</i>	1	0.5	2,985	
<b>Total Estimate for Electrical System Removal Labor</b>				

<b>5. Civil Site Reclamation Labor &amp; Materials</b>				2,350
All developed areas will be restored to pre-construction conditions or as stated in the decommissioning contract.				
<b>5.1 Equipment Pad Demolition</b>				
The equipment pads each contain an MV Step-Up Transformer, a central inverter, a recombiner, and other auxiliary electrical equipment. The removal of this equipment has been accounted for in the Electrical Demolition section and will not be counted here.				
Approximate Cubic Yards (CY) of Concrete to Be Removed			52	
Worker Title	Workers per Team	Hours per Person per Unit Volume	Cost of Labor	
General Laborer	1	0.70	644	
Equipment Operator: Transportation, Backhoe	1	0.70	1,706	

<b>5.2 Fence Removal</b> The decommissioning plan includes removal of chain link fence around the project perimeter, including gates and fence posts.				34,332
<i>Approximate Length (ft) of Fence</i>			24,815	
<i>Worker Title</i>	<i>Workers per Team</i>	<i>Hours per Person per Unit Length</i>	<i>Cost of Labor</i>	
<i>General Laborer: Fence Detachment, Aggregation</i>	1	0.03	11,006	
<i>Equipment Operator: Backhoe, Salvage Truck</i>	1	0.02	23,326	
<b>5.3 Trench Remediation</b> The decommissioning plan includes remediation of trench where underground conduits are installed.				1,239
<i>Approximate Length (ft) of Trench</i>			6,983	
<i>Worker Title</i>	<i>Workers per Team</i>	<i>Hours per Person per Unit Length</i>	<i>Cost of Labor</i>	
<i>General Laborer: Excavation</i>	1	0.01	1,239	
<b>5.4 Aggregate Base Rock Removal</b> The decommissioning plan includes removal of gravel/aggregate base rock from roads in order to restore the site to pre-project conditions. The cost of removal is estimated based on a gravel depth of 6 inches.				16,973
<i>Approximate Cubic Yards (CY) of Gravel on Site</i>			4,815	
<i>Worker Title</i>	<i>Workers per Team</i>	<i>Hours per Person per Unit Volume</i>	<i>Cost of Labor</i>	
<i>Equipment Operator: Grader, End Loader, Dump Truck</i>	3	0.03	16,973	
<b>5.5 Re-Grading of Site</b> The decommissioning plan includes excavation and removal of underground materials and foundations. After removal, all excavated areas will need to be filled, compacted, and re-graded to return the site to pre-project conditions. Re-grading accounts for the time needed to perform the necessary earthwork to return the site to pre-construction conditions.				8,813
<i>Estimated Acres (AC) of Grading Required</i>			125	
<i>Worker Title</i>	<i>Workers per Team</i>	<i>Hours per Person per Unit Area</i>	<i>Cost of Labor</i>	
<i>Equipment Operator: Maintainer/Grader</i>	1	1.5	8,813	

5.6	<b>Site Rehabilitation</b>			396,733	
	The estimated cost of this restoration work accounts for all costs of mowing, disking, and hydraulic seeding of the project site. The labor costs associated with this task are lumped to include equipment as well as labor rates from an external party.				
	Estimated Equipment Rate (\$/AC) for Subsoil Ripping				17
	Estimated Equipment Rate (\$/AC) for Cutting Disk				16
	Estimated Equipment Rate (\$/AC) for Grass or Mulch Seeding 5% of Site				3,000
	Number of Acres (AC) to Be Rehabilitated				125
<div>Worker TitleWorkers per TeamHours per Person per Unit AreaCost of Labor/Rental</div>					
Equipment Operator: Maintainer/Grader1317,625					
Equipment: Subsoil Ripper, Cutting Disk, Seeder/MulcherN/AN/A379,108					
Total Estimate for Civil Site Reclamation Labor & Materials				\$460,440	

6. Materials Transportation & Waste Disposal		
<b>6.1 Disposal of Waste and Non-Salvageable Materials</b>		
The decommissioning plan includes excavation removal of all cement, gravel, waste materials, and other miscellaneous non-salvageable items from the project site. Mobilization accounts for a portion of disposal via dumpster rental, which includes up to 4 tons of disposal per dumpster per week. The weekly fee is \$750 per dumpster, including delivery and pick-up. Cost of disposal for the remaining equipment waste was estimated at \$86/ton, based on \$0.50/ton/mile for the round trip, and \$55/ton in tipping fees. Cost of disposal for the cement, concrete, and/or gravel was estimated at \$15/ton.		93,785
<i>Estimated Weight (tons) of Unsalvageable Equipment</i>	42	
<i>Estimated Weight (tons) of Miscellaneous Waste</i>	10	
<i>Estimated Weight (tons) of Cement, Concrete, and/or Gravel</i>	6,690	
<i>Tons Accounted For in Mobilization with Rental of 2 Dumpsters</i>	(-128)	
<i>Total Net</i>	6,614	
<b>6.2 Transportation of Salvageable Materials</b>		
The decommissioning plan includes removal of all equipment and structures from the project site that may have a salvage value at the time of decommissioning, including but not limited to AC power panels, inverters, transformers, racking, fencing, and other miscellaneous items. There is an assumed cost associated with the transportation of these items to the salvage yard, which is based on a rate of \$0.50/ton/mile for the round trip.		29,713
<i>Estimated Weight (tons) of Salvageable Steel</i>	1,894	
<i>Estimated Weight (tons) of Salvageable Aluminum</i>	52	
<i>Estimated Weight (tons) of Salvageable Copper</i>	35	
<i>Total Tons</i>	1,981	
<b>6.3 Transportation of PV Modules</b>		
The decommissioning plan includes removal, palletizing, and placing pallets in a standard 53-ft trailer to be provided by a module salvage company. All transport costs for removal of modules are assumed to be paid by the module salvage company.		0
<b>Total Estimate for Materials Transportation and Waste Disposal</b>		<b>\$123,498</b>

<b>7.</b>	<b>Profit &amp; Contingencies</b>	
<b>7.1</b>	<b>Total Direct Costs (Sum of Items 1-6)</b>	<b>1,399,182</b>
<b>7.2</b>	<b>Firm Profit</b> We assume a 10% profit margin for the company.	<b>139,918</b>
<b>7.3</b>	<b>Contingency</b> Approximately 10% of the decommissioning scope is recommended.	<b>139,918</b>
<b>7.4</b>	<b>Permits &amp; Inspection</b> Approximately 3% of the decommissioning scope is recommended.	<b>41,975</b>
<b>7.5</b>	<b>Liability &amp; Insurance</b> Approximately 2% of the decommissioning scope is recommended.	<b>27,984</b>
<b>Total Estimate for Direct Costs Plus Profit &amp; Contingencies</b>		<b>\$1,748,977</b>

### **Total Decommissioning Cost Estimate**

The total decommissioning cost estimate, from summing the items above and rounding to the nearest ten thousand, is \$1,750,000.

A. Scrap Value							
The estimated scrap value is based on the following material estimates.							
A.1 Estimated Value of Scrap Metal Salvaged from Equipment		164,738					
Scrap metal weights account for steel piles, salvageable equipment metal, and aluminum module support racking for the photovoltaic site.							
Scrap Metal Material	Estimated Weight (lb)				Average Price per Unit Weight (\$/lb)		
Aluminum	27,050				0.48		
Steel	3,787,314				0.04		
Copper	0	2.06					
A.2 Estimated Scrap value of Conductors		189,968					
The conductor system is direct-buried or encased in cement duct on site. Quantities of underground wire and wire sizes and lengths were based on electrical drawings and were used as a basis for estimated salvageable metal amounts. Underground wiring consists of aluminum and copper conductors with bare copper grounds. It is assumed that the fiber optic wire is not salvageable and will be disposed.							
Description and Cable Wire Size	Total Length (LF)				Weight per Unit Length (lb/LF)	Total Weight (lb)	Price per Unit Weight (\$/lb)
String #10 AWG, CU	1,269,234				0.050	63,462	2.06
DC Feeder 600 MCM, AL	129,663				0.450	58,348	0.48
DC Feeder #3 AWG, Bare CU (Ground Wire)	64,831				0.185	11,994	2.06
MV Cable 500 MCM, AL	24,688				0.469	11,579	0.48
OH Wire 556 AL (Overhead Wire)	3,852				0.522	2,011	0.48
A.3 Estimated Scrap Value of PV Modules		910,422					
Estimated Number of PV Modules	Weight (lb) per Module				Price per Unit Weight (\$/lb)		
	61,432				49.4	0.30	
Total Scrap Value Estimate		\$1,265,128					

### Scrap Value Summary

The total estimate of scrap value, from summing the items above, is \$1,265,128.





### Decommissioning Summary

The total decommissioning cost estimate for this project is \$1,750,000. The total estimate of scrap value for the project is \$1,265,128.

Please do not hesitate to contact us with any questions regarding the information contained in this review. We appreciate the opportunity to work with you on this project.

Sincerely,

Kyle Bocker  
Estimator-Manager



## **Appendix A**

### **Additional Cost Breakdown of Compounded Price Structures**

**Table A.1**  
General Mobilization Cost Summary

Equipment	Weekly Rate (\$)	Delivery, Setup and Dismantle (\$)	QTY	Weeks	Total
Single-Wide Office Trailer	75	562	1	16	2,324
Communications	250		1	16	4,000
Furniture, Copier/Scanner	250		1	16	8,000
Conex Tool Storage	37	200	1	16	2,192
Small Generator/Utility Connection Allowance	230		1	16	3,680
Job Site Portable Toilet	30	40	20	16	9,680
Dumpster	750		2	16	24,000
Drinking Water	25		4	16	1,600
Storage Container, 40-ft	215	400	8	16	28,320
Small Tool Allowance	15		40	16	9,600
Worker PPE Allowance	10		40	16	6,400
Worker Rest and Break Shelter, Tables, and Seating	200		2	16	6,400
Signage	500		1	16	8,000
SWPPP Install and Maintain	1,000		1	16	16,000
<b>Mobilization Grand Total</b>					<b>\$130,196</b>

**Table A.2**
**Miscellaneous Equipment Cost Summary**

Equipment	Monthly Rate (\$)	Delivery (\$)	QTY	Months	Total
34k Hydraulic Excavator, Sunbelt Rentals	5,680	250	4	1	23,720
Carry Deck Crane, 15-Ton	4,830	250	1	1	5,080
2,400-lb Skidsteer Loader	2,723	250	4	4	44,568
Crawler Dozer, 90 HP	4,295	400	2	1	9,390
8,000-lb Off-Road Extendable Forklift	3,150	250	8	2	52,400
Motor Grader, CAT	5,000	400	2	1	10,800
UTV 4WD DOES, 4-SEAT ROPS	549	100	8	4	18,368
Pickup Truck, 1-Ton	1,369	100	2	4	11,152
Backhoe, 4WD-CAB 90 HP	2,811	250	6	2	35,232
Dump Truck, 3-Axle	4,751	250	2	4	38,508
Water Truck, Dust Control, 3000-Gal	2,298	250	2	4	18,884
Vibratory Pile Extractor	4,000	250	4	1	17,000
<b>Mobilization (Miscellaneous Equipment) Total</b>					<b>\$285,102</b>

**Table A.3**
**Specific Materials & Consumables**

Materials & Consumables	Unit Cost (\$)	QTY	Working Days	Total
Gasoline, per Gallon Delivered, Allow 100 Gallons/Day	2.75	8,000	80	22,000
Diesel Fuel, per Gallon Delivered, Allow 200 Gallons/Day (less State and Federal Taxes)	2.45	16,000	80	39,134
Pallets and Banding Material, 50 Modules/Pallet	14.00	1,229		17,201
<b>Material &amp; Consumables Total</b>				<b>\$78,335</b>



## MEMORANDUM

To: Brian Kelly, PMP

From: Carroll Collins, AICP  
Whitney Sokolowski, P.E.  
Alex Shoemaker, P.E.  
Kimley-Horn and Associates, Inc.

Date: September 24, 2018

Subject: Depot Solar Farm Traffic Assessment and Analysis Memorandum

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### 1.0 PROJECT OVERVIEW

Kimley-Horn was retained by Depot Solar Center, LLC to perform a transportation assessment and analysis of the proposed Depot Solar Center development located in Campbell County, VA. The assessment includes analysis of the following:

- Review of the existing transportation facilities adjacent to the proposed solar site
- Document existing structures, existing posted and advisory signage and roadway widths as well as existing roadway geometry and intersection traffic control
- Compiling available traffic data for the adjacent roadways
- Identifying local schools and transit providers that may be impacted by the site traffic
- Developing trip generation for the proposed site, both during construction and operation phases

### 2.0 EXISTING CONDITIONS

Kimley-Horn compiled and reviewed the existing transportation facilities adjacent to the proposed Depot Solar Center development. The proposed development is located northwest of Rustburg Middle School. The site is bound by Depot Road (State Route 622) to the south and Village Highway (U.S. Route 501) to the east. **Figure 1** and **Figure 2** illustrate the study area map and site plan, respectively. The following sections describe the existing conditions assessment.

#### 2.1 Adjacent Roadways

Depot Road is the primary east-west thoroughfare within the study area, providing connections to/from the site to Village Highway (U.S. Route 501). The following provides a brief description of existing roadway characteristics of each study area facility:

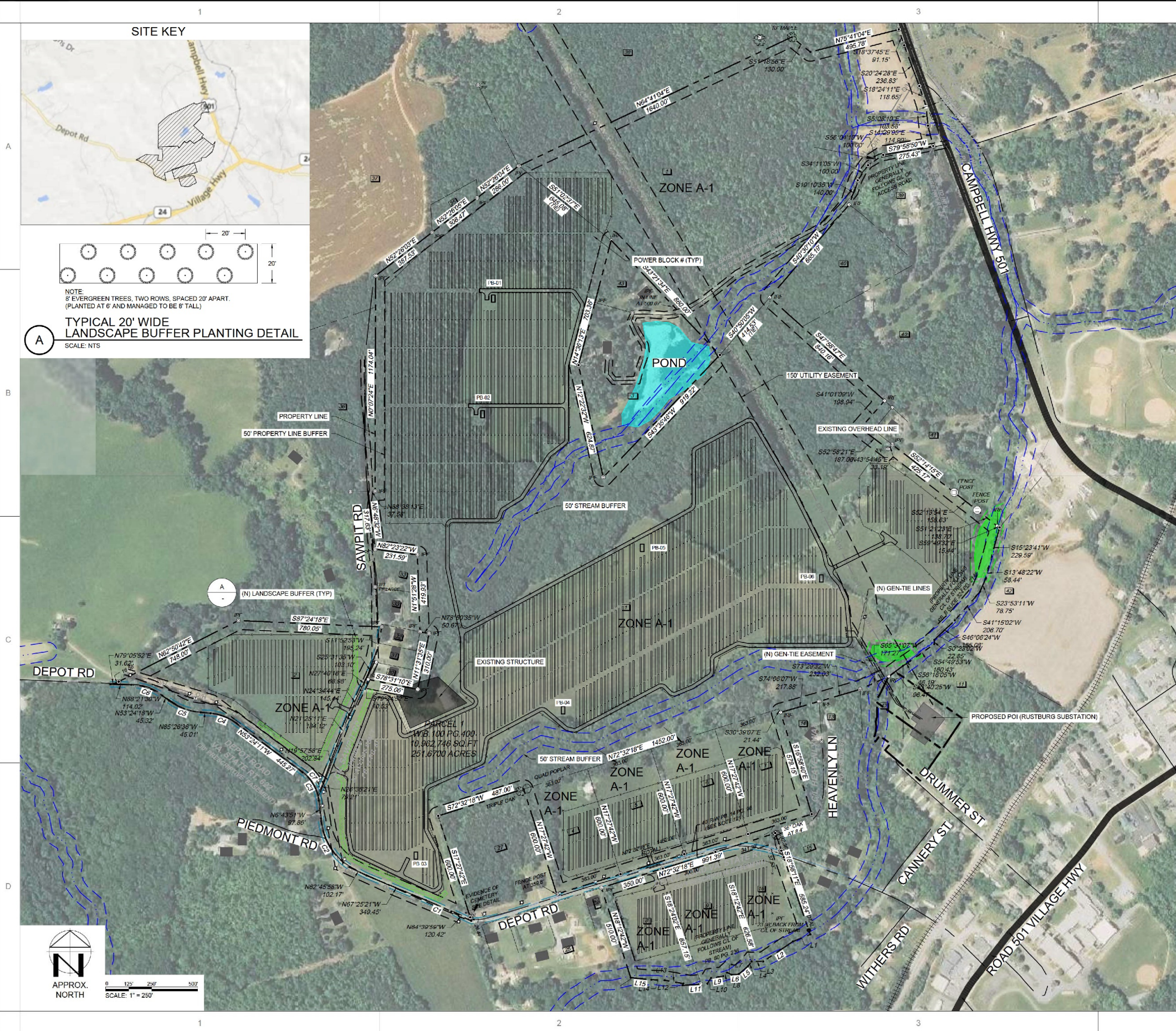
##### ***Depot Road (State Route 622)***

Depot Road is primarily a two-lane, undivided major collector that runs in an approximate east/west direction between English Tavern Road (State Route 738) to the west and Village Highway (U.S. Route 501) to the east. Traffic counts from the 2017 Virginia Department of Transportation (VDOT) Count Book indicate that it carries approximately 700 vehicles per day (vpd) including 2% heavy vehicles within the study area.









SYSTEM SUMMARY

MODULE MODEL	CANADIAN SOLAR 72-CELL 340 WP
TOTAL AC SYSTEM SIZE	15MW
INVERTER MODEL	TMEIC PVH-L2700GR
RACKING SYSTEM	NEXTRACKER
SITE LATITUDE	37°16'40"N

LEGEND

	SOLAR TRACKER
	EQUIPMENT PAD
	PROPERTY LINE
	6' CHAIN LINK FENCE WITH 1' OF BARBED WIRE
	SETBACK
	WETLAND
	WETLAND SETBACK
	STREAM
	STREAM SETBACK
	LANDSCAPE BUFFER

NOTES:

- EQUIPMENT IS REPRESENTATIVE ONLY AND MAY CHANGE BASED ON AVAILABILITY AND MARKET CONDITIONS.
- THIS DRAWING IS A PRELIMINARY DESIGN - NOT FOR CONSTRUCTION.
- ALL DIMENSIONS SPECIFIED HERE ARE FOR REFERENCE ONLY; DO NOT SCALE THIS DRAWING.
- SETBACK DISTANCES:
  - PROPERTY LINE - 50'
  - OVERHEAD LINE - 150' WIDE EASEMENT
  - INTERSTATE HWY - 100' FROM CENTERLINE
  - SECONDARY ROAD - 50' FROM CENTERLINE
  - WETLANDS - 25'
  - STREAMS - 50' FROM TOP OF BANK
  - FLOODPLAINS - N/A
- 60' TREE HEIGHT USED FOR SHADING BUFFER PURPOSES.
- PRELIMINARY CIVIL GRADING ASSESSMENT IS BASED ON USGS NED 1/3 ARC-SECOND CONTOURS FOR ROANOKE W, VIRGINIA 20160315 1X1 DEGREE FILEGDB 10.1, UPDATED 2017-01-24.
- EXISTING BOUNDARY SURVEY WAS PERFORMED BY TIMMONS GROUP AND CERTIFIED ON (12/07/17). CONTRACTOR SHALL REVIEW THE PLANS AND CONDUCT FIELD INVESTIGATIONS AS REQUIRED TO VERIFY EXISTING CONDITIONS AT THE PROJECT SITE.

KEYED NOTES:

① POI DESCRIPTION: THIS PROJECT WILL BE INTERCONNECT AT TWO POI'S NEXT TO THE SUBSTATION. 10 MWAC WILL INTERCONNECT TO THE WILLOW LAKE CIRCUIT AND 5 MWAC WILL INTERCONNECT TO THE RUSTBURG CIRCUIT. THE GEN TIE LINE WILL TRAVEL PARALLEL TO THE EXISTING TRANSMISSION ROW AND WE WILL INTERCONNECT ON APCO PROPERTY.

PROPERTY KEY

\*1. CHARLES B III & WILLIAM C ARTHUR / TM# 34-1-1 / WB.110-PG.400  
\*2. CHARLES B III & WILLIAM C ARTHUR / TM# 34-A-1 / WB.110-PG.400  
\*3. KENNETH L & BETTY W ELLIOTT / TM# 34-1-1B / DB.50637-PG.630  
\*4. CHARLES B III & WILLIAM C ARTHUR / TM# 34A-1-2 / WB.110-PG.400  
\*5. CHARLES B III & WILLIAM C ARTHUR / TM# 34A-1-3 / WB.110-PG.400  
\*6. CHARLES B III & WILLIAM C ARTHUR / TM# 34A-1-4 / WB.110-PG.400  
\*7. CHARLES B III & WILLIAM C ARTHUR / TM# 34A-1-5 / WB.110-PG.400  
\*8. CHARLES B III & WILLIAM C ARTHUR / TM# 34A-1-9 / WB.110-PG.400  
\*9. CHARLES B III & WILLIAM C ARTHUR / TM# 34A-1-10 / WB.110-PG.400  
\*10. CHARLES B III & WILLIAM C ARTHUR / TM# 34A-1-11 / WB.110-PG.400  
11. FRANCES T MERRYMAN REVOCABLE TRUST / TM# 34A-8-58 / DOCH 140003352  
12. BENNIES RENTALS, INC. / TM# 34-A-1C / DOCH 140005138  
13. TONYA WOODY / TM# 34A-1-6A / DOCH W16000240067659  
14. DANNY C R, JANICE C MARSHALL / TM# 34A-1-6 S0834 422  
15. TONYA WOODY / TM# 34A-1-6D / DOCH W160002400  
16. CALVIN L & VIOLA L FOLEY / TM# 34A-5-1 / DB.448-PG.890  
17. PHYLLIS M WILLIAMS, ETAL / TM# 34A-5-2 / DOCH 5030009392  
18. PHYLLIS M WILLIAMS, ETAL / TM# 34A-5-8 / DOCH 5030009392  
19. JOHN FLEMING MERRYMAN, III / TM# 34A-1-18 / DOCH 5050006639  
20. JOHN FLEMING MERRYMAN, III / TM# 34A-1-17 / DOCH 5050006639  
21. JOHN FLEMING MERRYMAN, III / TM# 34A-1-16 / DOCH 5050006639  
22. FRED H YEATTS, TRUSTEES / TM# 34A-1-15A / DOCH 140003096  
23. MARY E FLOWERS / TM# 34A-1-15 / DB.198-PG.379  
24. JOHN FLEMING MERRYMAN, III / TM# 34A-1-14 / DOCH 5060009910  
25. ELIZABETH A M MULLINS / TM# 34A-3-4 / DOCH 030011335C97963  
26. WILLIAM L & PATSY C COGGINS / TM# 34A-3-7 / DB.714-PG.444  
27. JAMES E, JR. & MARIAN W MCDANIEL / TM# 34A-1-1 DB.757-PG.786  
28. CHARLES W & LINDA F ELLIOTT / TM# 34-A-5 / DB.5610-PG.540  
29. STEPHEN MERRYMAN / TM# 34 A 3 / DOCH 130005019  
30. WILLIAM T & CARLA O BLANCHARD / TM# 34-A-1B / DB.5956-PG.759  
31. DORIS C WITT LIFE ESTATE / TM# 34-2-1 / DB.956-PG.757  
32. CARL F & KAY W OWENS / TM# 34-2-2 DB.468-PG.87  
33. MICHAEL P & MISTY D TAYLOR / TM# 34-A-2 / DOCH 140001828  
34. STEPHEN MERRYMAN / TM# 34-A-4 / DOCH 130005019  
35. EUGENE G & BETTY M TWEEDY / TM# 34-A-7B / DB.583 PG.632  
36. DAVID E KRAVETZ / TM# 34-A-7B / DOCH 170003062  
37. CHARLES W ELLIOTT / TM# 34-A-7 / DB.538-PG.161  
38. CHARLES B III & WILLIAM C ARTHUR / TM# 34-1-2 / WB.110-PG.400  
39. SUSAN J STAPLES / TM# 34-A-98 / DOCH 050006707  
40. DAVID A HAWKINS / TM# 34-A-99 / DB.553-PG.311  
41. FRANCES T MERRYMAN REV. TRUST / TM# 34-A-1A / DOCH 140003352  
42. FRANCES T MERRYMAN REV. TRUST / TM# 34-A-101 / DOCH 140003352  
43. MICHAEL T & LORI E ANDERSON / TM# 34-1-1C / DOCH 5050006593 / PB.8394-PG.2843  
\*DENOTES SUBJECT PROPERTY

JAYMET T. GARCIA  
E.L. No. 097568  
PROFESSIONAL ENGINEER  
06/28/2018

PRELIMINARY  
NOT FOR CONSTRUCTION

DEPOT  
SOLAR CENTER, LLC  
SAVANT ROAD  
RUSTBURG, VA 24688

ARRAY LAYOUT

WJ111

Kimley»Horn

Depot Solar Center  
Campbell County, Virginia

Site Plan

Figure  
2

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.



Depot Road primarily serves low-density, residential and agricultural land uses. With respect to the roadway conditions, travel lanes are approximately 9' wide in either direction and turn lanes are not present. The pavement is in fair condition with some areas under poor conditions. The posted speed limit is 45 miles per hour (mph). However, there are cautionary speeds between 25-35 mph due to the vertical and horizontal curvature of the roadway. The railroad intersects Depot Road approximately 325' west of Village Highway. In addition, school bus stops are located along Depot Road west of the study area. Lastly, overhead power utilities parallel Depot Road with various locations that cross the travel lanes. **Figure 3** and **Figure 4** illustrate the roadway conditions for westbound and eastbound Depot Road, respectively.

**Figure 3: Westbound Depot Road at Sawpit Road**



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**Figure 4: Eastbound Depot Road at Railroad Crossing*****Village Highway (U.S. Route 501)***

Village Highway is primarily a three-lane (two through lanes with a center turn lane), undivided minor arterial that runs in an approximate northeast/southwest direction between Campbell Highway (U.S. Route 501) to the northeast and Colonial Highway (State Route 24) to the southwest. Exclusive turn lanes are provided/delineated in lieu of the center turn lane at major intersections. Traffic counts from the 2017 VDOT Count Book indicate that it carries approximately 9,600 vpd including 3% heavy vehicles within the study area.

Village Highway serves primarily commercial uses including access to/from the Campbell County Government Complex, Rustburg Middle School, and Rustburg Elementary School. With respect to the roadway conditions, travel lanes are approximately 12' wide in either direction with exclusive turn lanes located at major intersections. The posted speed limit is 25 mph which transitions to 35 mph southwest of Rocky Road (State Route 655). Village Highway includes two school zone areas associated with the middle and elementary schools as well as various pedestrian crossing locations. Lastly, overhead power utilities parallel Village Highway with various locations that cross the travel lanes. **Figure 5** and **Figure 6** illustrate the roadway conditions for northeast and southwest Village Highway, respectively.

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**Figure 5: Northeast Village Highway**



**Figure 6: Southwest Village Highway**



## 2.2 Intersections

The following four (4) intersections are located within the study area, as previously shown in **Figure 1**:

1. Village Highway (U.S. Route 501) at Depot Road (State Route 622)
2. Depot Road at Railroad Crossing
3. Depot Road at Site Entrances #1 and #2
4. Depot Road at Sawpit Road

Each of the study intersections are unsignalized with the exception of the Depot Road at the Railroad Crossing intersection which is controlled by the railroad gates operating at the presence of an oncoming train.

## 2.3 Railroad Crossing

A Norfolk Southern railroad line runs parallel to Village Highway and transects Depot Road approximately 325' feet west of Village Highway. Under existing conditions, the roadway approaches leading up to the railroad crossing experience an increase in grade of 1.5% and 4.9% on the westbound and eastbound approaches, respectively. **Figure 7** and **Figure 8** illustrate the roadway conditions for the westbound and eastbound approaches of Depot Road at the railroad crossing, respectively. The grade differential has the potential to create issues with heavy truck traffic traversing the tracks (specifically lowboy trailers) as scraping is present on the existing pavement section, as shown in **Figure 9**.

Lowboy trailers will be used to deliver and remove large construction equipment from the development at the beginning and end of the construction phase. To mitigate the challenges associated with lowboy trailers traversing the railroad, an additional route is proposed for the ingress and egress of lowboy trailers to the site. This proposed route includes accessing the site from the west by utilizing Route 29 (Wards Road), English Tavern Road (Route 738), and Depot Road. Route 29 is a four-lane, divided roadway with an approximately 24' grass median. English Tavern Road is a two-lane, undivided roadway with 11' wide travel lanes while this portion of Depot Road is anticipated to provide an easier route for lowboy trailers to traverse. This route will mitigate the impacts to the railroad crossing and Village Highway as well as provide better roadway conditions for lowboy trailers.

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**Figure 7: Westbound Approach of Railroad Crossing**



**Figure 8: Eastbound Approach of Railroad Crossing**



**Figure 9: Railroad Pavement Scraping**

## 2.4 Transit

Public transit is not provided in the vicinity of the study area; therefore, there will not be conflicts with transit services. However, there are two (2) Campbell County Public Schools that service residents in the surrounding area: Rustburg Middle School and Rustburg Elementary School. The middle and elementary school buses utilize Village Highway during the following arrival and departure timeframes:

- Rustburg Middle School
  - Arrival: 7:30 AM – 8:00 AM
  - Departure: 2:45 pm – 3:10 PM
- Rustburg Elementary School
  - Arrival: 8:15 AM – 8:45 AM
  - Departure: 3:30 PM – 4:05 PM

Based on the arrival and departure times, site location relative to schools, and the presence of signage, the potential for site-generated traffic to interact with public school traffic along Depot Road and Village Highway does exist.

As previously mentioned, construction hours should occur between 7:00 am and 6:00 pm when school is in session, with no normal shifts ending between 2:45 PM and 4:05 PM. Deliveries will endeavor to occur between 9:00 AM and 2:00 PM when school is in session. In addition, during the summer when school is not in session, access to/from the site is proposed from 6:00 AM to 8:00 PM.

Lastly, construction and delivery traffic will access the site from Village Highway, south of Depot Road and not traverse north of Depot Road. This traffic will utilize the northbound left-turn at the intersection of Village Highway and Depot Road. The adjustments to the construction and delivery hours are anticipated to mitigate impacts to the school related traffic.

### 3.0 SITE ACCESS

#### 3.1 Proposed Access Locations

Access to the proposed site for both construction and operations/maintenance is proposed using four (4) access points. The first and second proposed access entrances (Site Entrance #1 and #2) are located on either side of Depot Road, approximately 2,000' east of Sawpit Road. The third and fourth proposed access entrances (Site Entrance #3 and #4) are located on Sawpit Road, approximately 125' and 450' north of Depot Road, respectively. These access locations were evaluated based on accommodating of large construction vehicle turning radii and sight distance.

#### 3.2 AutoTURN Evaluation

AutoTURN was performed at each of the Depot Road intersections to evaluate the turn radii based on the anticipated large construction vehicle traffic. The WB-67 vehicle was used in AutoTURN to represent the large construction vehicles entering and exiting the site during construction, operation, and maintenance.

**Figure 10** and **Figure 11** illustrate the anticipated WB-67 turning radii for the ingress and egress of trucks using Depot Road, respectively. As shown in these figures, if the mitigation measures discussed below were not to be employed, then the truck tracks for all movements would track outside of the travel lanes and pavement section for both Depot Road and Village Highway, and would likely impact overhead utilities, signage, and adjacent businesses. The following paragraph describes the recommended course of action to mitigate these possible effects.

It should be noted that these truck tracks represent the truck movements to/from the appropriate lanes. For example, a truck turning left will utilize the left-turn lane and turn into the designated receiving lane. However, to mitigate the anticipated impacts, the large construction vehicles, with the exception of the lowboy trailers, will utilize the full existing pavement section to maneuver the intersections. In addition, a construction traffic flagger shall be used to during the ingress and egress of these large construction vehicles to mitigate the traffic and safety issues regarding oncoming traffic. This flagger shall be VDOT certified and used in accordance with VDOT's Work Zone Safety standards.

**Figure 12** and **Figure 13** illustrate the anticipated WB-67 turning radii for the ingress and egress of trucks on Depot Road using the entire pavement section and flagger operations, respectively. This method will minimize the impacts to the overhead utilities signage, and adjacent businesses. It should be noted that this method will be used for the larger construction vehicles and periodically throughout construction phase for a short amount of time (i.e., less than 10-minutes).



**Figure 10: Depot Road at Village Highway Ingress Truck Turn Radii**



**Figure 11: Depot Road at Village Highway Egress Truck Turn Radii**



**Figure 12: Adjusted Depot Road at Village Highway Ingress Truck Turn Radii**



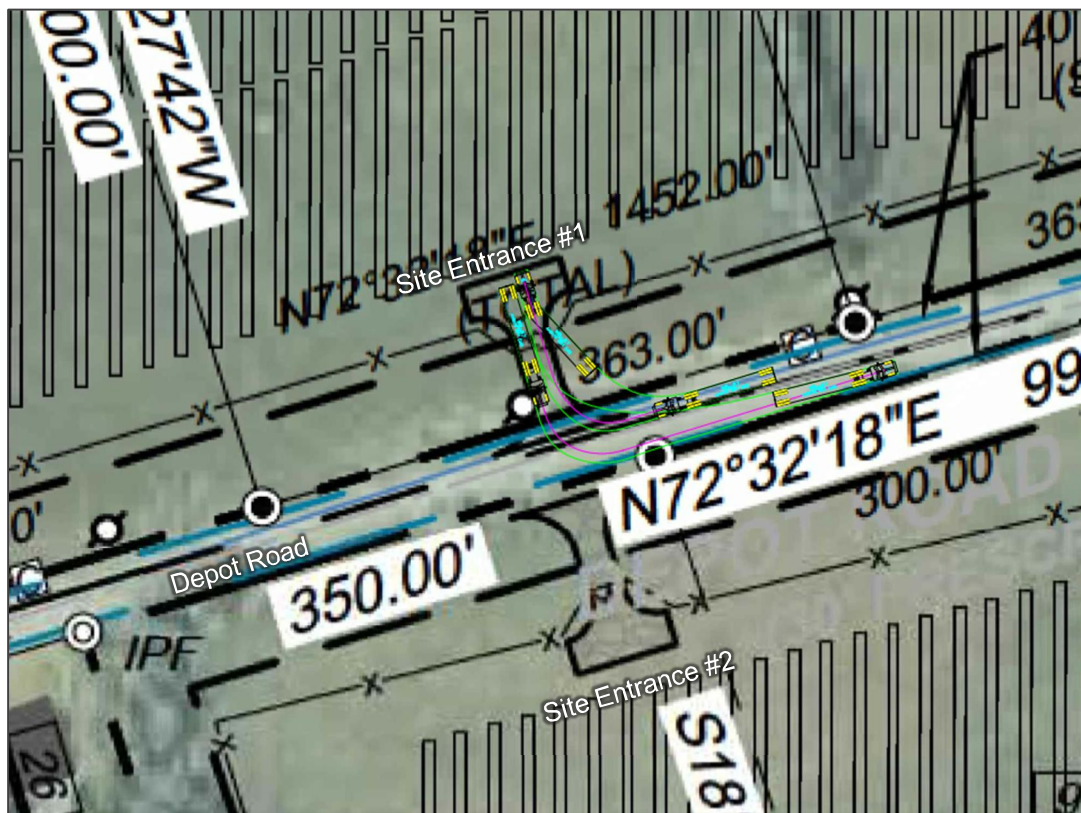
**Figure 13: Adjusted Depot Road at Village Highway Egress Truck Turn Radii**





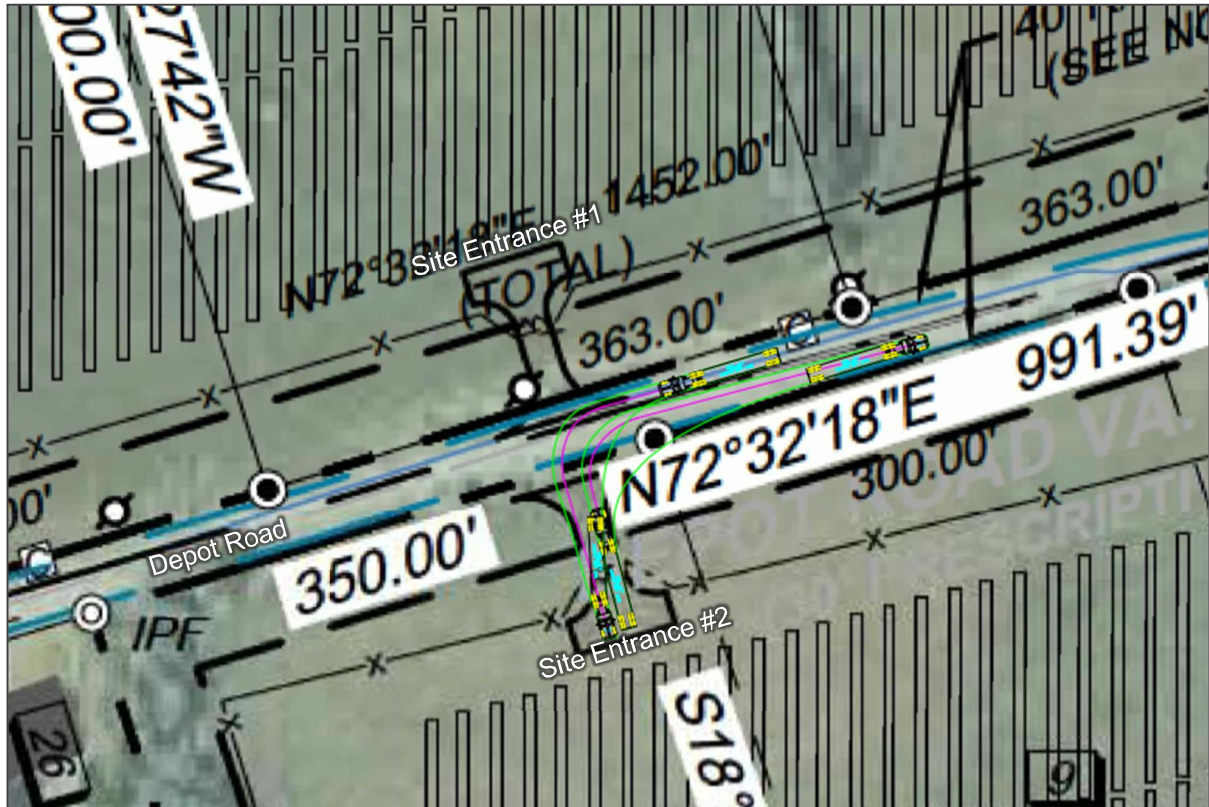
For the intersection of Depot Road at Site Entrances #1 and #2, **Figure 14** and **Figure 15** illustrate the anticipated WB-67 turning radii for the ingress and egress of trucks using Site Entrance #1 and #2, respectively. Trucks are anticipated to track outside of the proposed travel lanes and pavement section for both Site Entrance #1 and #2. This would result in the need to improve/strengthen the shoulders and the associated intersection radii (e.g., moderate grading and aggregate/stone) to better accommodate the path of the trucks as they enter and exit the site. To mitigate the impacts of the trucks tracking outside of the proposed travel lanes, it is proposed to use smaller construction trucks at this location. The larger construction vehicles will stage at a central location adjacent to Sawpit Road to unload equipment to smaller trucks for access to the portions of development adjacent to Depot Road.

**Figure 14: Depot Road at Site Entrances #1 Truck Turn Radii**



*This space intentionally left blank.*

Figure 15: Depot Road at Site Entrances #2 Truck Turn Radii



For the intersection of Depot Road at Sawpit Road, **Figure 16** illustrates the anticipated WB-67 turning radii for the ingress and egress of trucks. Trucks are anticipated to track outside of the travel lanes and pavement section for both Depot Road and Sawpit Road. Similar to Site Entrance #1 and #2 this would result in the need to improve/strengthen the shoulders and the associated intersection radii (e.g., moderate grading and aggregate/stone) to better accommodate the path of the trucks as they enter and exit the site. Additionally, these truck tracks are anticipated to impact overhead utilities and residential mailboxes.

*This space intentionally left blank.*

Figure 16: Depot Road at Sawpit Road Truck Turn Radii



### 3.3 Sight Distance Evaluation

Sight distance was measured at each of the Depot Road intersections to note any potential obstructions. According to the sight distance standards in VDOT's *Access Management Design Standards for Entrances and Intersections (Road Design Manual - Appendix F)*, which directly references the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* manual, the required sight distance for the conditions present at the Depot Road intersections are shown in **Table 1**. The green text represents sight distances that are within the measured sight distance, while the red text represents movements that exceed the measured sight distance. These distances were calculated following the procedures in *A Policy on Geometric Design of Highways and Streets* and are based on the turn type, vehicle type, number of crossing lanes, and a speed of 25 MPH. A speed of 25 MPH was used in the sight distance calculate since construction vehicles will be operating at this speed within the study area.



Table 1: Sight Distances for Depot Road Intersection Movements

Intersection Turning Condition	Intersection Sight Distances (Measured in Feet)			
	Field Measured (ft)	Passenger Cars (ft)	Single-Unit Trucks (ft)	WB-67 Trucks (ft)
<b>Village Highway at Depot Road</b>				
Case B1: Left-Turn from the Minor Road (i.e., Depot Road onto NE Village Highway)	665	290	370	450
Case B2: Right-Turn from the Minor Road (i.e., Depot Road onto SW Village Highway)	665	260	340	410
<b>Depot Road at Site Entrances #1 and #2</b>				
Case B1: Left-Turn from the Minor Road (i.e., Site Driveway #1 onto EB Depot Road)	390	280	350	420
Case B2: Right-Turn from the Minor Road (i.e., Site Driveway #1 onto WB Depot Road)	390	240	310	390
Case B1: Left-Turn from the Minor Road (i.e., Site Driveway #2 onto WB Depot Road)	390	280	350	420
Case B2: Right-Turn from the Minor Road (i.e., Site Driveway #2 onto EB Depot Road)	795	240	310	390
<b>Depot Road at Sawpit Road</b>				
Case B1: Left-Turn from the Minor Road (i.e., Sawpit Road onto EB Depot Road)	625	380	450	530
Case B2: Right-Turn from the Minor Road (i.e., Sawpit Road onto WB Depot Road)	> 1,000	340	420	490

Source: AASHTO A Policy on Geometric Design of Highways and Streets (2011)

For the Village Highway at Depot Road intersection, the measured sight distances meet all of the recommended sight distances, as shown in **Table 1**. Overall this intersection experiences level grades (less than 3%).

For the proposed intersection of Depot Road at Site Entrances #1 and #2, all cases with the exception of Case B1 for the WB-67 trucks met the recommended sight distances for the vehicles turning left or right onto Depot Road, as shown in **Table 1**. Overall this intersection experiences level grades (less than 3%). Under Case B1 for the WB-67 vehicle, obstructions in sight distance at this intersection include vertical and horizontal curvature of the roadway within the vicinity of the intersection.

The intersection of Depot Road at Sawpit Road met all of the recommended sight distances for passenger cars or trucks, as shown in **Table 1**.

To mitigate the potential sight distance challenges, "Construction Entrance" (VDOT Work Area Protection Manual W11-V2) or "Trucks Entering Highway" (VDOT Work Area Protection Manual W11-V4) warning signs should be used for ingress and egress conditions at the construction areas.

Also, a construction traffic flagger may be used to accommodate large construction vehicles at the Site Entrance #1 and #2 and Sawpit Road intersections to mitigate safety issues regarding oncoming traffic. This flagger shall be VDOT certified and used in accordance with VDOT's Work Zone Safety standards.

#### 4.0 SITE-GENERATED TRAFFIC

General construction traffic will consist of the following:

- Component deliveries (i.e., solar panels, inverters, concrete trucks, construction equipment, etc.) via single-unit and low-boy trucks
- Passenger vehicles carrying personnel, tools, and minor equipment to and around the proposed site

Construction is anticipated to begin in early 2020 and will last approximately twelve (12) months with a commercial operations date (COD) of December 31, 2020. During the construction period, the site will experience approximately five (5) delivery trucks per day, resulting in approximately ten (10) truck trips (i.e., inbound is one trip/outbound is one trip) per day using Depot Road. In addition, the site is anticipated to have approximately eighty (80) workers per shift with one (1) shift per day, resulting in an additional one hundred and twenty (120) trips per day (i.e., assuming an average vehicle occupancy of 1.5 works per vehicle) since workers will be expected to carpool, when possible. This results in one hundred and thirty (130) total trips to/from the site per day during peak construction activities. All construction staging, parking, and assembly areas are anticipated to be within the project area boundaries and construction workers will be expected to carpool, when possible.

Following the construction of the site, maintenance of the site will occur on a monthly, quarterly, and annual basis for different circumstances. Panel washings are anticipated to occur at least twice a year generating a total of approximately fourteen (14) trucks over the course of a few days. Therefore, operation and maintenance of the Depot Solar Center is not expected to generate significant traffic volumes.

#### 5.0 CONCLUSIONS

Based on our review of the traffic assessment and analysis for the proposed Depot Solar Center, the following was concluded:

- Depot Road is a narrow pavement section with horizontal and vertical curve areas and overhead utilities parallel to and/or crossing the road.
- Village Highway has two school zones, several pedestrian crossing locations, and overhead utilities parallel and across the road.
- Rustburg Middle and Elementary Schools operations and bus routes will increase the interaction of bus traffic with construction traffic along Village Highway and Depot Road. To mitigate such potential conflicts recommended work hours and delivery times are proposed particularly for when school is session:
  - Construction hours should occur between 7:00 am and 6:00 pm when school is in session, with no normal shifts ending between 2:45 PM and 4:05 PM. As such, the

majority of regular construction traffic (i.e., site foreman, tradesmen, laborers with passenger cars or pick-up trucks) will not be coming/going during peak school traffic arrival or departure times.

- Deliveries should endeavor to occur between 9:00 AM and 2:00 PM when school is in session.
- Construction and delivery vehicles should access Depot Road from south Village Highway and not traverse north through Rustburg.
- During the summer when school is not in session, access to/from the site is proposed from 6:00 AM to 8:00 PM.
- The grade differential of each approach of Depot Road at Railroad Crossing will be a challenge for large construction vehicles (i.e., specifically lowboy trailers potentially transporting construction equipment to/from the site) as scraps in the pavement are present under existing conditions.
  - Proposed route for lowboy trailer includes accessing the site from the west by utilizing Route 29 (Wards Road), English Tavern Road (Route 738), and Depot Road to mitigate the impacts to the railroad crossing and Village Highway as well as provide better roadway conditions for lowboy trailers.
- Majority of the intersections do not have adequate turn radii for accommodation of large construction vehicles.
  - Construction vehicles are anticipated to operate at 25 MPH within the study area to mitigate potential sight distance issues.
  - Shoulders and the associated intersection radii should be improved/strengthened (e.g., moderate grading and aggregate/stone) to better accommodate the path of the trucks as they traverse through site entrance intersections entering and exiting the site.
  - Construction Entrance (VDOT Work Area Protection Manual W11-V2) or Trucks Entering Highway (VDOT Work Area Protection Manual W11-V4) warning signs should be used for ingress and egress conditions at the construction areas access points to help mitigate potential sight distance issues.
  - A construction traffic flagger may be used to accommodate large construction vehicles at the Site Entrance #1 and #2 and Sawpit Road intersections to mitigate safety issues regarding oncoming traffic. This flagger shall be VDOT certified and used in accordance with VDOT's Work Zone Safety standards.
- The amount of traffic generated by the site is anticipated to be approximately 130 total trips per day during construction. Based on the 2017 traffic volumes, Depot Road and Village Highway have the capacity to accommodate the increase in traffic due to construction activities.
- Prior to the construction, it is suggested to coordinate with VDOT to perform a field assessment to document existing conditions. In addition, it is important to coordinate closely with VDOT and the County throughout the construction phase to mitigate impacts to traffic and residents.

## Narrative

Located on A-1 agricultural land off Depot Rd. in Rustburg, Campbell County, VA, Depot Solar Center (“Project”) will be a photovoltaic solar use which falls under the “Solar Energy Projects” use definition in A-1 Campbell County zoning districts. This use requires receipt of a Special Use Permit (SUP) and acknowledgement that this use is in substantial accordance with Campbell County’s Comprehensive Plan per VA state code section § 15.2-2232.

The Project will consist of solar photovoltaic modules mounted on aluminum or steel racking structures, and separate concrete pads to house inverters and transformers. At a nameplate capacity of approximately 15MWAC, the Project’s land area will be approximately 150 acres all of which will be surrounded by an approximately 7-foot barbed wire fence for security and safety purposes. The Project has secured a lease option on approximately 317 acres on parcels 34-A-1, 34-1-1, 34-1-2, 34A-1-2, 34A-1-3, 34A-1-4, 34A-1-5, 34A-1-9, 34A-1-10, and 34A-1-11 owned by Charles B. Arthur, III and William C. Arthur. In addition, a private utility easement has been secured on parcel 34-A-1C owned by Bennies Rentals, Inc. Though the Project has 317 acres under option, the SUP application is only requesting a permit for 150 acres of the 317 acres.

There will be no new buildings constructed, no existing buildings utilized and no additions made to existing buildings, but rather, the Project components will primarily consist of posts, modules, racking, inverter pads, inverters, transformers, roads, and security fencing. The locations of the inverters have been set well inside the Project site plan to keep the inverters and any associated noise away from surrounding residences. The inverters will be inaudible outside the fence line due to their interior location. Posts will be driven into the ground, racking attached to the posts, and modules placed on the racking. The racking system will be approximately 12’ off the surface of the ground at its tallest point, and it will tilt the modules at approximately a 25-degree tilt. Depending on final system design, the racking system may rotate east to west to efficiently track the solar energy or remain fixed. All the arrays will be wired together into an inverter and interconnected to the Appalachian Power Company (APCO) grid via a private utility easement that has been secured. Once constructed, the Project will be monitored remotely and be maintained regularly.

The location is optimal for a solar farm due in large part to its proximity to an Appalachian Power substation, and its rural nature. The use will generate minimal noise, little glare, and no emissions or safety hazards. As stated previously, the Project is in close proximity of an existing substation, so it should be in harmony with the surrounding area. Most all of the surrounding area is rural in nature and zoned A-1 agricultural. The Project will utilize power from APCO for construction operations. After the construction period, there will be limited ongoing maintenance, so the ingress/egress traffic should remain relatively comparable to current patterns. The use will adhere to all requirements found in the Campbell County Ordinance governing this use.

On Thursday, February 11, 2016, the Project completed a Project Evaluation Committee (PEC)





meeting, and the notes from that PEC have been provided to Campbell County Planning Staff. Notably, there were few comments from VDOT as the Project will have little-to-no impact on traffic patterns. Further coordination with VDOT and other relevant agencies will be completed prior to the site plan review but after issuance of the SUP.

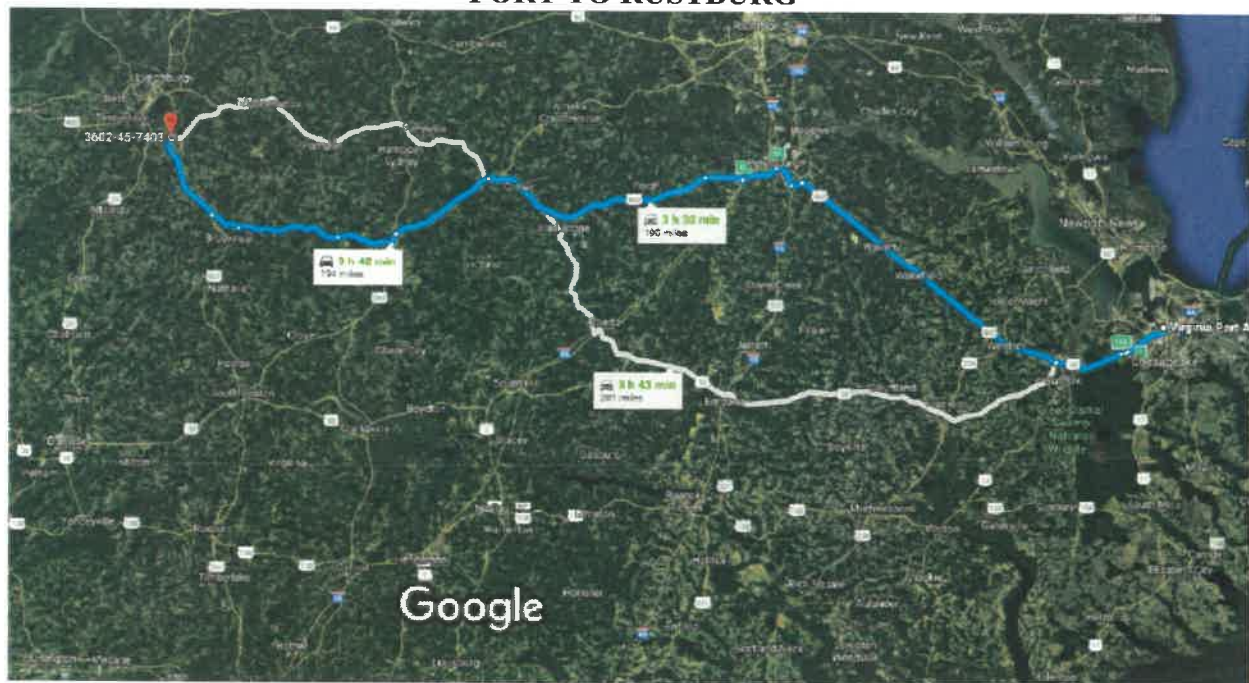
Depot Solar Center was the winner of the recent APCO Request for Proposals (RFP), so it is no longer a speculative development as it has a contract for revenue. Depot Solar Center is the only Solar Energy Project to have applied for a SUP in Campbell County to have an executed contract for revenue in place.

## Traffic Impact

A national construction company was engaged to suggest the best route to mitigate traffic impacts for this project, and they provided the following feedback:

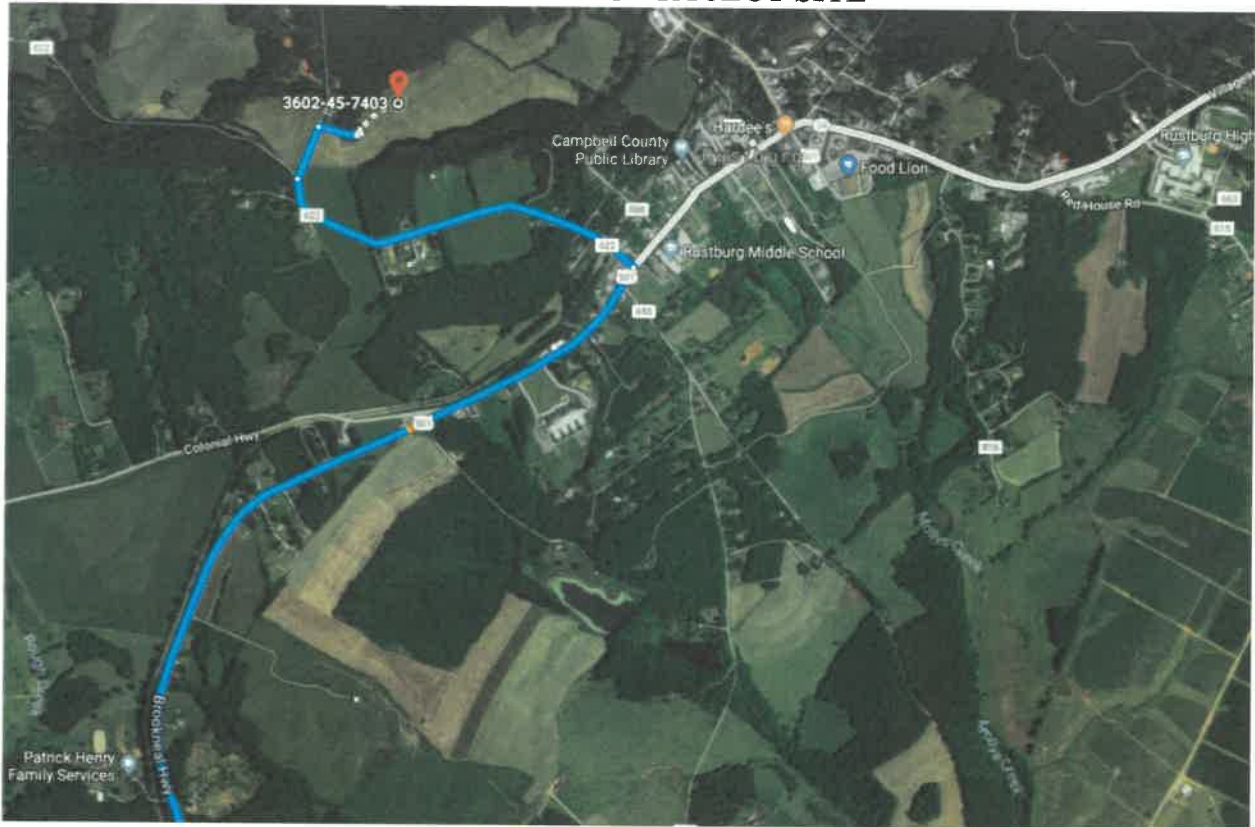
The Project will add a negligible amount of additional traffic to the existing adjacent roadway infrastructure (i.e. Hwy. 501 and 622) under normal day-to-day operations, as the proposed use is a very low trip generator. Travel from the south on Hwy. 501 is preferable as it avoids travel through the majority of Rustburg, and of the utmost importance, it avoids additional traffic near Rustburg Middle School and Rustburg High School. Here's the proposed route:

### PORT TO RUSTBURG





## RUSTBURG TO PROJECT SITE



Peak trip generation for the Project will occur during the six to nine-month construction period as construction contractors/workers and delivery vehicles travel to/from the site daily. Here's a breakdown of the construction traffic:

- Major deliveries (semi-trucks) will range from approximately 6-10 per day during peak construction activities and will be spread approximately 30-45 minutes apart.
- Traffic from construction personnel will primarily be to the site prior to 7a.m.ET and will have staggered departures between 3p.m. – 5:30p.m.
- Roadway permits will be obtained for any loads deemed too heavy for general traffic prior to shipment to the site. This would be limited to 2-3 shipments for transformers and likely a crane for one day.

After construction, normal day-to-day operations associated with the Project will consist of periodic maintenance vehicle trips during the month. Typically, this involves maintenance vehicles accessing the site two (2) to three (3) times. The Project facility will add a negligible amount of new traffic to the adjacent street network, as traffic activity is limited to periodic maintenance vehicle activity during the week and throughout the month. Based on current volumes and the available capacity of the adjacent roadway system, as well as the anticipated traffic demand during peak construction activity or under normal operating conditions, the proposed project will not adversely impact either existing or anticipated future operational conditions along the Hwy. 501 and 622 corridors. Additionally, we will work with the County to



best define appropriate construction delivery times to avoid conflicts with school buses using the corridor during peak pickup and drop off times.

## Decommissioning Plan

See Supplementary Materials

## County Benefits

In our Supplementary Materials, Appalachian Power Company and TMEIC, a local manufacturer, have provided letters of support touting the economic development benefits of this project.

Here's a summary of the benefits:

### Lease Income

Two Campbell County residents will receive annual rental income from this project that is many multiples of the current agricultural lease income on the subject property. Though the rental income is confidential, the typical range for a solar lease in VA is between \$400/acre - \$700/acre, depending on the region. This income will result in an ancillary benefit to the County.

### Construction Level Jobs

A 15MWac project will result in approximately 150-200 construction level jobs for approximately 9 months. Our construction company will likely hold a job fair in the area looking to hire as many local jobs as possible that meet the skills requirements.

### APCO Upgrades

The Project will spend approximately \$150,000 upgrading APCO's distribution system.

### Real Property Taxes

In addition to the tax and infrastructure proffers mentioned above, the Project will generate additional taxes via:

- Rollback Taxes (after removal from land use)
- Real Property Taxes (after removal from land use)

## Community Concerns

### Noise

Solar panels produce no noise while in use. Electrical inverters, used to convert energy from direct current (DC) form to alternating current (AC) form, emit a low hum at about 65 decibels, comparable to an air conditioning unit. For this project, the inverters have been positioned well inside the project site plan, so they will be inaudible outside the fence.



## Glare

Solar panels are designed to absorb and utilize sunlight, not reflect it. Most panels use special anti-reflective coating, suppressing reflection to approximately 2% of incoming sunlight. Solar arrays are less reflective than windows or still water and will not negatively impact air traffic or homeowners. For example, solar farms are currently operating adjacent to the Denver International Airport and Nellis Airforce Base in Nevada.

## Removal

The following language is in our Lease Agreement with the landowner:

*Tenant shall be entitled to remove the Generating Facility or any part thereof and any related equipment from the Site or the Easement Lands at any time upon reasonable notice to Landlord and shall be obligated to remove the Generating Facility within ninety (90) days after the expiration or other termination of the term of this Lease. In the event that Tenant fails to remove the Generating Facility within ninety (90) days of expiration or other termination of this Lease, in addition to all other rights and remedies of Landlord, Tenant shall pay to Landlord holdover Rent on a pro rata basis at all times until the Generating Facility is removed or Landlord may elect to take ownership of all property, remove or dispose of the same, and Tenant shall pay all related or associated expense or cost.*

In addition, the Project has submitted a Decommissioning Plan and will comply with any Performance Bond (or other agreed upon secured financing) acceptable to the County Attorney.

## Property Values

In our Supplementary Materials section, the Project has provided an independent appraisal analysis of solar farm impacts on property values, and the conclusion states the following: “the matched pair analysis shows no impact in home values due to the adjacency to the solar farm as well as no impact to adjacent vacant residential or agricultural land.”

## Viewshed

To protect the viewshed of adjacent neighbors, Coronal is proposing a vegetative buffer in areas where resident’s homes are impacted. To demonstrate the nature of the buffer, Coronal prepared a rendering to show indicative buffering along Depot Rd. The rendering can be found in our Supplementary Materials.

## Supplementary Materials

- Letters of Support
- Real Estate Study
- Rendering of Screening
- PEC Meeting Notes
- Boundary Survey
- Decommissioning Plan



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# Letters of Support



Zoning, Planning and Subdivisions Office  
85 Carden Lane  
P.O. Box 100  
Rustburg, VA 24588

January 11, 2018

Dear Members of the Campbell County Planning Commission,

I encourage you to recommend approval of a Special Use Permit application for the Depot Solar Center at the upcoming January 22nd Planning Commission hearing. For the reasons detailed below, advancing renewable energy in this region is critical. I urge you to carefully consider the many benefits the Depot Solar Center will bring to your constituents in Campbell County, most notably its long-term economic impact.

- ***Depot Solar Center Supports Local Businesses***

Coronal Energy, a leading independent power producer with business roots and a current office here in Virginia as well as a history of responsible solar development in the state, will develop the Depot Solar Center. The project will also deploy TMEIC Inverters, sourced from nearby Roanoke, VA.

- ***Depot Solar Center Creates Jobs and Delivers Tax Revenue***

The proposed 15MW<sub>ac</sub> solar facility will be built on approximately 102 acres and generate enough electricity to power approximately 3,000 homes annually. A project of this size will require an estimated 250–300 construction-level jobs many of which will be sourced locally. Further, the project will more than triple the real property tax revenue off the project site.

- ***Depot Solar Center Modernizes Grid Infrastructure for 21<sup>st</sup> Century Power Users***

Modernizing the power grid supports energy resiliency nationwide as households, schools and businesses increasingly rely on technology powered by electricity. Campbell County government has the opportunity to take credit for moving forward innovative projects such as the Depot Solar Center that improve critical infrastructure and energy resiliency for generations. This project will be interconnected directly to the Appalachian Power system at our Rustburg substation adjacent to the site. All necessary upgrades to the distribution system to accommodate the facility will be at the expense of Coronal.

- ***Depot Solar Center Coexists with Surrounding Farmland while Preserving Personal Property Rights***

We selected Coronal Energy from among 37 proposals encompassing 23 different project proposals before determining the Depot Solar Center would ideally suit this community as APCo's first utility-scale solar initiative. Coronal Energy is a reputable developer, known for carefully siting projects out of community view while working with land owners to preserve their farms for future generations. The Depot Solar Center enables its land owners to profit from what is rightfully theirs and to go unnoticed in the bucolic landscape. In our view, this is progressive development in rural southwest Virginia at its best.



In closing, we at Appalachian Power look forward to partnering with the Planning Commission in this endeavor and to bringing clean, reliable and cost-effective solar energy to your constituents in Campbell County.

Best regards,

A handwritten signature in blue ink, appearing to read "Chris Beam", with a long, sweeping horizontal line extending to the right.

Chris Beam

President & CEO

Appalachian Power Company



**TMEIC Corporation**

1325 Electric Road, Suite 200 Roanoke VA 24018 USA  
Mail: 2060 Cook Drive Salem VA 24153 USA

December 20, 2017

Planning Commission & Board of Supervisors, Campbell County, Virginia  
Attn: Austin Mitchell, Planner  
85 Carden Lane  
P.O. Box 100  
Rustburg, VA 24588

RE: TMEIC Support Letter for Depot Solar Center, LLC

Dear Campbell County Planning Commission and Board of Supervisors,

As a local business engaged in the solar industry, TMEIC is writing this letter to Campbell County's Planning Commission and Board of Supervisors to support the application of Depot Solar Center for a Special Use Permit and to request the Planning Commission and Board of Supervisor approve the Depot Solar Center application.

TMEIC is an international company with our North American headquarters located in Roanoke, VA. We manufacture inverters – a critical component for all solar projects. TMEIC employs 250 people in the southwestern Virginia region and over 300 in the United States, with over \$200M in annual revenues. The TMEIC Renewable Energy team employs 24 people. These are primarily high tech engineering jobs. Coronal Energy has purchased millions of dollars worth of our inverters for projects in North Carolina and Virginia to date.

We would like the Commissioners and Supervisors to know that supporting this project and solar in Campbell County means supporting permanent, well-paying jobs in southwest Virginia and elsewhere in the US. The Depot Solar Center project will provide critical energy generation for Appalachian Power Company and we hope the Commissioners and Supervisors will approve the project expeditiously.

Sincerely,

A handwritten signature in black ink that reads "Donn C. Samsa". The signature is fluid and cursive, with the first name "Donn" being the most prominent.

Donn C. Samsa  
TMEIC Corporation  
GM, Renewable Energy Systems  
Phone: (540) 283-2351  
Email: donn.samsa@tmeic.com

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# Real Estate Study





# Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI  
5029 Hilltop Needmore Road  
Fuquay Varina, North Carolina 27526  
Phone (919) 285-2951  
[rkirkland2@gmail.com](mailto:rkirkland2@gmail.com)  
[www.kirklandappraisals.com](http://www.kirklandappraisals.com)

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June 13, 2014

Mr. Scott Hawken  
HelioSage Energy  
117 4<sup>th</sup> Street SE  
Charlottesville, Virginia 22902

Mr. Hawken:

At your request, I have considered the likely impact of a solar farm to be located on an assemblage of tracts owned by Doddie Elks Singleton on the south side of Pitt Street and the east side of S Grimesland Bridge Road, Grimesland, Pitt County, North Carolina.

The scope of this assignment is to address the likely impact this may have on adjoining properties. To this end I have researched and visited existing and proposed solar farms, researched articles through the Appraisal Institute and other studies, as well as discussed the likely impact with other real estate professionals. I have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is HelioSage Energy represented to me by Mr. Scott Hawken. The intended use is to assist in the Special Use Permit application. The effective date of this consultation is June 13, 2014, the date of my review of the tracts and surrounding area by the aerial maps.

I have not inspected the property, though I am familiar with Pitt County and I have looked at multiple tracts in Pitt County in 2014.

## **Proposed Use Description**

The solar farm will consist of fixed solar panels that will generate no noise, no odor, and less traffic than a residential subdivision. The appearance will all be panels less than 10 feet in height that will be located behind a chain link fence.

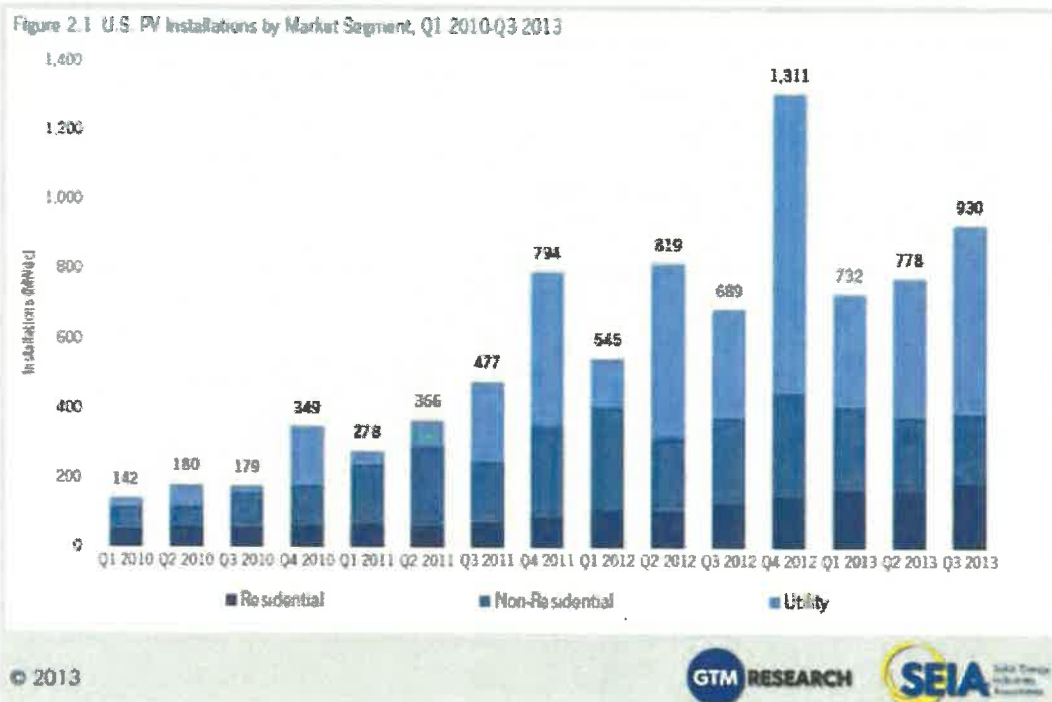
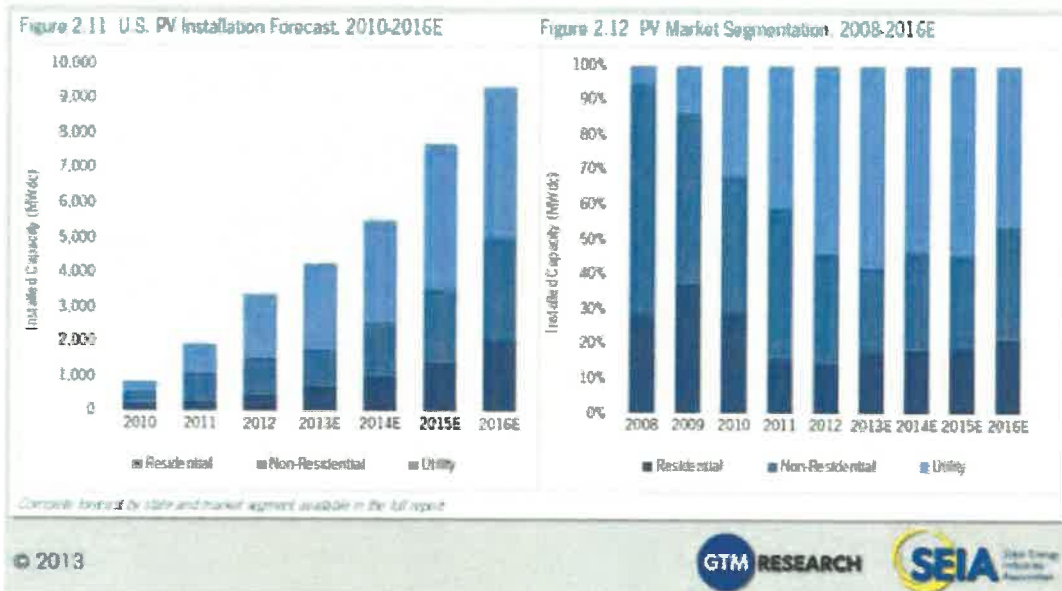
The property is adjoined by vacant land, agricultural land, single family residential uses, ministorage, and warehouse. The predominant adjoining use by acreage is agricultural, while the predominant adjoining use by parcel is older residential and mobile home. Most of the residential uses are along S Grimesland Bridge Road.

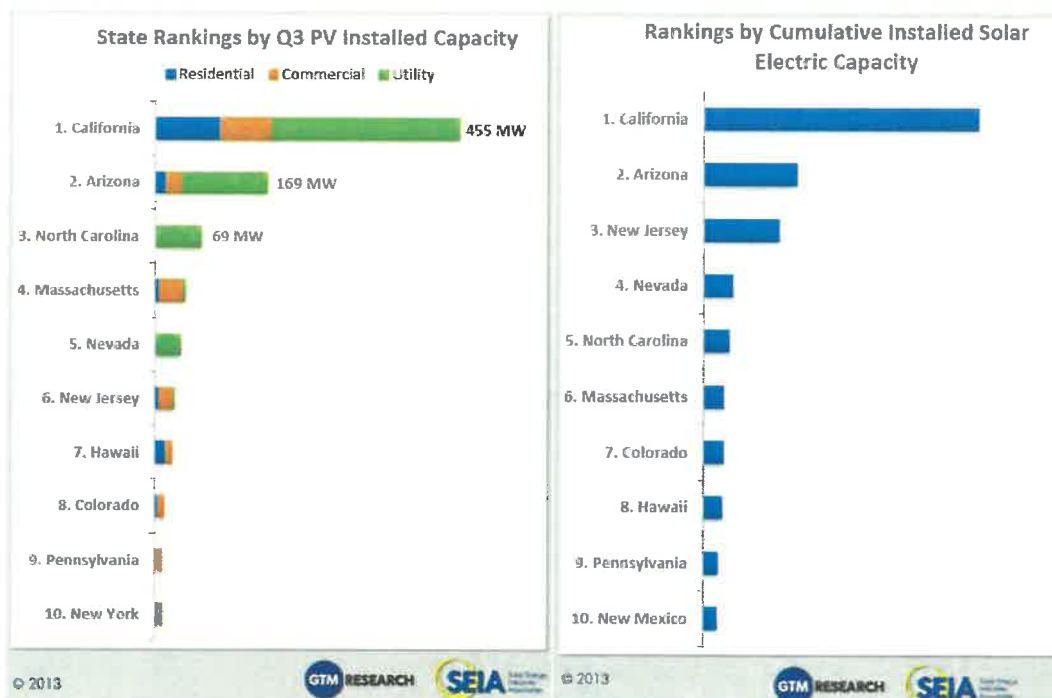




## Solar Farms in North Carolina

Across the nation the number of solar installations has dramatically increased over the last few years as the change in the technology and economy made these solar farms more feasible. The charts below show how this market has grown and is expected to continue to grow from 2010 and projections out to 2016. The U.S. Solar Market Insight Reports for 2010 and 2011 which is put out by the Solar Energy Industries Association note that 2010 was a “breakout” year for solar energy and the continued the boom of solar power is shown in the steady growth. North Carolina was ranked as having the 3rd most active photovoltaic installed capacity in 2013.





As shown in the charts above, North Carolina was the third largest installer of solar energy in the third quarter of 2013. North Carolina is the fifth largest installer of solar energy in the United States.

## **Solar Farm Market Analysis**

I have researched a number of solar farms in North Carolina to determine the impact of these facilities on the value of adjoining property. I have provided a breakdown of the adjoining uses to show what adjoining uses are typical for solar farms and what uses would likely be considered consistent with a solar farm use. This breakdown is included in the Harmony of Use section of this report.

I also conducted a series of matched pair analysis. A matched pair analysis is where you consider two similar properties with only one difference of note so that you can determine whether or not that difference has any impact on value. In this case, I have considered residential properties adjoining a solar farm versus similar residential properties that do not adjoin a solar farm. I have also considered some matched pairs of vacant residential and agricultural land.

As outlined in the discussion of each matched pair, I concluded that there is no impact in sale price for residential, agricultural or vacant residential land that adjoins existing or proposed solar farms.

I note that the numbering for the solar farms in the addenda correspond to the charts in the Harmony of Use Tables later in this report.



## Solar Farm Comparables With Matched Pairs

I have provided more detailed information on a few of the solar farms attached to the addendum of this report to focus on those with matched pairs. These come from a larger set of solar farms that I have researched and summarized in the charts under Harmony of Use/Compatibility of Use.

The sets of matched pairs all support the conclusion that the solar farm has no negative impact on adjacent residential and agricultural properties.

### Matched Pair A – AM Best Solar Farm, Goldsboro, NC

This solar farm adjoins Spring Garden Subdivision that has new homes and lots still available for new construction. The recent home sales have ranged from \$200,000 to \$250,000. Currently homes are being listed for \$240,000 to \$260,000. The solar farm is clearly visible especially along the north end of this street where there is only a thin line of trees separating the solar farm from the single family homes.

Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder the solar farm has proven to be a complete non-factor. Not only do the sales show no difference in the price paid for the various homes adjoining the solar farm versus not adjoining the solar farm, but there are actually more recent sales along the solar farm than not. From this I conclude that there is no impact on the sellout rate, or time to sell for the homes adjoining the solar farm.

I spoke with a number of owners who adjoin the solar farm and none of them expressed any concern over the solar farm impacting their property value.

The data presented on the following page shows five homes that have sold in 2013 adjoining the solar farm at prices similar to those not along the solar farm. These series of sales provide a strong indication that the solar farm has no impact on the adjoining residential use.



**Americana**  
SqFt 3,194  
Bed / Bath  
3 / 3.5

Price \$237,900

[View Now »](#)



**Washington**  
SqFt 3,292  
Bed / Bath  
4 / 3.5

Price \$244,900

[View Now »](#)



**Presidential**  
SqFt 3,400  
Bed / Bath  
5 / 3.5

Price \$247,900

[View Now »](#)



**Kennedy**  
SqFt 3,494  
Bed / Bath  
5 / 3

Price \$249,900

[View Now »](#)



**Virginia**  
SqFt 3,449  
Bed / Bath  
5 / 3

Price \$259,900

[View Now »](#)

**AM Best Solar Farm, Goldsboro, NC****Matched Pairs**

As of Date: 3/6/2014

**Adjoining Sales After Solar Farm Announced**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
20	3600169964	Feddersen	1.56	Feb-13	\$247,000	2012	3,571	\$69.17	Ranch
21	3600169964	Gentry	1.42	Apr-13	\$245,000	2013	3400	\$72.06	2 Story
	3600195570	Helm	0.76	Sep-13	\$250,000	2013	3292	\$75.94	2 Story
	3600195361	Leak	1.49	Sep-13	\$260,000	2013	3652	\$71.19	2 Story
	3600196656	Hinson	0.75	Dec-13	\$255,000	2013	3453	\$73.85	2 Story
		Average	1.20		\$251,400	2013	3,474	\$72.44	
		Median	1.42		\$250,000	2013	3,453	\$72.06	

**Nearby Sales After Solar Farm Completed**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600193710	Barnes	1.12	Oct-13	\$248,000	2013	3,400	\$72.94	2 Story
	3601105180	Nackley	0.95	Dec-13	\$253,000	2013	3,400	\$74.41	2 Story
	3600192528	Mattheis	1.12	Oct-13	\$238,000	2013	3,194	\$74.51	2 Story
		Average	1.06		\$246,333	2013	3,331	\$73.96	
		Median	1.12		\$248,000	2013	3,400	\$74.41	

**Adjoining Sales Before Solar Farm Announced**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
22	3600183905	Carter	1.57	Dec-12	\$240,000	2012	3,347	\$71.71	1.5 Story
23	3600193097	Kelly	1.61	Sep-12	\$198,000	2012	2,532	\$78.20	2 Story
24	3600194189	Hadwan	1.55	Nov-12	\$240,000	2012	3,433	\$69.91	1.5 Story
		Average	1.59		\$219,000	2012	2,940	\$74.95	
		Median	1.59		\$219,000	2012	2,940	\$74.95	

**Nearby Sales Before Solar Farm Announced**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600191437	Thomas	1.12	Sep-12	\$225,000	2012	3,276	\$68.68	2 Story
	3600087968	Lilley	1.15	Jan-13	\$238,000	2012	3,421	\$69.57	1.5 Story
	3600087654	Burke	1.26	Sep-12	\$240,000	2012	3,543	\$67.74	2 Story
	3600088796	Hobbs	0.73	Sep-12	\$228,000	2012	3,254	\$70.07	2 Story
		Average	1.07		\$232,750	2012	3,374	\$69.01	
		Median	1.14		\$233,000	2012	3,349	\$69.13	

**AM Best Solar Farm, Goldsboro, NC**



View of home in Spring Garden with solar farm located through the trees and panels visible.



View from vacant lot at Spring Garden with solar farm panels visible through trees.



### Matched Pair B – O2 Solar Farm, Zebulon, NC

A new solar farm was approved near Zebulon off Pearces Road, but the approval apparently is being appealed and the solar farm has not yet been constructed.

The owner of this land, George Ray, also owns two adjoining lots that back up to this property and he intends to build spec homes on those lots in the future.

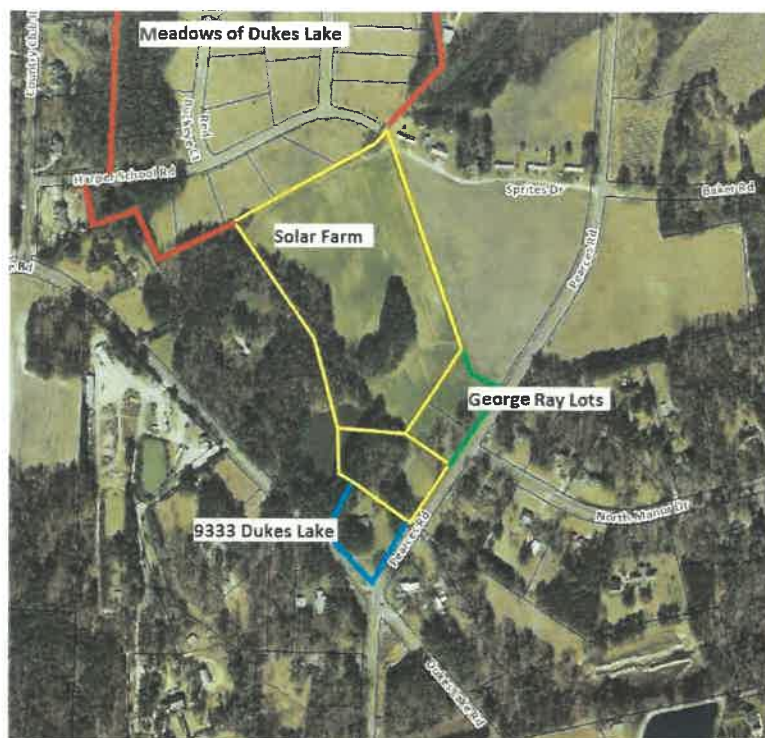
Lots adjoining this property to the north were owned by Dukes Lake Properties, LLC and are part of the Meadows of Dukes Lake. This subdivision was developed in 2007/2008 and only one lot has been sold and no homes built since that time due to the recession. Initially, the developer intended to build \$350,000 homes with lots priced around \$60,000, or 17% of the finished home price.

All of the unsold lots at Meadows of Dukes Lake sold in December 2013 to Wynn Construction for \$25,000 per lot for 22 lots.

Typically, a bulk sale of lots will be discounted off the individual lot price. This is similar to comparing the cost of a can of coke purchased by the can or by the case. There is always a big discount for the price per can if purchased by the case. Typically, for a subdivision that is projected to do well with a strong sellout this discount will run anywhere from 10% to 30%. Troubled subdivision lots such as the Meadows of Dukes Lake will see a discount of 30% to 60%. The projected lot price for this subdivision is clearly not \$60,000 as no lots were sold from 2008 through 2012 when there was no word of any solar farm project. There were a great many troubled subdivisions in similar rural locations that got caught in the recession and lots just could not be sold at almost any price. This difficulty in lot sales was not attributable to the solar farm as the solar farm was not announced until late 2012.

Furthermore, I considered the bulk sale of lots in the nearby subdivision of Wakefield Manors. This subdivision is located to the south with better proximity to highways. A total of 63 lots were sold in April 2013 for \$15,000 per lot. These lots were in a development where homes were previously selling for over \$400,000 in 2006, though the most recent sales are closer to \$300,000. These lots are in a superior subdivision where higher priced homes have been built and are projected to be built. The location is better, but there are a larger number of lots. The bulk discount on these lots is substantially greater than that at the subject property which attests to the difficulty in the market. However, Wakefield Manors has no solar farm and the bulk lot sale was significantly lower than the Meadows of Dukes Lake bulk lot sale. This strongly shows that no additional impact is attributable to the potential solar farm.

I also considered a bulk lot sale of lots at Brighton of Wendell. This is another subdivision with a better location and within an ongoing subdivision with existing home sales. A total of 55 lots were sold by Jim Hoffman Lake Lots, LLC out of this subdivision on June 28, 2012 for \$700,000, or \$12,727 per lot. Retail lot prices were offered at \$19,900 to \$25,900, suggesting a 50% discount for the bulk lot purchase. Homes in this neighborhood were selling for \$220,000 to \$250,000 prior to the downturn in the market with the most recent home sale being \$171,000. Again, this comparable sale shows a lower price per lot for a similar subdivision. These lots sold for half the amount of the lots that are proposed to adjoin the solar farm. Again, this matched pair strongly shows no additional impact attributable to the solar farm. If anything these two matched pairs show that the lots at the Meadows of Dukes Lake are selling at a higher price point than these other two recent bulk lot sales.



### Matched Pair C – White Cross Solar Farm, Chapel Hill, NC

A new solar farm was built at 2159 White Cross Road in Chapel Hill, Orange County in 2013. After construction, the owner of the underlying land sold the balance of the tract not encumbered by the solar farm in July 2013 for \$265,000 for 47.20 acres, or \$5,606 per acre. This land adjoins the solar farm to the south and was clear cut of timber around 10 years ago. I compared this purchase to a nearby transfer of 59.09 acres of timber land just south along White Cross Road that sold in November 2010 for \$361,000, or \$6,109 per acre. After purchase, this land was divided into three mini farm tracts of 12 to 20 acres each. These rates are very similar and the difference in price per acre is attributed to the timber value and not any impact of the solar farm.

I consider this matched pair to strongly support the assertion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

### Harmony of Use/Compatibility of Use

I have visited a number of existing and proposed solar farms to determine what uses are compatible with a solar farm. The data strongly supports adjoining agricultural and residential uses. While I have focused on adjoining uses, I note that there are many examples of solar farms being located within a quarter mile of residential developments, including such notable developments as Governor's Club in Chapel Hill, which has a nearby solar farm. Governor's Club is a gated golf community with homes selling for \$300,000 to over \$2 million.

The matched pair subdivisions noted above also show an acceptance of residential uses adjoining solar farms as a compatible or harmonious use.

Beyond these anecdotal references, I have quantified the adjoining uses for a number of solar farm comparables that are included in my files to derive a breakdown of the adjoining uses for each solar farm. The chart below shows the breakdown of adjoining uses by total acreage.

	Res	Ag	Res/AG	Park	Sub	Comm	Ind	All Res Uses	All Comm Uses
1 Goldsboro	35%	23%	0%	0%	3%	2%	37%	61%	39%
2 Willow Springs	8%	26%	66%	0%	0%	0%	0%	100%	0%
3 Kings Mtn	3%	12%	4%	0%	0%	0%	82%	18%	82%
4 White Cross	5%	51%	44%	0%	0%	0%	0%	100%	0%
5 Two Lines	3%	87%	8%	0%	3%	0%	0%	100%	0%
6 Strata	0%	0%	0%	100%	0%	0%	0%	100%	0%
7 Avery	13%	40%	47%	0%	0%	0%	0%	100%	0%
8 Mayberry	24%	51%	0%	0%	0%	4%	20%	76%	24%
9 Progress I	0%	45%	4%	0%	0%	0%	50%	50%	50%
10 Progress II	1%	99%	0%	0%	0%	0%	0%	100%	0%
11 Sandy Cross	0%	0%	100%	0%	0%	0%	0%	100%	0%
12 Zebulon	47%	0%	53%	0%	0%	0%	0%	100%	0%
13 Baldenboro	18%	59%	22%	0%	0%	0%	0%	100%	0%
14 Dement	33%	40%	27%	0%	0%	0%	0%	100%	0%
15 Vale Farm	1%	13%	86%	0%	0%	0%	0%	100%	0%
16 Eastover	0%	0%	0%	0%	0%	0%	0%	0%	0%
17 Wagstaff	7%	89%	4%	0%	0%	0%	0%	100%	0%
18 Roxboro	1%	93%	5%	0%	0%	0%	1%	99%	1%
19 McCallum	5%	93%	1%	0%	0%	0%	0%	100%	0%
20 Vickers	21%	58%	13%	0%	0%	2%	6%	92%	8%
21 Stout	52%	38%	0%	0%	0%	0%	10%	90%	10%
22 Mile	0%	20%	54%	0%	0%	0%	25%	75%	25%
Average	13%	43%	24%	5%	0%	0%	11%	85%	11%
Median	5%	40%	6%	0%	0%	0%	0%	100%	0%
High	52%	99%	100%	100%	3%	4%	82%	100%	82%
Low	0%	0%	0%	0%	0%	0%	0%	0%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

I have also included a breakdown of each solar farm by number of adjoining parcels by parcel instead of acreage. Using both factors provides a better concept of what the neighboring properties consist.

Percentage By Number of Parcels Adjoining								All Res	All Comm
	Res	Ag	Res/AG	Park	Sub	Comm	Ind	Uses	Uses
1	Goldsboro	0%	0%	0%	0%	0%	0%	0%	0%
2	Willow Springs	42%	37%	21%	0%	0%	0%	100%	0%
3	Kings Mtn	40%	30%	10%	0%	0%	20%	80%	20%
4	White Cross	33%	20%	40%	0%	7%	0%	100%	0%
5	Two Lines	38%	46%	8%	0%	8%	0%	100%	0%
6	Strata	71%	0%	14%	14%	0%	0%	100%	0%
7	Avery	50%	38%	13%	0%	0%	0%	100%	0%
8	Mayberry	42%	8%	0%	0%	25%	25%	50%	50%
9	Progress I	0%	50%	25%	0%	0%	25%	75%	25%
10	Progress II	20%	80%	0%	0%	0%	0%	100%	0%
11	Sandy Cross	17%	0%	83%	0%	0%	0%	100%	0%
12	Zebulon	90%	0%	10%	0%	0%	0%	100%	0%
13	Bladenboro	62%	28%	7%	0%	3%	0%	100%	0%
14	Dement	83%	6%	11%	0%	0%	0%	100%	0%
15	Vale Farm	10%	20%	70%	0%	0%	0%	100%	0%
16	Eastover	0%	0%	0%	0%	0%	0%	0%	0%
17	Wagstaff	65%	30%	3%	0%	0%	3%	98%	3%
18	Roxboro	33%	50%	8%	0%	0%	8%	92%	8%
19	McCallum	77%	15%	4%	0%	0%	4%	96%	4%
20	Vickers	47%	32%	5%	0%	5%	11%	84%	16%
21	Stout	78%	6%	0%	0%	0%	17%	83%	17%
22	Mile	0%	36%	45%	0%	0%	18%	82%	18%
Average		41%	24%	17%	1%	1%	6%	84%	7%
Median		41%	24%	9%	0%	0%	0%	99%	0%
High		90%	80%	83%	14%	8%	25%	100%	50%
Low		0%	0%	0%	0%	0%	0%	0%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Both of the above charts show a marked residential and agricultural adjoining use for most solar farms. In fact every single solar farm considered included an adjoining residential use except for Progress I, which included an adjoining residential/agricultural use. These comparable solar farms clearly support a compatibility with adjoining residential uses along with agricultural uses.

## **Specific Factors on Harmony and Compatibility of Use**

### **Appearance**

Solar farm panels have no associated stigma at this time and in smaller collections are found in yards and roofs in many residential communities. Larger solar farms using fixed panels are a passive use of the land that is considered in keeping with a rural/residential area. Comparing a solar farm to a larger greenhouse as shown below is a very reasonable comparison given that a greenhouse is essentially another method for collecting passive solar energy. The greenhouse use is well received in residential/rural areas and has a similar visual impact as a solar farm.





I note that the fixed solar panels are all less than 10 feet high, which means that the visual impact of the solar panels will be less high than a typical greenhouse or even a single story residential dwelling. This property could be developed with single family housing that would have a much greater visual impact on the surrounding area given that a two-story home with attic could be four times as high as these proposed panels. The panels will be located behind a chain link fence.

The comparable solar farms that I have considered are presented in the addenda and include a variety of photos of solar farms. The photos show that these sites are generally well-maintained and there is no significant negative view.

For the reasons stated above, I conclude that the appearance of the proposed solar farm will maintain or enhance adjoining property values.

## Noise

The proposed solar panels will be fixed and will not move to follow the sun. As these are passive, fixed solar panels there is no noise associated with these panels. The transformer reportedly has a hum that can only be heard in close proximity to this transformer and the buffers on the property are sufficient to make this hum inaudible from the adjoining properties.

There will be minimal onsite traffic generating additional noise.

The various solar farms that I have inspected and identified in the addenda were inaudible from the roadways. I heard nothing on any of these sites associated with the solar farm.

For the reasons stated above, I conclude that the lack of any noise associated with the proposed solar farm indicates that this use will maintain or enhance adjoining property values.

## **Odor**

The solar panels give off no odor of which I am aware.

The various solar farms that I have inspected and identified in the addenda produced no noticeable odor off site.

I therefore conclude that odor from the proposed project is not a factor and the project as designed will maintain or enhance the value of contiguous properties.

## **Traffic**

The solar farm will have no onsite employee's or staff. Maintenance of the site is minimal and relative to other potential uses of the site, such as a residential subdivision, the additional traffic on this site is insignificant.

For the reasons stated above, I conclude that the lack of any significant traffic associated with the proposed solar farm indicates that this use will maintain or enhance adjoining property values.

## **Hazardous material**

The solar farm presents no potential hazardous waste byproduct as part of normal operation. Any fertilizer, weed control, vehicular traffic, or construction will be significantly less than typically applied in a residential development or even most agricultural uses.

The various solar farms that I have inspected and identified in the addenda have no known pending environmental impacts associated with the development and operation of those farms.

I therefore conclude that there is no hazardous material concerns associated with the proposed project and therefore the project as designed will maintain or enhance the value of contiguous properties.

## **Market Commentary**

I have surveyed a number of builders, developers and investors regarding solar farms over the last year. I have received favorable feedback from a variety of sources with some examples provided below.

A new solar farm was built on Zion Church Road at the Punch property. After construction of the solar farm in 2013, an adjoining tract of land with 88.18 acres sold for \$250,000, or \$2,835 per acre. This was a highly irregular tract of land with significant tree cover between it and the solar farm. I have compared this to a current listing of 20.39 acres of land that is located southeast just a little ways from this solar farm. This land is on the market for \$69,000, or \$3,428 per acre. Generally, a smaller tract of land would be listed for more per acre. Considering a size adjustment of 5% per doubling in size, and a 10% discount for the likely drop in the closed price off of the asking price, I derive an indicated value per acre of the smaller tract of \$2,777 per acre. This is very similar to the recently closed sale adjoining the solar farm.

I consider this matched pair to strongly support the assertion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

I spoke with Lynn Hayes a broker with Berkshire Hathaway who sold a home at the entrance to Pickards Mountain where the home exits onto the Pickard Mountain Eco Institute's small solar farm. This home closed in January 2014 for \$735,000. According to Ms. Hayes the buyer was excited to be living near the Eco Institute and considered the solar farm to be a positive sign for the area. There are currently a number of 10 acre plus lots in Pickards Meadow behind this house with lots on the market for \$200,000 to \$250,000.

Rex Vick with Windjam Developers has a subdivision in Chatham County off Mt. Gilead Church Road known as The Hamptons. Home prices in The Hamptons start at \$600,000 with homes over \$1,000,000. Mr. Vick expressed interest in the possibility of including a solar farm section to the development as a possible additional marketing tool for the project.

Mr. Eddie Bacon, out of Apex North Carolina, has inherited a lot of family and agricultural land and he has expressed interest in using a solar farm as a method of preserving the land for his children and grandchildren while still deriving a useful income off of the property. He indicated that he believed that solar panels would not in any way diminish the value for this adjoining land.

I spoke with Carolyn Craig, a Realtor in Kinston, North Carolina who is familiar with the Strata Solar Farms in the area. She noted that a solar farm in the area would be positive. "A solar farm is color coordinated and looks nice." "A solar farm is better than a turkey farm," which is allowed in that area. She would not expect a solar farm will have any impact on adjoining home prices in the area.

Mr. Michael Edwards, a broker and developer in Raleigh, indicated that a passive solar farm would be a great enhancement to adjoining property. "You never know what might be put on that land next door. There is no noise with a solar farm like there is with a new subdivision."

These are just excerpts I've noted in my conversations with different clients or other real estate participants that provided other thoughts on the subject that seemed applicable.

## **Conclusion**


The matched pair analysis shows no impact in home values due to the adjacency to the solar farm as well as no impact to adjacent vacant residential or agricultural land. The solar farm at Pickards Mountain Eco Institute shows no impact on lot and home marketing nearby. The criteria for making downward adjustments on property values such as appearance, noise, odor and traffic all indicate that a solar farm is a compatible use for a rural/residential transition area.

Similar solar farms have been approved adjoining agricultural uses and residential developments. The adjoining residential uses have included single family homes up to \$260,000 on lots as small as 0.74 acres, mobile homes, and apartments. The solar farm at the Pickards Mountain Eco Institute adjoins a home that sold in January 2014 for \$735,000 and in proximity to lots being sold for \$200,000 to \$250,000 for homes over a million dollars. Clearly, adjoining agricultural uses are consistent with a solar farm.

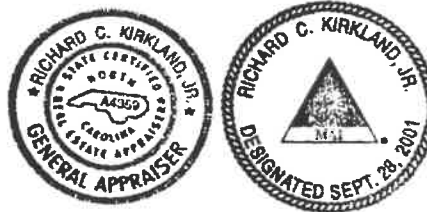
Based on the presented information and my experience in appraising land and residential subdivision developments, I conclude that the proposed solar farm will have no negative impact on the adjoining properties and that this is a compatible and harmonious use with the area.

If you have any further questions please call me any time.

Sincerely,



Richard C. Kirkland, Jr., MAI  
State Certified General Appraiser



### ***Limiting Conditions and Assumptions***

Acceptance of and/or use of this report constitutes acceptance of the following limiting conditions and assumptions; these can only be modified by written documents executed by both parties.

- ❖ The basic limitation of this and any appraisal is that the appraisal is an opinion of value, and is, therefore, not a guarantee that the property would sell at exactly the appraised value. The market price may differ from the market value, depending upon the motivation and knowledge of the buyer and/or seller, and may, therefore, be higher or lower than the market value. The market value, as defined herein, is an opinion of the probable price that is obtainable in a market free of abnormal influences.
- ❖ I do not assume any responsibility for the legal description provided or for matters pertaining to legal or title considerations. I assume that the title to the property is good and marketable unless otherwise stated.
- ❖ I am appraising the property as though free and clear of any and all liens or encumbrances unless otherwise stated.
- ❖ I assume that the property is under responsible ownership and competent property management.
- ❖ I believe the information furnished by others is reliable, but I give no warranty for its accuracy.
- ❖ I have made no survey or engineering study of the property and assume no responsibility for such matters. All engineering studies prepared by others are assumed to be correct. The plot plans, surveys, sketches and any other illustrative material in this report are included only to help the reader visualize the property. The illustrative material should not be considered to be scaled accurately for size.
- ❖ I assume that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. I take no responsibility for such conditions or for obtaining the engineering studies that may be required to discover them.
- ❖ I assume that the property is in full compliance with all applicable federal, state, and local laws, including environmental regulations, unless the lack of compliance is stated, described, and considered in this appraisal report.
- ❖ I assume that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in this appraisal report.
- ❖ I assume that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
- ❖ I assume that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
- ❖ I am not qualified to detect the presence of floodplain or wetlands. Any information presented in this report related to these characteristics is for this analysis only. The presence of floodplain or wetlands may affect the value of the property. If the presence of floodplain or wetlands is suspected the property owner would be advised to seek professional engineering assistance.
- ❖ For this appraisal, I assume that no hazardous substances or conditions are present in or on the property. Such substances or conditions could include but are not limited to asbestos, urea-formaldehyde foam insulation, polychlorinated biphenyls (PCBs), petroleum leakage or underground storage tanks, electromagnetic fields, or agricultural chemicals. I have no knowledge of any such materials or conditions unless otherwise stated. I make no claim of technical knowledge with regard to testing for or identifying such hazardous materials or conditions. The presence of such materials, substances or conditions could affect the value of the property. However, the values estimated in this report are predicated on the assumption that there are no such materials or conditions in, on or in close enough proximity to the property to cause a loss in value. The client is urged to retain an expert in this field, if desired.



- ❖ Unless otherwise stated in this report the subject property is appraised without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans with Disabilities Act (effective 1/26/92). The presence of architectural and/or communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability, or utility.
- ❖ Any allocation of the total value estimated in this report between the land and the improvements applies only under the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
- ❖ Possession of this report, or a copy thereof, does not carry with it the right of publication.
- ❖ I have no obligation, by reason of this appraisal, to give further consultation or testimony or to be in attendance in court with reference to the property in question unless further arrangements have been made regarding compensation to Kirkland Appraisals, LLC.
- ❖ Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser, or the firm with which the appraiser is connected) shall be disseminated to the public through advertising, public relations, news, sales, or other media without the prior written consent and approval of Kirkland Appraisals, LLC, and then only with proper qualifications.
- ❖ Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in the report.
- ❖ Any income and expenses estimated in this report are for the purposes of this analysis only and should not be considered predictions of future operating results.
- ❖ This report is not intended to include an estimate of any personal property contained in or on the property, unless otherwise state.
- ❖ This report is subject to the Code of Professional Ethics of the Appraisal Institute and complies with the requirements of the State of North Carolina for State Certified General Appraisers. This report is subject to the certification, definitions, and assumptions and limiting conditions set forth herein.
- ❖ The analyses, opinions and conclusions were developed based on, and this report has been prepared in conformance with, our interpretation of the guidelines and recommendations set forth in the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA).
- ❖ This is a Real Property Appraisal Consulting Assignment.

## ***Certification – Richard C. Kirkland, Jr., MAI***

I certify that, to the best of my knowledge and belief:

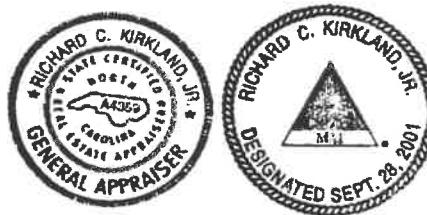
1. The statements of fact contained in this report are true and correct;
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions, and conclusions;
3. I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved;
4. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment;
5. My engagement in this assignment was not contingent upon developing or reporting predetermined results;
6. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of the appraisal;
7. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute;
8. The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives;
10. I have made a personal inspection of the property that is the subject of this report, and;
11. No one provided significant real property appraisal assistance to the person signing this certification.
12. As of the date of this report I have completed the requirements of the continuing education program of the Appraisal Institute;
13. I have not appraised this property within the last three years.

Disclosure of the contents of this appraisal report is governed by the bylaws and regulations of the Appraisal Institute and the National Association of Realtors.

Neither all nor any part of the contents of this appraisal report shall be disseminated to the public through advertising media, public relations media, news media, or any other public means of communications without the prior written consent and approval of the undersigned.



Richard C. Kirkland, Jr., MAI  
State Certified General Appraiser



Solar Farm Comparable 1

Name AM Best Farm  
Address 2815 N William St  
City Goldsboro  
County Wayne

Tract Acres 38  
Effective Acres 38  
Output (MW) 6.65

Remarks:

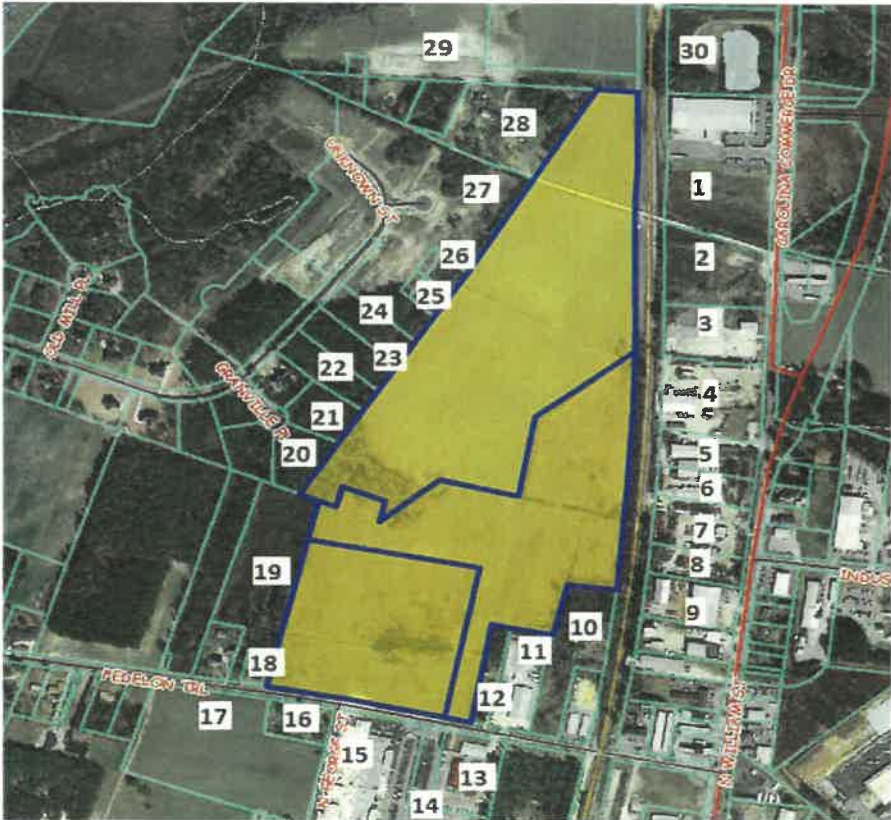
Year Built 2013  
SUP Approved Feb-13  
Inspection Feb-13



Adjoining Use Breakdown

	Acreage	Parcels
Industrial	37.41%	43.33%
Commercial	1.92%	3.33%
Agriculture	22.69%	3.33%
Substation	2.58%	3.33%
Residential	35.40%	46.67%
Total	100.00%	100.00%

Surrounding Use Map





**Matched Pairs**

As of Date: 2/11/2014

**Adjoining Sales After Solar Farm Announced**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
20	3600169964	Feddersen	1.56	Feb-13	\$247,000	2012	3,571	\$69.17	Ranch
21	3600169964	Gentry	1.42	Apr-13	\$245,000	2013	3400	\$72.06	2 Story
	3600195570	Helm	0.76	Sep-13	\$250,000	2013	3292	\$75.94	2 Story
	3600195361	Leak	1.49	Sep-13	\$260,000	2013	3652	\$71.19	2 Story
	3600196656	Hinson	0.75	Dec-13	\$255,000	2013	3453	\$73.85	2 Story
		Average	1.20		\$251,400	2013	3,474	\$72.44	
		Median	1.42		\$250,000	2013	3,453	\$72.06	

**Nearby Sales After Solar Farm Completed**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600193710	Barnes	1.12	Oct-13	\$248,000	2013	3,400	\$72.94	2 Story
	3601105180	Nackley	0.95	Dec-13	\$253,000	2013	3,400	\$74.41	2 Story
	3600192528	Mattheis	1.12	Oct-13	\$238,000	2013	3,194	\$74.51	2 Story
		Average	1.06		\$246,333	2013	3,331	\$73.96	
		Median	1.12		\$248,000	2013	3,400	\$74.41	

**Adjoining Sales Before Solar Farm Announced**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
22	3600183905	Carter	1.57	Dec-12	\$240,000	2012	3,347	\$71.71	1.5 Story
23	3600193097	Kelly	1.61	Sep-12	\$198,000	2012	2,532	\$78.20	2 Story
24	3600194189	Hadwan	1.55	Nov-12	\$240,000	2012	3,433	\$69.91	1.5 Story
		Average	1.59		\$219,000	2012	2,940	\$74.95	
		Median	1.59		\$219,000	2012	2,940	\$74.95	

**Nearby Sales Before Solar Farm Announced**

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600191437	Thomas	1.12	Sep-12	\$225,000	2012	3,276	\$68.68	2 Story
	3600087968	Lilley	1.15	Jan-13	\$238,000	2012	3,421	\$69.57	1.5 Story
	3600087654	Burke	1.26	Sep-12	\$240,000	2012	3,543	\$67.74	2 Story
	3600088796	Hobbs	0.73	Sep-12	\$228,000	2012	3,254	\$70.07	2 Story
		Average	1.07		\$232,750	2012	3,374	\$69.01	
		Median	1.14		\$233,000	2012	3,349	\$69.13	

Solar Farm Comparable 4

**Name** White Cross  
**Address** 2159 White Cross Rd  
**City** Chapel Hill  
**County** Orange

**Tract Acres** 121.21  
**Effective Acres** 45  
**Output (MW)** 5

**Remarks:** Built on land adjoining a mobile home park with the same ownership of the solar farm. Owner also adjoining agricultural land.

**Date Built** 2013  
**SUP Approved** 2012  
**Inspection Date** 3/26/2012



Surrounding Uses

				% Adjoining, Adjoining		
#	TAX ID	Owner	Acres	Present Use	Acres	Parcels
1	9748456955	Cheek	19.88	Res/Ag	3.59%	6.67%
2	9748652607	Tripp	8.96	Residential	1.62%	6.67%
3	9748656467	Rich	31.76	Res/Ag	5.73%	6.67%
4	9748557159	Cecil	5.52	Residential	1.00%	6.67%
5	9748642712	Cecil	34.69	Res/Ag	6.26%	6.67%
6	9748734645	Barber	143.7	Agriculture	25.92%	6.67%
7	9748535992	Hackney	28.31	Agriculture	5.11%	6.67%
8	9748620795	Hackney	110.62	Agriculture	19.95%	6.67%
9	9748446160	Hackney	3.95	Residential	0.71%	6.67%
10	9748432369	Duke Energy	1.55	Substation	0.28%	6.67%
11	9748431180	Hackney	2.01	Residential	0.36%	6.67%
12	9748320786	Byron	35.8	Res/Ag	6.46%	6.67%
13	9748233155	Goodman	4.95	Residential	0.89%	6.67%
14	9748242720	Bradshaw	95.47	Res/Ag	17.22%	6.67%
15	9748267381	Cecil	27.24	Res/Ag	4.91%	6.67%
Total			554.41		100%	100%

Adjoining Use Breakdown

	Acreage	Parcels
Agricultural	50.98%	20.00%
Res/Ag	44.16%	40.00%
Residential	4.58%	33.33%
Substation	0.28%	6.67%
Total	100.00%	100.00%

Surrounding Use Map



Matched Pairs

As of Date: 2/28/2014

Type	TAX ID	Owner	Acres	Date	Price	\$/Acre	Notes	Conf By
Adjoins Solar	9748336770	Haggerty	47.20	Jul-13	\$265,000	\$5,614	Clear cut	Betty Cross, broker
Not Near Solar	9747184527	Purcell	59.09	Nov-10	\$361,000	\$6,109	Wooded	Dickie Andrews, broker

The difference in price is attributed to the trees on the older sale.  
No impact noted for the adjacency to a solar farm.  
I looked at a number of other nearby land sales without proximity to a solar farm for this matched pair, but this land sale required the least allowance for differences in size, utility and location.



### Solar Farm Comparable 5

**Name** Two Lines Farm  
**Address** Zion Church Road  
**City** Hickory  
**County** Catawba

**Tract Acres** 100.56  
**Effective Acres** 100.56  
**Output (MW)** 6.4

**Remarks** Owner of solar farm also owns 87% of adjoining acreage and 46% of adjoining parcels. Two large powerline easements cross this property.



**Date Built** 2013  
**SUP Approved** 2012  
**Inspection Date** 6/4/2012

### Surrounding Uses

#	TAX ID	Owner	Acres	Present Use	% Adjoinin % Adjoining	
					Acres	Parcels
1	700850	Duke Ene	10.46	Substation	2.81%	7.69%
2	1440	Childers	28.7	Res/Ag	7.71%	7.69%
3	1439	Dice	1.4	Residential	0.38%	7.69%
4	1437	Bolick	2.26	Residential	0.61%	7.69%
5	1429	Punch	24.23	Agricultural	6.51%	7.69%
6	1424	Punch	39.52	Agricultural	10.61%	7.69%
7	1426	Ramseur	0.44	Residential	0.12%	7.69%
8	1427	Mungro	0.69	Residential	0.19%	7.69%
9	1905	Alice M R	5.8	Residential	1.56%	7.69%
10	1403	Punch	49.6	Agricultural	13.32%	7.69%
11	1402	Punch	59.35	Agricultural	15.93%	7.69%
12	1401	Punch	61.18	Agricultural	16.43%	7.69%
13	1428	Punch	88.83	Agricultural	23.85%	7.69%
Total			372.46		100%	100%

### Adjoining Use Breakdown

	Acreage	Parcels
Agricultural	86.64%	46.15%
Res/Ag	7.71%	7.69%
Residential	2.84%	38.46%
Substation	2.81%	7.69%
Total	100.00%	100.00%

### Surrounding Use Map



### Matched Pairs

As of Date: 2/11/2014

Type	TAX ID	Owner	Acres	Date	Sales Price	\$/Acre	Size Adj.	Listing Adj.
Adjoins	360904929959	Whisnant	88.18	Apr-13	\$250,000	\$2,835	\$2,835	\$2,835
Not	360904612718	Ruff	20.39	Listing	\$69,900	\$3,428	\$3,085	\$2,777

I adjusted the smaller comp downward by 10% for being less than 1/4th the size of the subject property.

I adjusted the smaller comp downward by 10% for being a listing that will likely close for less.

The adjusted prices are very similar.

No impact indicated by this approach.

**Solar Farm Comparable 12**

<b>Name</b>	Zebulon Solar Farm
<b>Address</b>	2129 Pearces Road
<b>City</b>	Zebulon
<b>County</b>	Wake

<b>Tract Acres</b>	15.5
<b>Effective Acres</b>	15.5
<b>Output (MW)</b>	

**Remarks:** Owner plans to build homes on adjoining lots.

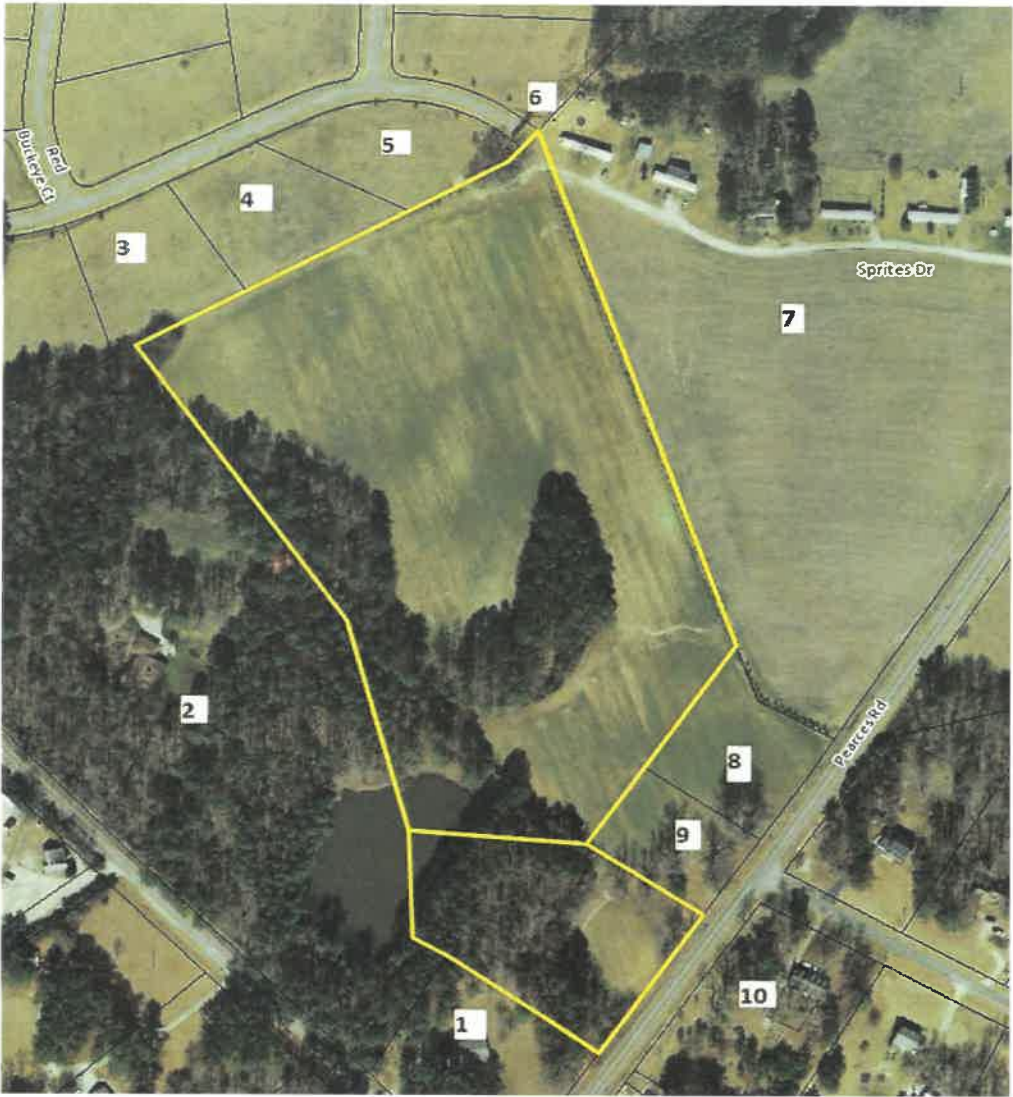
<b>Date Built</b>	Proposed
<b>SUP Approved</b>	
<b>Inspection Date</b>	1/20/2013

**Adjoining Use Breakdown**

	<b>Acreage</b>	<b>Parcels</b>
Res/Ag	53.41%	10.00%
Residential	46.59%	90.00%
Total	100.00%	100.00%



Surrounding Use Map



Surrounding Uses

#	TAX ID	Owner	Acres	Present Use	% Adjoining	% Adjoining	Notes
					Acres	Parcels	
1	110351	Fish	1.58	Residential	3.64%	10.00%	
2	338130	Windley	11.04	Residential	25.45%	10.00%	
3	362386	Dukes	1.00	Residential	2.31%	10.00%	
4	362385	Dukes	1.04	Residential	2.40%	10.00%	
5	362384	Dukes	1.00	Residential	2.31%	10.00%	
6	362383	Dukes	1.00	Residential	2.31%	10.00%	
7	22047	Sprite	23.17	Res/Ag	53.41%	10.00%	Mobile homes
8	338127	Ray	1.00	Residential	2.31%	10.00%	Owner of farm
9	338128	Ray	0.74	Residential	1.71%	10.00%	Owner of farm
10	145071	McClure	1.81	Residential	4.17%	10.00%	
Total			43.38				

**Matched Pairs**

As of Date: 2/11/2014

#	TAX ID	Owner	Acres	Present Use	Date Sold	Price	Notes
1	110351	Fish	1.58	Residential	9/17/2012	\$165,000	Owner unaware of proposed solar

**The Meadows of Dukes Lake**

In December 2013, a total of 22 lots were sold from Dukes Lake Properties to Wynn Construction for \$25,000/lot. These lots were sold in three deeds with no differentiation between the lots adjoining the proposed solar farm and the lots that did not adjoin the proposed solar farm. These lots average 1 acre in size. The only lot that sold in this subdivision was Lot 4 which was 4.64 acres and it sold for \$75,000 in 2010. Wynn Construction is advertising this neighborhood for homes ranging from \$240,000 to \$270,000.

A nearby subdivision, Wakefield Meadows, was acquired by Honeywood Investments, LLC as 63 lots in April 2013 for \$15,000 per lot. Homes are selling for around \$300,000, whereas they were selling for over \$400,000 in 2006.

Both neighborhoods suffered in the downturn and sold bulk lots at significant discounts as shown above. However, the discount at the subdivision not near a solar farm was significantly higher than the discount seen at the Meadows of Dukes Lake. These collections of lots therefore show no sign that the solar farm impacted the lot values.

# Renderings of Screening



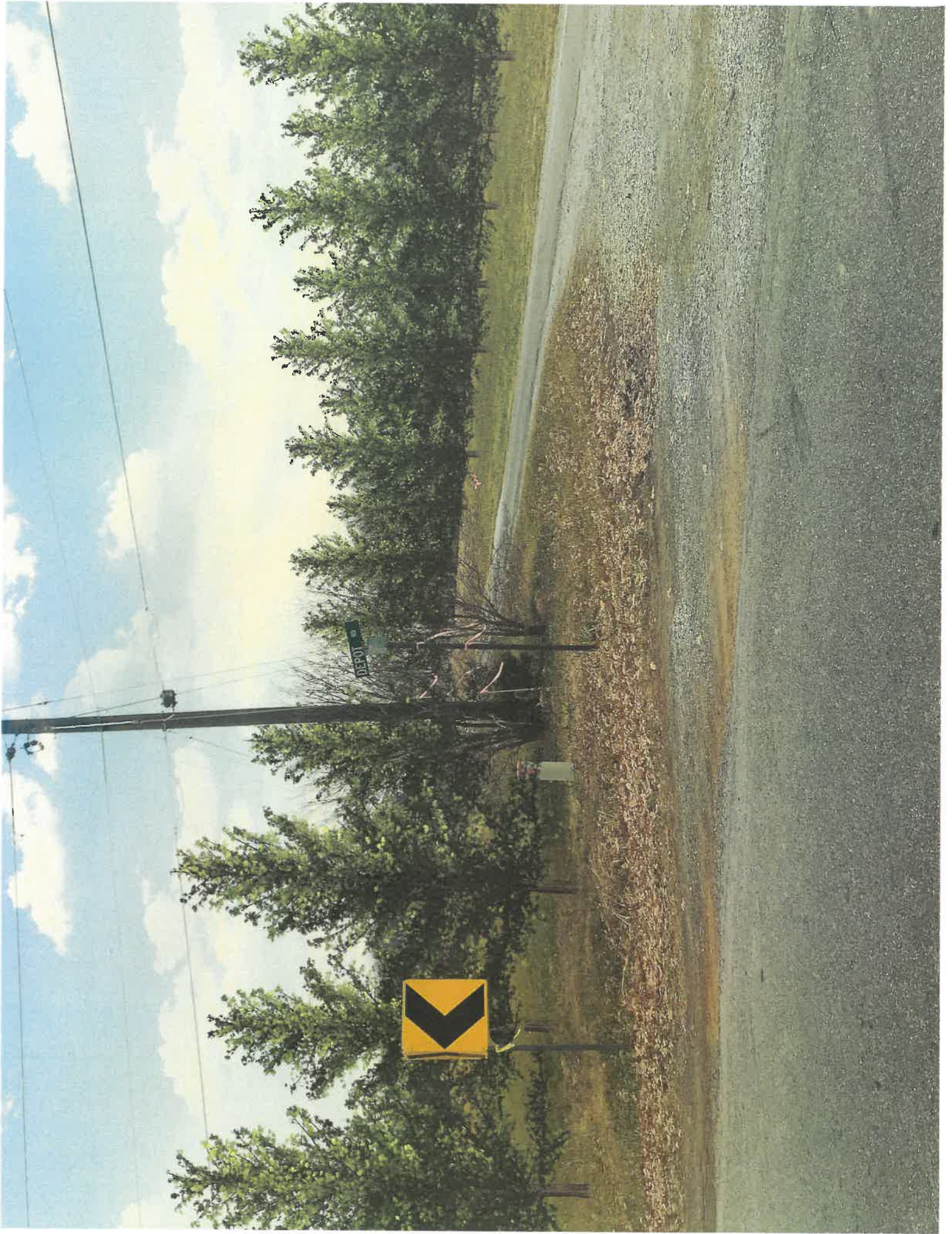




















# PEC Meeting Notes





**Subject:** PEC meeting summary

**Date:** Friday, February 12, 2016 at 11:05:19 AM Eastern Standard Time

**From:** Tatum, R. Carter

**To:** Kyle West

Kyle,

The Project Evaluation Committee met on Thursday, February 11, 2016 at 10:45 AM to discuss the plan for the Depot (Road) Solar Center. The following is a synopsis of the meeting; it does not necessarily reflect all comments or indicate all requirements of the permitting process.

Present:

Kyle West	Coronal Project Development
Susan Sturm	Coronal Project Engineer
Clifton Tweedy	Deputy County Administrator
Gary McIver	Building Official
Brian Stokes	Environmental Manager
Carter Tatum	Zoning Administrator
Randall Johnson	Fire Marshal
Sandy Shackelford	Planner
Sarah Johnson	Economic Development Program Manager
Kimberly McMahan	Virginia Dept. of Transportation (VDOT )
Tim Wagner	Campbell County Utilities & Services Authority (CCUSA)
Tom Woodford	American Electric Power (AEP)

Overview

The project is a utility-scale ground mounted solar array interconnected to Appalachian Power. A mid-to-late 2017 start is anticipated. Once completed, the project will be unmanned.

AEP

The proposed site is less than 100 meters from the Rustburg substation. A private utility easement has already been secured to get there.

VDOT

The road curves at the entrance and there is some concern about site distances once the panels and fences are installed. Panels are up to 12 feet tall and the fence is 6 feet tall with 1 foot of barbed wire at the top. If possible, please draw a site distance line and keep that area clear.

Construction will take three to six months, during which time there will be some traffic in and out, including about one tractor trailer each day. After completion, only one utility truck is expected per month, which will be a small truck and trailer. Traffic to the site will determine if a low-volume entrance is sufficient. The entrance will need to account for the roadside drainage ditch.

Properties along Depot Road extend to the centerline – a prescriptive right-of-way. However, VDOT still maintains the sides of the road.

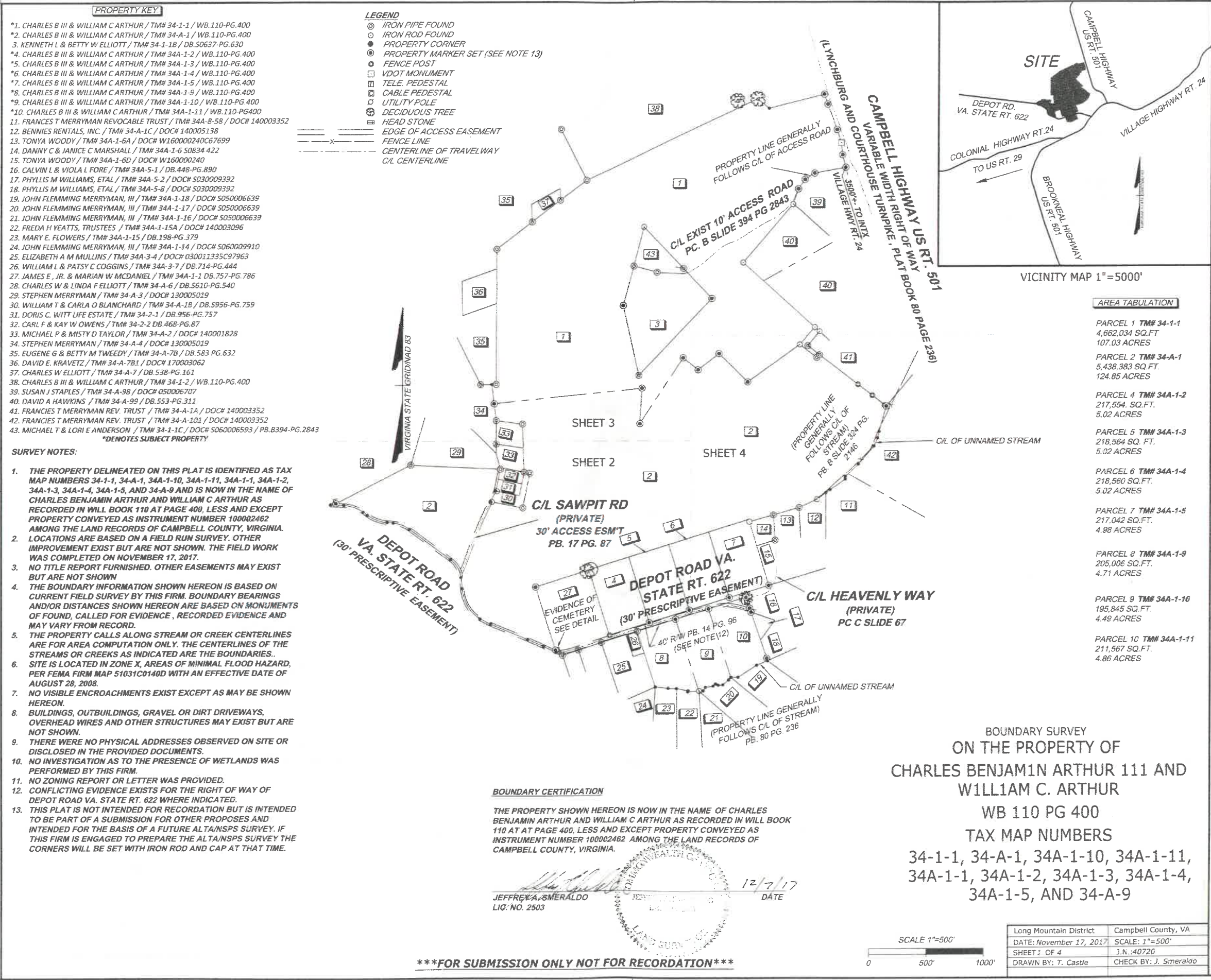
E&S

Campbell County is the VSMP authority on behalf of DEQ. Coronal has received permits from Essex and Isle of Wight counties in Virginia, but construction has yet to start. North Carolina, however, have many similar facilities with which to compare. Virginia DEQ has implemented regulation on Solar Permit By Rule.

# Boundary Survey

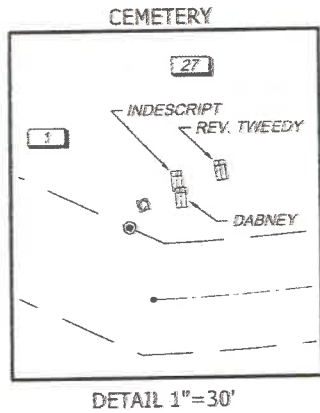
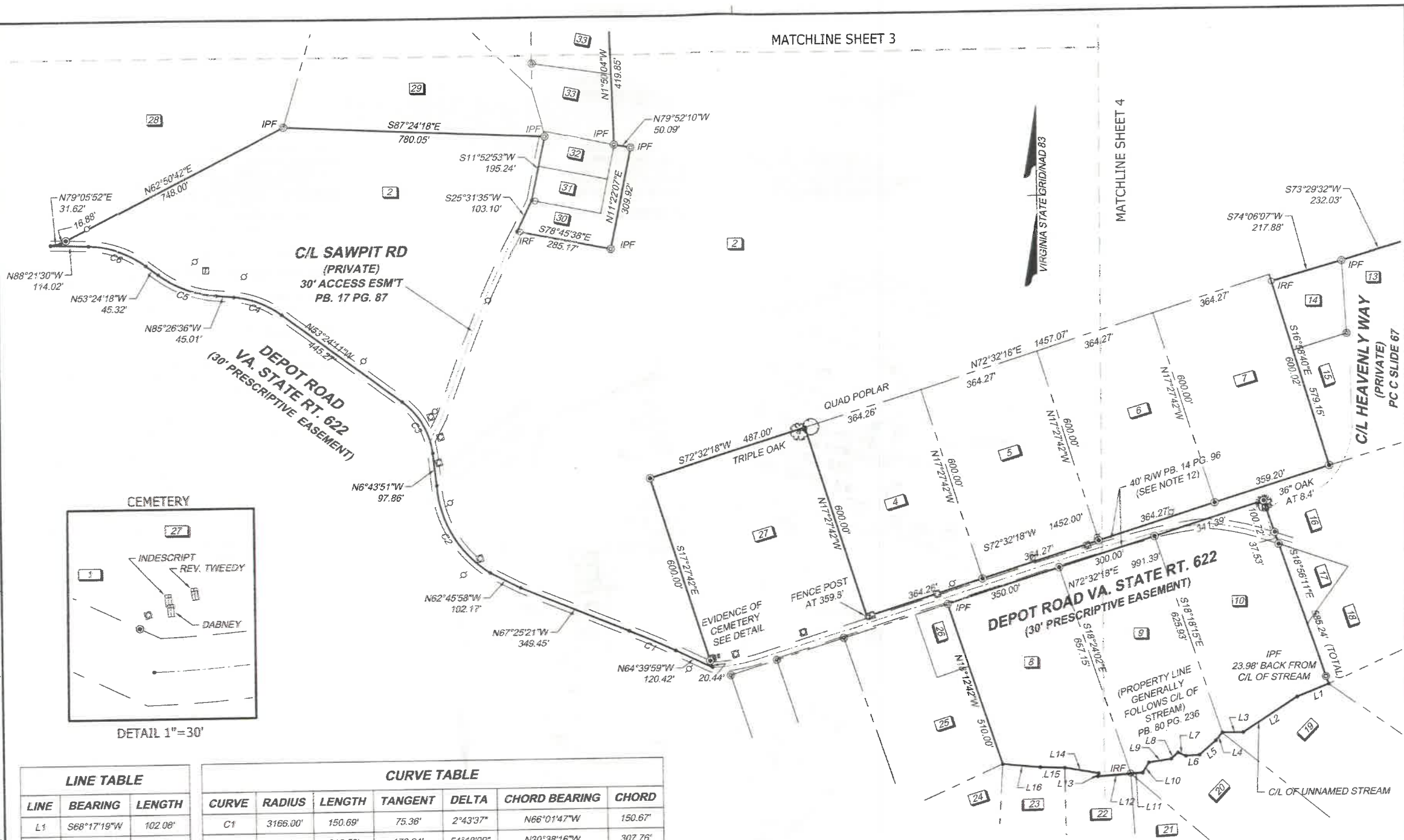


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LINE TABLE		
LINE	BEARING	LENGTH
L1	S68°17'19"W	102.08'
L2	S56°53'54"W	192.93'
L3	N90°00'00"W	62.54'
L4	S39°01'52"W	30.90'
L5	S49°21'29"W	65.30'
L6	S86°10'51"W	40.43'
L7	N65°13'33"W	25.91'
L8	S47°51'12"W	28.44'
L9	S81°51'59"W	67.59'
L10	S32°16'37"W	35.33'
L11	S86°06'00"W	35.67'
L12	S86°06'00"W	99.62'
L13	N20°44'02"E	10.00'
L14	N80°07'52"W	102.41'
L15	N87°50'41"W	73.41'
L16	N84°17'22"W	112.37'

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD
C1	3166.00'	150.69'	75.36'	2°43'37"	N66°01'47"W	150.67'
C2	337.21'	319.59'	172.94'	54°18'09"	N30°38'16"W	307.76'
C3	226.00'	184.10'	97.50'	46°40'20"	N30°04'01"W	179.05'
C4	290.00'	162.35'	83.36'	32°04'30"	N69°26'26"W	160.23'
C5	333.00'	186.41'	95.72'	32°04'23"	N69°26'29"W	183.98'
C6	298.00'	181.80'	93.83'	34°57'12"	N70°52'54"W	178.99'



- LEGEND**
- IRON PIPE FOUND
  - IRON ROD FOUND
  - PROPERTY CORNER
  - PROPERTY MARKER SET (SEE NOTE 13)
  - FENCE POST
  - VDOT MONUMENT
  - TELE. PEDESTAL
  - CABLE PEDESTAL
  - UTILITY POLE
  - DECIDUOUS TREE
  - HEAD STONE
  - EDGE OF ACCESS EASEMENT
  - FENCE LINE
  - CENTERLINE OF TRAVELWAY
  - C/L CENTERLINE



BOUNDARY SURVEY  
ON THE PROPERTY OF  
CHARLES BENJAMIN ARTHUR 111 AND  
WILLIAM C. ARTHUR  
WB 110 PG 400  
TAX MAP NUMBERS  
34-1-1, 34-A-1, 34A-1-10, 34A-1-11,  
34A-1-1, 34A-1-2, 34A-1-3, 34A-1-4,  
34A-1-5, AND 34-A-9

Long Mountain District	Campbell County, VA
DATE: November 17, 2017	SCALE: 1"=200'
SHEET 2 OF 4	J.N.:40720
DRAWN BY: T. Castle	CHECK BY: J. Smeraldo

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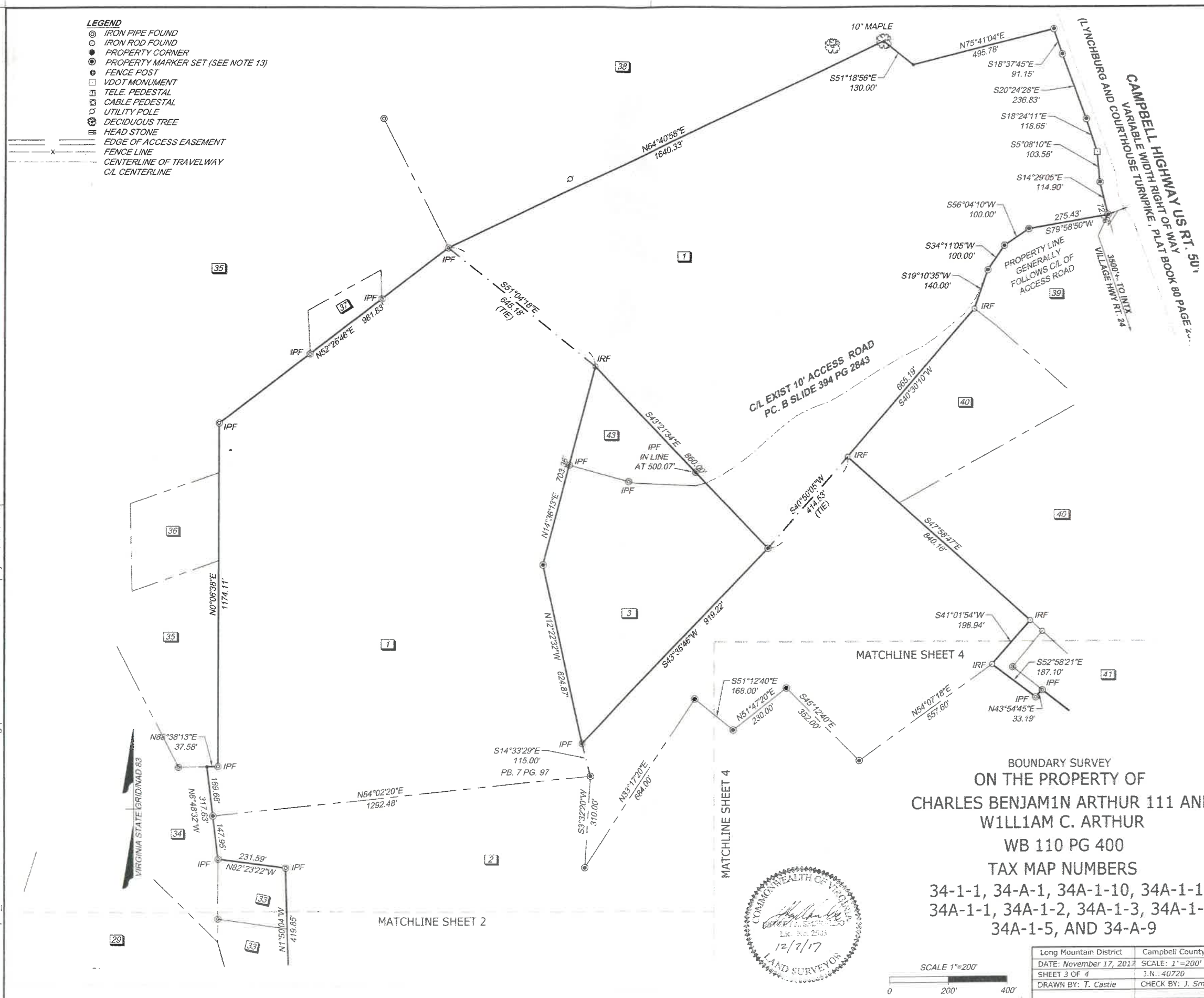
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3010 ANDERSON ROAD, SUITE 100  
TEL: 703.726.1342 FAX: 703.726.1345 WWW.TIMMONSGROUP.COM

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### LEGEND

- ⊙ IRON PIPE FOUND
- IRON ROD FOUND
- PROPERTY CORNER
- PROPERTY MARKER SET (SEE NOTE 13)
- ⊕ FENCE POST
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34A-1-1, 34A-1-2, 34A-1-3, 34A-1-4,  
34A-1-5, AND 34-A-9

SCALE 1"=200'



A horizontal graphic scale bar with a white background and a black border. It is divided into two equal segments by a vertical line. The left segment is white, and the right segment is black. Below the bar, the numbers 0, 200', and 400' are printed at the left, middle, and right ends respectively.

Long Mountain District	Campbell County, VA
DATE: November 17, 2017	SCALE: 1"=200'
SHEET 3 OF 4	1.N..40720
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### Site Development

## Infrastructure

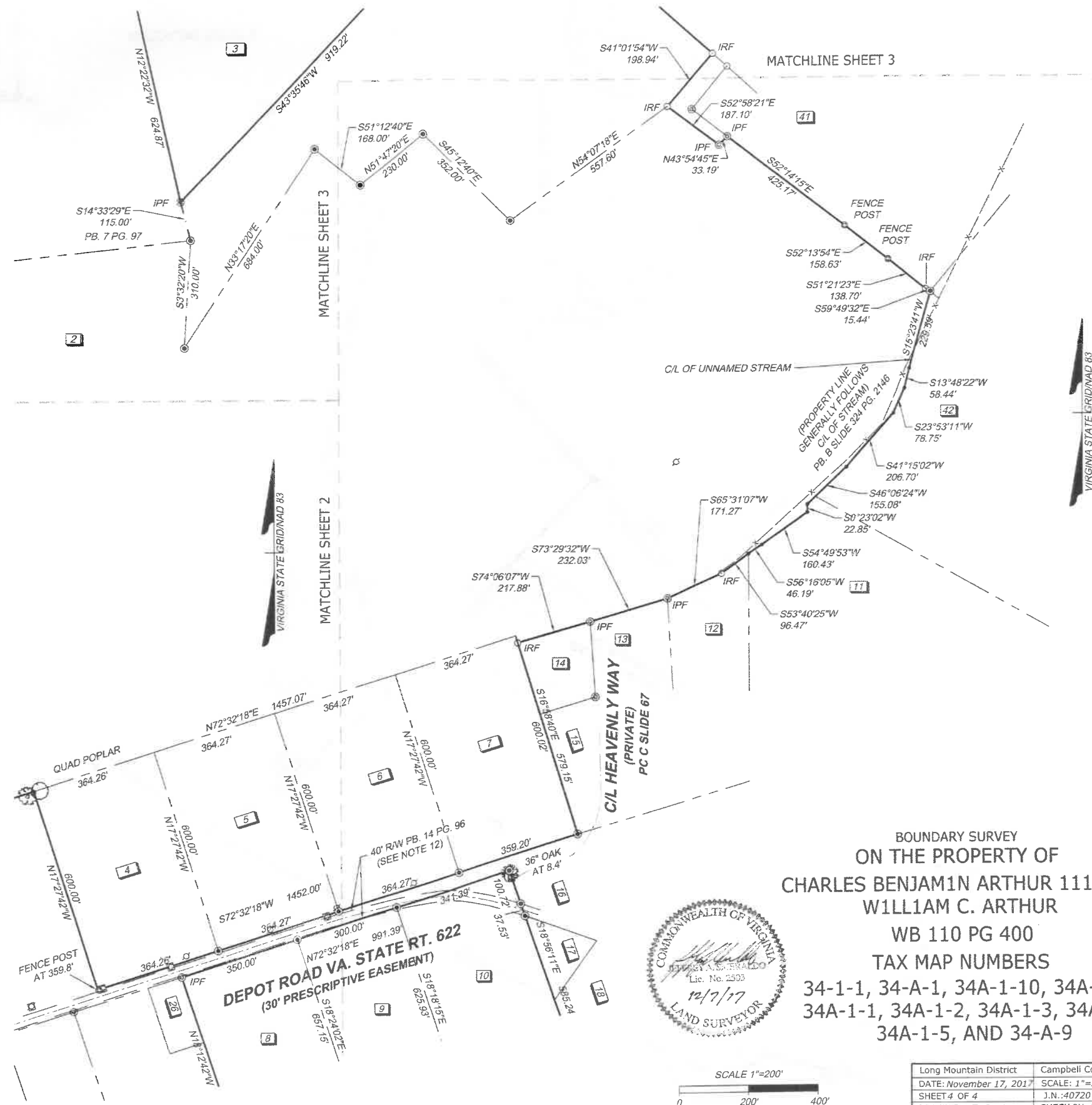
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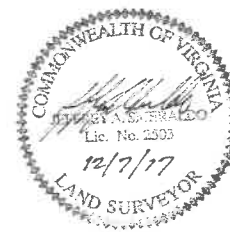
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LEGEND

- IRON PIPE FOUND
- IRON ROD FOUND
- PROPERTY CORNER
- PROPERTY MARKER SET (SEE I)
- FENCE POST
- VDOT MONUMENT
- TELE. PEDESTAL
- CABLE PEDESTAL
- UTILITY POLE
- DECIDUOUS TREE
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- C/L CENTERLINE



BOUNDARY SURVEY  
ON THE PROPERTY OF  
CHARLES BENJAMIN ARTHUR 111 AND  
WILLIAM C. ARTHUR  
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34-1-1, 34-A-1, 34A-1-10, 34A-1-11,  
34A-1-1, 34A-1-2, 34A-1-3, 34A-1-4,  
34A-1-5, AND 34-A-9



SCALE 1"=200'  
0 200' 400'

Long Mountain District	Campbell County, VA
DATE: November 17, 2017	SCALE: 1"=200'
SHEET 4 OF 4	J.N.:40720
DRAWN BY: T. Castle	CHECK BY: J. Smeraldo

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# Decommissioning Plan



**PART 1****I. BACKGROUND**

PV facility decommissioning is generally described as the removal of all system components and the rehabilitation of the site to pre- construction conditions. The typical goal of project decommissioning and reclamation is to remove the installed power generation equipment and return the site to a condition as close to a pre- construction state as feasible.

Deconstruction procedures are designed to ensure public health and safety, environmental protection, and compliance with applicable regulations. Typical activities during a solar energy facility decommissioning and site reclamation phase include facility de-energization, PV module removal, dismantle and demolition of above grade structures, removal of concrete pads and foundations, dismantle and removal of all aboveground and belowground utilities, debris management including hauling, temporary erosion control, removal of access roads that are not maintained for other uses, removal of security fencing, regrading, and revegetation.

Much of the solid material waste can be recycled or sold as scrap.

**II. FACILITY MATERIALS**

PV facilities are constructed using the same basic materials and methods of installation common to their application. Materials include:

Metals: Steel from pier foundations, racking, conduits, electrical enclosures, fencing, equipment buildings, and storage containers; aluminum from racking, module frames, electrical wire, and transformers; stainless steel from fasteners, electrical enclosures, and racking; copper from electrical wire, transformers, and inverters.

Concrete: Equipment pads and footings.

PV Cells: PV Modules are typically constructed of glass front sheets (some used glass back sheets as well), plastic back sheets and laminates, semiconductor rigid or thin film silicon cells, internal electrical conductors (aluminum or copper), silver solder, plus a variety of micro materials. The semiconductor PV cell materials represent a very small part of a PV module's weight, between 1 and 2%. As manufacturers pursue lower cost modules, thinner layers of semiconductor materials are used which reduces this percentage. The most commonly used semiconductor material for the construction of PV modules is silicon. Other materials used for the construction of photovoltaic modules are polycrystalline thin films include copper, indium, cadmium, and telluride. In addition to the glass and aluminum, Silicon can be recycled by a specialty electronics recycler.

Glass: Most PV modules are approximately 80% glass by weight. There are certain modules, which use plastic and/or metal sheets for their foundations, however these are very specialized in their application and are generally not used for ground mounted projects.



Plastics: A limited amount of plastic materials are used in PV systems due to a system's continuous exposure to the elements and long operational lifetime. Plastics typically are found in PV facilities as wire insulation, electrical enclosures, control and monitoring equipment, and inverter components. Additionally plastic laminate films are used in most PV module assemblies.

Wood: Used vary sparingly due to the 20-35 year planned lifetimes of these facilities.

It is generally agreed that the metals in PV Facilities will be highly valued as recycled materials when these facilities are deconstructed. In the limited number of facility deconstruction projects performed to date, the revenue from the recycling of these materials was found to cover the removal and transportation costs of these materials.

If a facility is operational at the time of decommissioning and the PV modules are producing within specifications, there is a likely outlet for the used PV modules into a secondary market. It is generally accepted that the existing global market for used solar PV panels will be even more robust in the future.





## **PART 2**

### **I. Depot Solar Center LLC shall:**

- a. Be responsible for all decommissioning costs;
- b. Obtain any additional permits required for the decommissioning, removal and legal disposal of Project components prior to commencement of decommissioning activities;
- c. Dispose complete decommissioning, including component removal and disposition, grading and re-vegetation in accordance with permits and in compliance with all applicable rules and regulations then in effect governing the disposal thereof;
- d. Remove all hazardous materials and transport them to be disposed of by licensed contractors at an appropriate facility in accordance with rules and regulations governing the disposal of such materials; and
- e. Preserve and reclaim the prime agricultural soils on the Project site in accordance with the Board's Order in this proceeding.
- f. Post security in the form of letter of credit, escrow account, or Corporate Parent Guarantee in the amount of the estimated net decommissioning costs.
- g. Adhere to the Site Lease Agreement with the Project's landowner which requires the following:
  - a. "Tenant shall be entitled to remove the Generating Facility or any part thereof and any related equipment from the Site or the Easement Lands at any time upon reasonable notice to Landlord and shall be obligated to remove the Generating Facility within ninety (90) days after the expiration or other termination of the term of this Lease. In the event that Tenant fails to remove the Generating Facility within ninety (90) days of expiration or other termination of this Lease, in addition to all other rights and remedies of Landlord, Tenant shall pay to Landlord holdover Rent on a pro rata basis until the Generating Facility is removed."

### **II. Estimated Cost to Decommission**

The Estimated Cost of Decommissioning the Project is \$28,868 in 2017 dollars. A breakout of the cost elements is incorporated into this Plan as Appendix A with a majority of the material being recycled so the net cost is much lower. The Estimated Cost of



Decommissioning was prepared by Depot Solar Center LLC, which is knowledgeable and experienced with solar projects and cost estimating procedures.

## Appendix – A

Depot Solar Center  
15.0 MWac Capacity  
Facility Decommissioning

### Decommissioning Costs

Category	Labor	Equipment	Total
1. Earthwork/Recontouring	74,962	63,787	\$138,749
2. Revegetation/Stabilization	103,749	199,894	\$303,643
3. Detoxification/Water Treatment/Disposal of Wastes	14,493	10,896	\$25,389
4. Structure/Equipment and Facility Removal	908,723	638,988	\$1,547,711
5. Monitoring	49,140	0	\$49,140
6. Construction Management and Support	269,419	72,535	\$341,954
Direct Decommissioning Construction Costs	1,420,485	986,101	\$2,406,586
7. Additional Costs	141,593	516,277	\$657,870
Total Decommissioning Costs	1,562,078	1,502,378	\$3,064,456

### Recycled Materials Credit

8. Fence	0	(155,937)	\$(155,937)
9. AC and DC electric wiring	0	(1,220,375)	\$(1,220,375)
10. Switchgear	0	(325,000)	\$(325,000)
11. Steel Module Support	0	(677,986)	\$(677,986)
12. Steel posts	0	(656,291)	\$(656,291)
Total Recycled Materials Credit	0	(3,035,589)	\$(3,035,589)

<b>NET FACILITY COST/(CREDIT)</b>	<b>\$1,562,078</b>	<b>\$(1,533,211)</b>	<b>\$28,868</b>
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## Tatum, R. Carter

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**From:** Tatum, R. Carter  
**Sent:** Friday, February 12, 2016 11:05 AM  
**To:** 'Kyle West'  
**Subject:** PEC meeting summary

Kyle,

The Project Evaluation Committee met on Thursday, February 11, 2016 at 10:45 AM to discuss the plan for the Depot (Road) Solar Center. The following is a synopsis of the meeting; it does not necessarily reflect all comments or indicate all requirements of the permitting process.

Present:

Kyle West	Coronal Project Development
Susan Sturm	Coronal Project Engineer
Clifton Tweedy	Deputy County Administrator
Gary McIver	Building Official
Brian Stokes	Environmental Manager
Carter Tatum	Zoning Administrator
Randall Johnson	Fire Marshal
Sandy Shackelford	Planner
Sarah Johnson	Economic Development Program Manager
Kimberly McMahan	Virginia Dept. of Transportation (VDOT)
Tim Wagner	Campbell County Utilities & Services Authority (CCUSA)
Tom Woodford	American Electric Power (AEP)

### Overview

The project is a utility-scale ground mounted solar array interconnected to Appalachian Power. A mid-to-late 2017 start is anticipated. Once completed, the project will be unmanned.

### AEP

The proposed site is less than 100 meters from the Rustburg substation. A private utility easement has already been secured to get there.

### VDOT

The road curves at the entrance and there is some concern about site distances once the panels and fences are installed. Panels are up to 12 feet tall and the fence is 6 feet tall with 1 foot of barbed wire at the top. If possible, please draw a site distance line and keep that area clear.

Construction will take three to six months, during which time there will be some traffic in and out, including about one tractor trailer each day. After completion, only one utility truck is expected per month, which will be a small truck and trailer. Traffic to the site will determine if a low-volume entrance is sufficient. The entrance will need to account for the roadside drainage ditch.

Properties along Depot Road extend to the centerline – a prescriptive right-of-way. However, VDOT still maintains the sides of the road.



## E&S

Campbell County is the VSMP authority on behalf of DEQ. Coronal has received permits from Essex and Isle of Wight counties in Virginia, but construction has yet to start. North Carolina, however, have many similar facilities with which to compare. Virginia DEQ has implemented regulation on Solar Permit By Rule.

Some grading will be required, smoothing rather than flattening. Slopes of less than 15 percent are ideal for fixed-tilt panels such as these. Once an EPC firm is retained to perform the topographic survey, an accurate estimate of land disturbance will be submitted. The county uses acreage of disturbed ground cover and impervious surfaces to determine permitting, the latter will include roads and the inverter pads. No buildings are proposed.

Technical data will be required for development, not for Board approval of the Special Use permit. If ready, a technical review can be performed any time before grading is required.

Please provide contacts in Virginia and North Carolina for reference.

## Planning

The property is being leased for a 25 year term with two 5-year renewal options. The lease has been fully negotiated with no intention of purchasing the land.

The Special Use permit meetings are as follows:

- Planning Commission : March 28, 2016 at 7 PM
- Board of Supervisors: May 3, 2016 at 5:30 PM

## Zoning

The fact that the road uses prescriptive right-of-way means the 100-foot front setback starts at the road centerline. The solar panels must meet this setback, but fencing is exempt. These allowances may conflict with VDOTs site distances suggestions. There are no other zoning requirements at this time other than Special Use permit approval by the Board of Supervisors.

## Building Inspections

If the utility owns and installs the equipment, the project is fully exempt. If not, all permits are required, and fully engineered plans will be needed for review and should include structural loads for the devices and electrical designs.

## Fire Marshal

After construction, will vehicles be able to access the site, maneuver between rows, between panels? There will be internal roads, and 6-10 feet between panels. Access will be permitted by the owner, the utility, maintenance staff, and emergency personnel. If training is required for emergency personnel, it will be considered. The metal and glass structures will not catch fire, though the larger inverts could be an issue, and brush nearby or inside the fence could catch fire. There will be a disconnect switch near the entrance, to be finalized in the final designs.

Please provide contacts in North Carolina for further questions regarding access and training.

## Economic Development

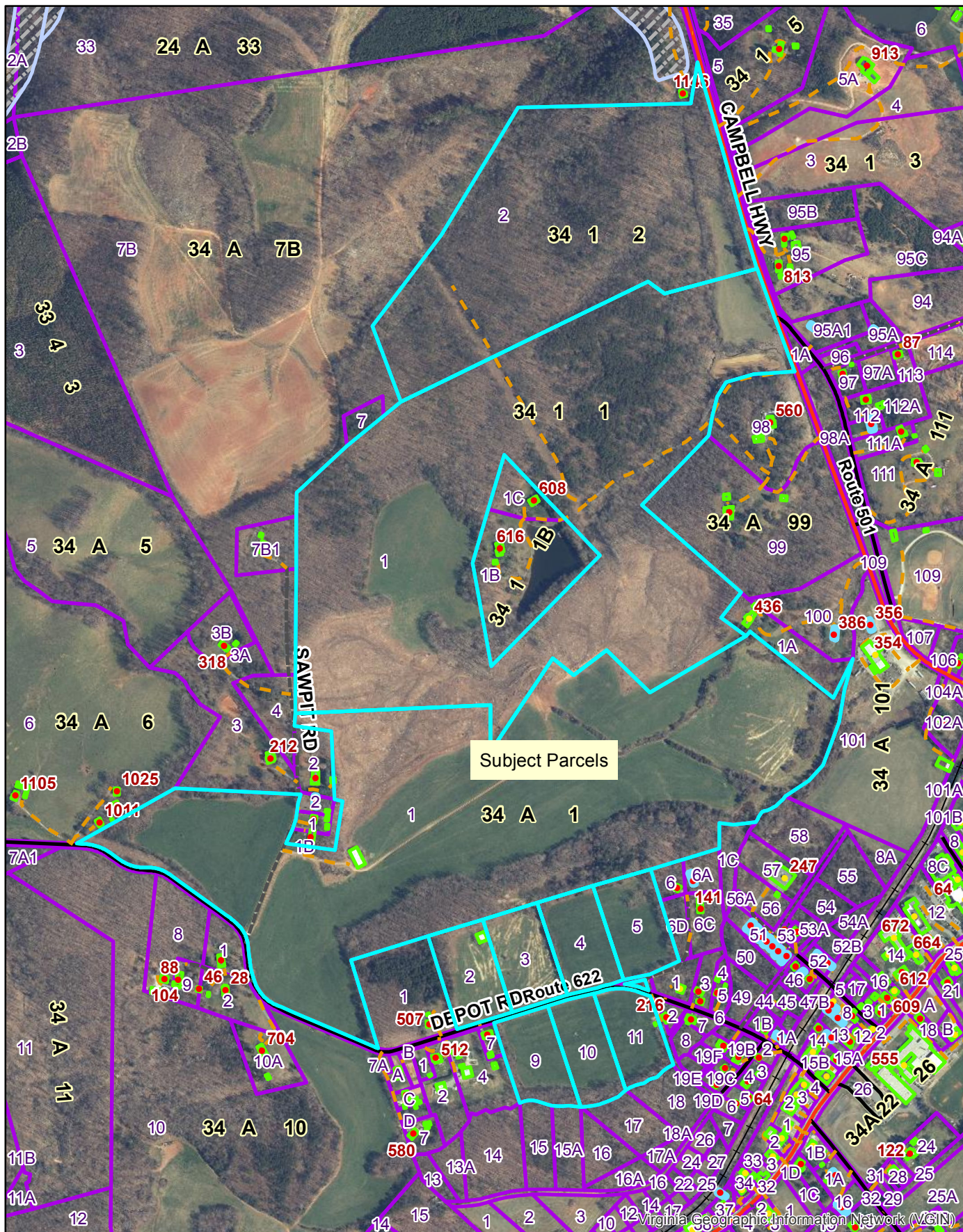
No additional phases to the project are intended.

Sincerely yours,

Carter Tatum  
Zoning Administrator  
434 332 9615



# SUP Request #PL-18-103 - Arthur



Aerial Imagery © Commonwealth of Virginia

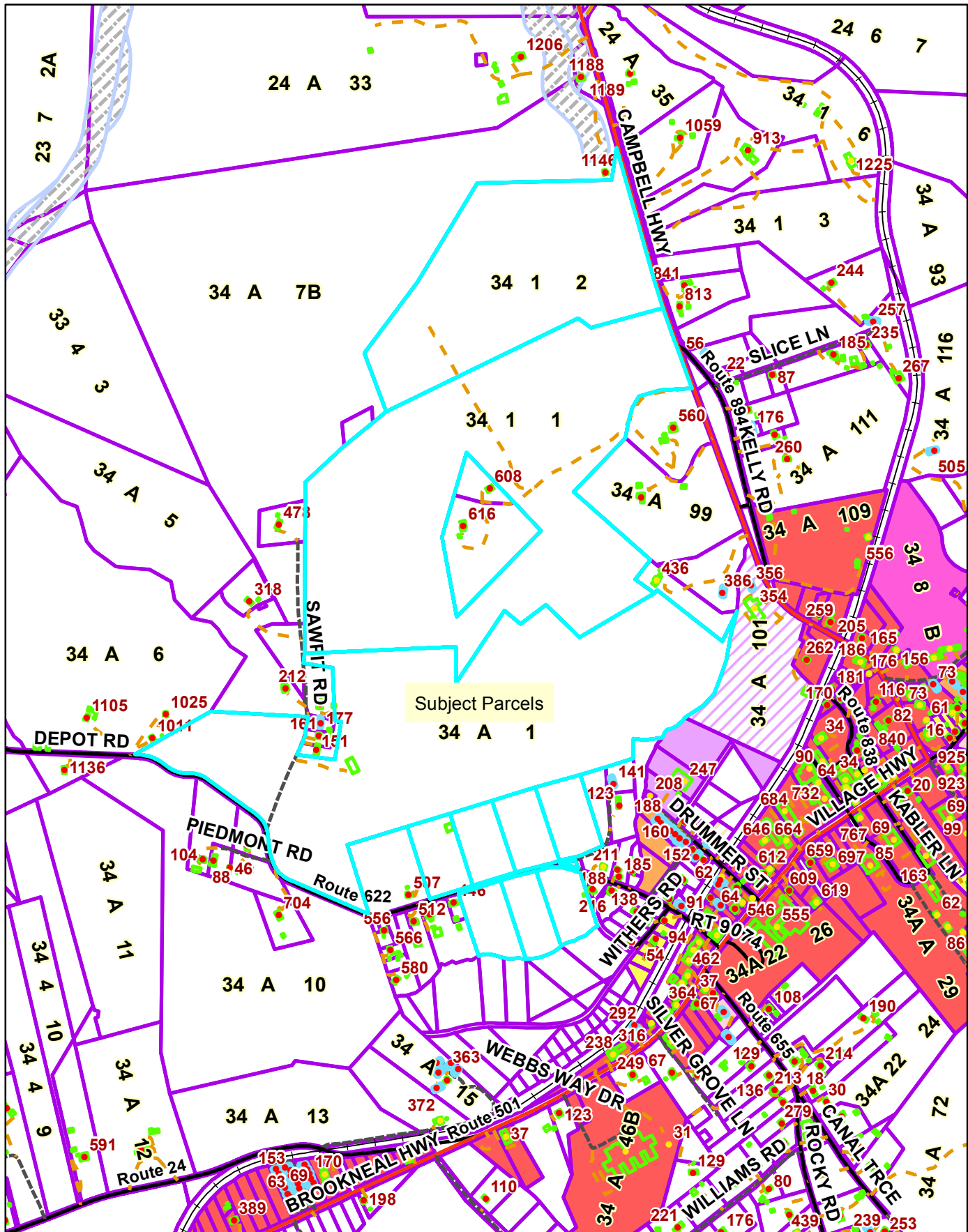
1 inch = 827 feet





# SUP Request #PL-18-103 - Arthur

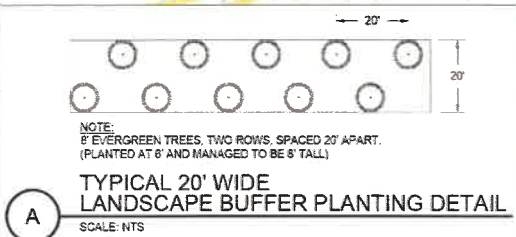
## Zoning



0 460 920 1,840 2,760 3,680 Feet







The diagram illustrates a landscape buffer layout with various setbacks and features. The components are as follows:

- LEGEND**
- SOLAR TRACKER**: Represented by a small rectangle.
- EQUIPMENT PAD**: Represented by a dashed line.
- PROPERTY LINE**: Represented by a solid line.
- 6' CHAIN LINK FENCE WITH 1' OF BARBED WIRE**: Represented by a line with arrows pointing outwards.
- SETBACK**: Represented by a solid line.
- WETLAND**: Represented by a green shaded area.
- WETLAND SETBACK**: Represented by a green dashed line.
- STREAM**: Represented by a blue dashed line.
- STREAM SETBACK**: Represented by a blue dashed line.
- LANDSCAPE BUFFER**: Represented by a green dashed line.

- NOTES
1. EQUIPMENT IS REPRESENTATIVE ONLY AND MAY CHANGE BASED ON AVAILABILITY AND MARKET CONDITIONS.
  2. THIS DRAWING IS A PRELIMINARY DESIGN - NOT FOR CONSTRUCTION.
  3. ALL DIMENSIONS SPECIFIED HERE ARE FOR REFERENCE ONLY; DO NOT SCALE THIS DRAWING.
  4. SETBACK DISTANCES.
    - PROPERTY LINE - 50'
    - OVERHEAD LINE - 150' WIDE EASEMENT
    - INTERSTATE HWY - 100' FROM CENTERLINE
    - SECONDARY ROAD - 50' FROM CENTERLINE
    - WETLANDS - 25'
    - STREAMS - 50' FROM TOP OF BANK
    - FLOODPLAINS - N/A
  5. 60' TREE HEIGHT USED FOR SHADING BUFFER PURPOSES
  6. PRELIMINARY CIVIL GRADING ASSESSMENT IS BASED ON USGS NED 13 ARC-SECOND CONTOURS FOR ROANOKE VA, VIRGINIA 20160315 1X1 DEGREE FILEB02 10.1, UPDATED 2017-01-24
  7. EXISTING BOUNDARY SURVEY WAS PERFORMED BY TIMMONS GROUP AND CERTIFIED ON 11/26/17. CONTRACTOR SHALL REVIEW THE PLANS AND CONDUCT FIELD INVESTIGATIONS AS REQUIRED TO VERIFY EXISTING CONDITIONS AT THE PROJECT SITE.
- KEYED NOTES
- ① POI DESCRIPTION: THIS PROJECT WILL BE INTERCONNECT AT TWO POIS NEXT TO THE SUBSTATION. 10 MWAC WILL INTERCONNECT TO THE WILLOW LAKE CIRCUIT AND 5 MWAC WILL INTERCONNECT TO THE RUSTBURG CIRCUIT. THE GEN TIE LINE WILL TRAVEL PARALLEL TO THE EXISTING TRANSMISSION ROW AND WE WILL INTERCONNECT ON APCO PROPERTY.

**PROPERTY KEY**

- \*1. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-3 / WB.110-PG.400
- \*2. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-3 / WR.110-PG.400
- \*3. KENNETH I & BETTY W ELLIOTT / TMM 34-1-18 / DB.050637-PG.630
- \*4. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-2 / WB.110-PG.400
- \*5. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-3 / WR.110-PG.400
- \*6. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-4 / WB.110-PG.400
- \*7. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-5 / WB.110-PG.400
- \*8. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-6 / WB.110-PG.400
- \*9. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-10 / WB.110-PG.400
- \*10. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-11 / WB.110-PG.400
- \*11. FRANCES T MERRIAM REVOCABLE TRUST / TMM 34-A-55 / DOCR 140003352
- \*12. BENNIES REYNOLDS, INC. / TMM 34-A-3/C / DOCR 140005138
- \*13. TONYA WOODY / TMM 34-1-6A / DOCR 160000248C/7699
- \*14. DANNY C & JAVICE C MARSHALL / TMM 34-1-5 / DB.050832
- \*15. TONYA WOODY / TMM 34-1-6D / DOCR W160000263
- \*16. CALVIN L & VIOLA L FOLEY / TMM 34A-5 / DB.448-PG.890
- \*17. PHYLLIS M WILLIAMS, ETAL / TMM 34-A-5-2 / DOCR 5030020592
- \*18. PHYLLIS M WILLIAMS, ETAL / TMM 34-A-5-6 / DOCR 5030009392
- \*19. JOHN F FLEMING MERRIAM, III / TMM 34-1-16 / DOCR 5060009639
- \*20. JOHN FLEMING MERRIAM, III / TMM 34-1-17 / DOCR 5060006639
- \*21. JOHN FLEMING MERRIAM, III / TMM 34-1-16 / DOCR 5060006639
- \*22. FREDA H YEATTS, TRUSTEES / TMM 34-A-15A / DOCR 140003096
- \*23. MARY E. FLOWERS / TMM 34A-1-15 / DB.198-PG.379
- \*24. JOHN FLEMING MERRIAM, III / TMM 34-1-14 / DOCR 5060009910
- \*25. ELIZABETH A M MULLINS / TMM 34-A-3 / DOCR 5060003765
- \*26. WILLIAM J & PATSY C COGGINS / TMM 34-1-37 / DB.714-PG.7983
- \*27. JAMES E. JR. & MARIAN W MCDONALD / TMM 34-1-18 DB.757-PG.400
- \*28. CHARLES W & LINDA F ELLIOTT / TMM 34-A-6 / DB.5610-PG.540
- \*29. STEPHEN MERRIAM / TMM 34-A-3 / DOCR 1300005109
- \*30. WILLIAM T & CARLA O BLANCHARD / TMM 34-A-16 / DB.5956-PG.758
- \*31. DORIS C WITF ESTATE / TMM 34-A-2 / DB.118-PG.757
- \*32. CARL F & KAY W OWENS / TMM 34-2-2 DB.468-PG.87
- \*33. MICHAEL P & MISTY D TAYLOR / TMM 34-A-2 / DOCR 140001826
- \*34. STEPHEN MERRIAM / TMM 34-A-4 / DOCR 1300005159
- \*35. EUGENE G & BETTY M TWEDDY / TMM 34-A-76 / DB.583 PG.632
- \*36. DAVID E. KRAVETZ / TMM 34-A-781 / DOCR 170003062
- \*37. CHARLES W ELLIOTT / TMM 34-A-3 / DB.118-PG.757
- \*38. CHARLES B III & WILLIAM C ARTHUR / TMM 34-1-2 / WB.110-PG.400
- \*39. SUSAN J STAPLES / TMM 34-A-96 / DOCR 050006707
- \*40. DAVID A HAWKINS / TMM 34-A-99 / DB.553-PG.311
- \*41. FRANCES T MERRIAM REV. TRUST / TMM 34-A-1 / DOCR 140003352
- \*42. FRANCES T MERRIAM REV. TRUST / TMM 34-A-101 / DOCR 140003352
- \*43. MICHAEL F & LONI E ANDERSON / TMM 34-A-1/C / DB.5760006533 / B6.8394-PG.2843

**\*DENOTES SUBJECT PROPERTY**



**CORONAL<sup>®</sup>**  
**ENERGY**



**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

[illegible]

DEPOT  
SOLAR CENTER, LLC  
SAWPIE ROAD,  
RUSTBURG VA 24688  
ARRAY LAYOUT

WJ111



Special Use Permit Request #PL-18-103 - Arthur						
ACCOUNT	LAST NAME	FIRST NAME	ADDRESS	CITY	STATE	ZIP CODE
34 A 99	HAWKINS	A DAVID	PO BOX 38	RUSTBURG	VA	24588-0000
34-A-1A, 34-A-100, 34-A-101, & 34A-8-58	FRANCES T MERRYMAN REVOCABLE TRUST		PO BOX 495	RUSTBURG	VA	24588-0000
34A 8 57	APPALACHIAN POWER COMPANY		PO BOX 16428	COLUMBUS	OH	43216-0428
34A-1-16, 34A-1-17, & 34A-1-18	MERRYMAN III	JOHN FLEMING	PO BOX 142	RUSTBURG	VA	24588-0000
34A 1 1	MCDANIEL	JAMES E JR & MARIAN W	2616 HYDRAULIC RD	CHARLOTTESVILLE	VA	22901-0000
34 2 1	WITT (LIFE ESTATE)	DORIS C	PO BOX 52	RUSTBURG	VA	24588-0000
34A 1 15A	YEATTS TRS	FREDA H	PO BOX 3413	LYNCHBURG	VA	24503
34 3 2	ANDERSON	MICHAEL R & SHALISSE J	28 PIEDMONT RD	RUSTBURG	VA	24588
34 A 8	HOLT	ALAN MARK	88 PIEDMONT RD	RUSTBURG	VA	24588
34A-2-A & 34A-3-4	MULLINS	ELIZABETH ANN MERRYMAN	PO BOX 728	RUSTBURG	VA	24588-0000
34A 4 19E	ROSSER	JAMES ALLEN SR & THELMA	138 DEPOT RD	RUSTBURG	VA	24588-0000
34A-5-2 & 34A-5-8	WILLIAMS ETALS	PHYLLIS M E	1133 ARDMORE DR	LYNCHBURG	VA	24501
34 3 1	REYNOLDS	LEFTWICH R & MARTHA S	41 PIEDMONT RD	RUSTBURG	VA	24588-0000
34 A 7	ELLIOTT	CHARLIE W	1201 ELLIOTT RD	GLADYS	VA	24554-0000
34 A 98A	OVERBEY FAMILY PARTNERSHIP LLLP		PO BOX 38	RUSTBURG	VA	24588-0000
34 1 1A	OVERBEY FAMILY PARTNERSHIP LLC		PO BOX 38	RUSTBURG	VA	24588-0000
34A 1 7A	NOWLIN CEMETERY					00000-0000
34 1 1C	ANDERSON	MICHAEL T & LORI E	PO BOX 863	RUSTBURG	VA	24588-0000
34 1 1B	ELLIOTT	KENNETH L & BETTY W	PO BOX 584	RUSTBURG	VA	24588-0000
34A 1 14	MERRYMAN	JOHN F III & MARY D	PO BOX 142	RUSTBURG	VA	24588
34A 1 15	FLOWERS	MARY E	807 FRANKLIN ST	LYNCHBURG	VA	24504
34 A 98	STAPLES	SUSAN J	PO BOX 218	RUSTBURG	VA	24588-0000
34 A 1C	BENNIES RENTALS INC		6080 CAMPBELL HWY	LYNCHBURG	VA	24501
34A-1-6A & 34A-1-6D	WOODY	TONYA	24 OAKDALE CIR	LYNCHBURG	VA	24502
34A 1 6C	WARREN	RUSSELL E & JANE ELLEN	PO BOX 648	RUSTBURG	VA	24588
34A 5 1	FORE	CALVIN LEO & VIOLA L	683 VOLUNTEER RD	GLADYS	VA	24554-0000
34A 1 6	MARSHALL	DANNY C & JANICE C	394 BROOKNEAL HWY	RUSTBURG	VA	24588-0000
34A 3 7	GOGGINS	WILLIAM L & PATSY C	446 DEPOT RD	RUSTBURG	VA	24588-0000
34 A 10	ROSSER & STEPHEN L THOMPSON JR & ETALS	TRACEY T	1350 DEPOT RD	RUSTBURG	VA	24588
34 A 7B	TWEEDY	EUGENE C & BETTY M	PO BOX 15051	LYNCHBURG	VA	24502
34-A-3 & 34-A-4	MERRYMAN	STEPHEN	PO BOX 142	RUSTBURG	VA	24588-0000
34 A 6	ELLIOTT	CHARLIE W & LINDA F	1201 ELLIOTT RD	GLADYS	VA	24554-0000
34 A 7B1	KRAVETZ	DAVID E	478 SAWPIT RD	RUSTBURG	VA	24588-0000
34 1 5A	CLARK	EARNEST E & TERRY B	PO BOX 542	RUSTBURG	VA	24588
34 1 5	MCHANAY	DOUGLAS K & MELANIE B	1059 CAMPBELL HWY	RUSTBURG	VA	24588-0000
34-1-3 & 34-1-4	MMDLK LLC		PO BOX 542	RUSTBURG	VA	24588
34 2 2	OWENS	CARL F & KAYE W	177 SAWPIT RD	RUSTBURG	VA	24588-0000
34 A 1B	BLANCHARD	WILLIAM T & CARLA O	151 SAWPIT RD	RUSTBURG	VA	24588-0000
34 A 2	TAYLOR	MICHAEL P & MISTY D	205 SAWPIT RD	RUSTBURG	VA	24588-0000
34 A 1 & OTHERS	ARTHUR	CHARLES B III & WILLIAM C	205 MOUNTAIN LAUREL DR	RUSTBURG	VA	24588-0000
34 A 95A1	WEHRLY	TERRY W & ELIZABETH D	56 KELLY RD	RUSTBURG	VA	24588-0000
34 A 95C	HORTON	CORDNEY LEE	127 SAGE DR	LYNCHBURG	VA	24501
34 A 95B	WOMACK	ALVIN A	1124 MAIN ST	LYNCHBURG	VA	24501
34 A 95	NASH	TIMOTHY WAYNE	813 CAMPBELL HWY	RUSTBURG	VA	24588-0000