MONTGOMERY
COUNTY, VIRGINIA

Special Use Permit Application Form

Montgomery County, Virginia
755 Roanoke St. Suite 2A, Christiansburg, VA 24073
540-394-2148 | mcplan@montgomerycountyva.gov

Applicant Information: (PLEASE PRINT – if additional owners, please attach additional sheets)

Owner of Record (attach separate page for add'l owners):	Address:
Fotherwagy LLC	2330 Camp St. New Orleans, La 70130
Telephone: 304-813-3226	Email: dabneyjacob@gmail.com

Applicant Name: Owner Contract Purchaser/Lessee	Address:
CF VA Solar 105 LLC	1750 15th St, Ste 400, Denver, CO 80202
Telephone: 918-346-9542	Email: bbecker@pivotenergy.net

Representative Name and Company:	Address:
Buzz Becker - Pivot Energy	1007 Forest Hills Ave, Unit A, Charlottesville, VA 22903
Telephone: 918-346-9542	Email: bbecker@pivotenergy.net

Property Description:

Location or Address: *(Describe in relation to nearest intersection)* Just south of 4580 Eastern Montgomery Lane, east of Roanoke Rd		
Parcel ID Number(s): 023523	Acreage: 53	Existing Zoning: A1 - Agricultural
Comprehensive Plan Designation: Resource Stewardship	Existing Use: Cattle grazing	

Description of Request: (Please provide additional information on attached sheet if necessary)

Proposed Use(s) including acreage:
5MW ground-mounted solar array across approximately 35 acres.

I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.

If signing on behalf of a Corporation, Partnership, or LLC, please specify your title with the entity and provide documentation clarifying your authority to sign on behalf of the entity.

Sarah Dabney Jacob Manager 8/1/22
Owner 1 Signature Date

Owner 2 Signature *(for add'l owners please attach separate sheet)* Date

Applicant Signature 03AUG22
Date

Representative/Agent Signature 03 AUG 22
Date

Pivot Energy

Special Use Permit Application for: CF VA Solar 105 LLC

Pivot Energy

1750 15th St., Ste. 400
Denver, CO 80202

Buzz Becker - (918) 346-9542 - bbecker@pivotenergy.net

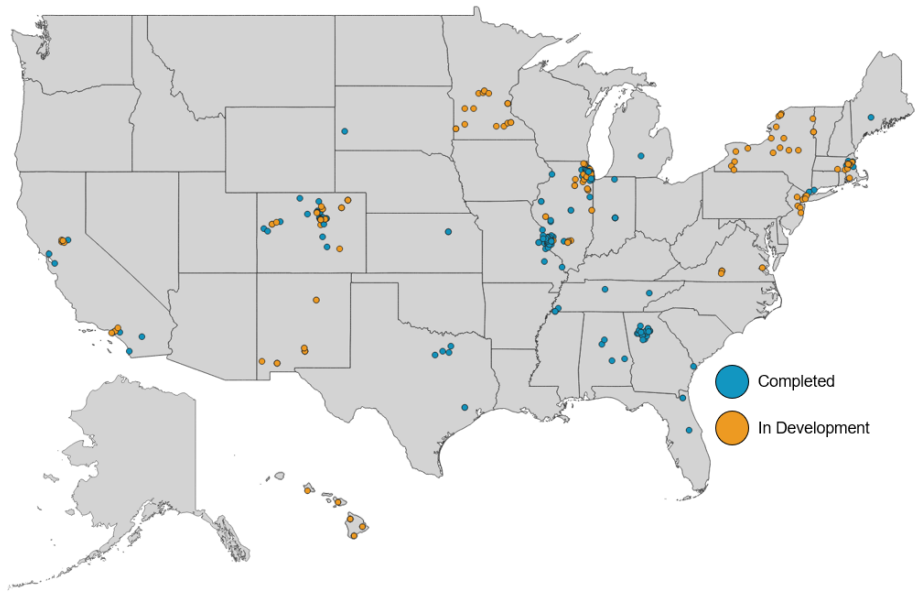
Executive Summary

Pivot Energy is pleased to apply for a Special Use Permit (SUP) from Montgomery County for CF VA Solar 105, LLC (aka: Kumis Solar) (the Project). This Project represents a small, solar photovoltaic (PV) facility of five (5) megawatts in capacity as measured in alternating-current (AC). The proposed Project would be located at Parcel ID 023523, east of Roanoke Road and approximately 3 miles south of the Elliston Fire Department. The Project will be sited on approximately 30 acres (the Site) of the approximately 53-acre host property (the Property) located in the Agricultural (A1) zoning district. The Project has been designed in full compliance with Montgomery County code.

This project will positively impact the local community by employing local labor, decarbonizing the local grid, and providing increased resources to the county over the life of the project. Pivot's lead developer on this project, Buzz Becker, is based in Virginia and has previous experience permitting similar solar projects in Virginia. With a strong development and customer relationship background in small utility, commercial, and community solar projects, Pivot continues to expand its offerings throughout the solar industry by working with low-income communities, residential renters and homeowners, agricultural customers, local businesses, & local government organizations.

Prior Solar Development Success:

Recently Completed and Ongoing Projects



Development Experience, Including Solar Gardens

Background on Pivot Energy

Pivot Energy is a turnkey solar developer of commercial and industrial solar projects founded in 2009 and headquartered in Denver, Colorado. Pivot has become a national leader in commercial and industrial solar projects, with hundreds of successful projects completed for many small, mid-sized and Fortune 500 companies, as well as for nonprofit, government, and military organizations.

Pivot Energy has built or developed the most community solar projects of any developer in Colorado and has expanded to build projects nationwide over the last several years. Our development team works in conjunction with our EPC team to plan a project for success from the beginning and execute in a timely manner. Pivot will provide turnkey development of the community solar garden, from initial site planning and engineering to system design, construction, commissioning, and customer subscriptions.

Pivot Energy is a certified B Corps, using a triple bottom line approach to measure our progress on more than just a financial basis. Our goal is to achieve balance between three, sometimes opposing, ends of People, Planet, and Profit. B Corps, or Benefit Corporations, are redefining success in business to include benefits to workers, society, and the environment. We aim to balance these measures in all aspects of our projects to bring widespread benefit to multiple areas of the community.

Experience with Developing and Operating Similar Solar Facilities

Pivot Energy has invested heavily in both the Colorado community solar market as well as community and commercial solar nationally. Our company also has community solar projects either under construction or in development in states including Minnesota, Illinois, New York, New Mexico, Virginia, and more totaling well over 150MW.

In Colorado Pivot has become the largest community solar developer having built or in process of developing more than 70 MW of community solar. Pivot Energy is also one of the only developers to never abandon a community solar project with a 100% success rate post-bid. As noted in the project examples, our community solar projects range in size and type from small urban rooftops to medium and large-scale ground mounts. Our team's experience is deeply rooted in Colorado development having built many of the early projects at previous companies and then coming together as a team of industry experts to accelerate community solar development, construction, and customer adoption throughout the state and country.

Pivot Energy's SunCentral team has also become the largest and most all-encompassing subscription manager in Colorado with thousands of residential customers and serving more than 16MW of low-income customer capacity throughout Colorado. We are proud that our SunCentral management platform is so widely used by the market – especially in Colorado. Our team regularly communicates with MPEI to not only manage customers within the market but also look for ways to improve how utilities and developers can communicate and operate to continuously provide better experiences to the end customer and bring projects to successful completion.

Pivot Energy Acquisition by ECP

As of June 1, 2021 Pivot Energy is wholly owned by Energy Capital Partners (ECP)[1]. Founded in 2005, ECP is a leading investor across energy transition, electrification and decarbonization infrastructure assets, including power generation, renewables and storage solutions, environmental infrastructure and efficiency & reliability assets facilitating the energy transition. The ECP team, comprised of 53 people with 500 years of collective industry experience, deep expertise and extensive relationships, has consummated more than 60 transactions over the last 10 years, representing more than $45 billion of enterprise value.

More information on the acquisition available at: https://www.prnewswire.com/news-releases/ecp-announces-acquisition-of-pivot-energy-301303505.html

ECP has extensive experience in energy infrastructure with portfolio companies including Sunnova and Calpine. The investment in Pivot Energy by ECP allows for Pivot to not only develop solar assets and manage customers through our SunCentral platform but to maintain ownership of the assets through their full life. Additionally, Pivot Energy is a part of ECP's continued commitment to Environmental, Social, and Governance (ESG) goals and their expansion into renewable energy. Pivot Energy is ECP's first certified B Corporation and, as noted in their 2021 ESG Report highlights ECP's "ability to source attractive investments that have positive benefits from both a social justice and environmental standpoint."[2]

More information on ECP's ESG goals available at:
https://www.ecpgp.com/system/uploads/fae/file/asset/136/ECP_ESG_Report_2021_Web.pdf

In addition to the funding from ECP, Pivot Energy is nearing closing with both our tax equity partner and back leverage partner for our 2023 project portfolio that this project would be placed into. Pivot Energy is in final negotiations with a single tax equity partner that we have chosen as well as a single back leverage partner which are allowing us to get industry leading terms and cost of capital to make these projects very financially efficient.

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[1] PR Newswire – ECP Announces Acquisition of Pivot Energy: https://www.prnewswire.com/news-releases/ecp-announces-acquisition-of-pivot-energy-301303505.html

[2] Energy Capital Partners (ECP) – ESG Report: https://www.ecpgp.com/system/uploads/fae/file/asset/136/ECP_ESG_Report_2021_Web.pdf

Selected Customer List

Our customer list includes small, midsized, and Fortune 500 companies, as well as utilities, nonprofits, governments, and military institutions.

Project Design

Pivot Energy seeks to develop Kumis Solar with a collective nameplate capacity up to 5MWac. The clean energy generated by the solar array will be delivered to Appalachian Power's (APCo) grid (the Grid) at 12.47kV distribution line along Roanoke Road. The Project is designed to be a community solar project that would offer a discount to local APCo customers on their utility bill once operational.

Kumis Solar will be comprised of approximately 10,560 solar PV panels from Tier 1 manufacturers. Standard additional equipment includes single axis tracker components, DC to AC inverters, medium-voltage transformers and control cabinets, project switchgear, meters, and the attachment facilities to the current local grid.

These panels will be mounted to a single-axis tracking (SAT) system designed to maximize the panel production by following the rising and setting of the sun. This SAT system includes linked horizontal steel support beams known as torque tubes, with a centrally located drive train system. The rows will be 25 feet apart (center-to-center) and the square footage of the panels will account for approximately 24% of the total Project acreage. Kumis Solar's racking system will be affixed to pile-driven metal beams at a depth of approximately 10 feet. At full tilt, the maximum height of any panel will be under fifteen feet (15').

The solar panels in each row will be wired together into a circuit. There will be a DC to AC string inverter for approximately every 3 rows, typically mounted on a piling adjacent to the tracker structure. Once the inverter converts the panels DC power to AC, this power will be transmitted from the string inverters via three-phase direct-buried cables (at a depth of approximately 4.5 feet) and aggregated at the AC collection switch gear before moving to the medium-voltage transformer. This transformer will be mounted on a concrete slab alongside project switchgear and control cabinet. After the transformer steps up the electric power voltage to match the existing Grid, the power is transmitted to the Project's protective recloser and metering equipment before connecting with APCo's powerlines.

An internal access drive made from all-weather aggregate base will provide access to the array. This Site access will be restricted by a perimeter security fence in compliance with Federal and State regulations. Manual swing gates will be built at the main entrance and other required entry points as determined by maintenance crews and/or safety personnel. National Electric Code Standards for safety and signage will be met or exceeded.

The project will be obscured from view with a 50ft deep vegetative buffer, as seen in the conceptual site plan and proposed conditions. The buffering mix includes 50% evergreen trees and 50% deciduous trees. The layout and density of the buffer will meet or exceed the standards as outlined in the Montgomery County landscaping ordinance. Kumis Solar will seek input from county staff and neighboring residents on species selection within our vegetative buffer. To best preserve the existing natural aesthetic, we will seek out native species that are present in the surrounding area and support the broader environment. To ensure adequate screening from the beginning of the Project, evergreen trees within the western and northern bufferyards will be no less than 8 feet (8') tall at the time of planting.

Environmental and Cultural Impact

Wetlands

According to the United States Fish and Wildlife Services (USFWS) National Wetlands Inventory, there are no existing wetlands on the Property. We have included this finding from USFWS in our application packet. As you will see in our Proposed Conditions, Pivot Energy will engage qualified environmental professionals to conduct a field delineation to confirm the USFWS finding before submitting for building permit. We propose that this delineation will be verified by the US Army Corps of Engineers prior to construction while the project is designed to ensure environmental compliance.

Wildlife Habitats

The applicant has utilized the U.S. Fish and Wildlife Services online reporting tool (IPaC) evaluate the potential for habitat occurrence for rare, threatened, and endangered species on the Property. This report is included in the application submission and indicates that no critical habitats have been found at the Property location. All local, state, and federal laws shall be followed if a rare, threatened, or endangered species is encountered during Project development or construction.

Cultural and Historical Resources

Kumis Solar has conducted a preliminary desktop analysis of cultural and historical resources on the property through the Virginia Department of Historic Resources' (DHR) Virginia Cultural Resource Information System (V-CRIS). No known historic resources were identified within the Property limits and the closest identified resource is located over 1,200ft away. A map of the VCRIS results is provided within the application submission.

Construction

Based on the current project schedule, construction is tentatively planned for late Summer 2023. We estimate construction to last approximately three months, depending on the weather. Submitted within the proposed conditions are limits on general construction hours from 7am-7pm Monday-Friday and further limits on pile-driving activities from 8am-6pm Monday-Friday. After construction is complete, the Project will work with APCo for testing and commissioning verification and is expected to begin commercial operations in Winter 2023.

Ground disturbance will be minimal during the construction process. Ingress and egress related to construction will be restricted to Roanoke Road. Kumis Solar has included a preliminary transportation plan as a part of its permit submission. Prior to land disturbance permit, the Applicant shall submit a Construction Traffic Mitigation Plan to VDOT and the Planning Director for approval. This measure is included in our submitted proposed conditions.

The final site plan will include an in-depth erosion and sediment control plan. Such measures will be implemented to prevent runoff from entering the surrounding environment and typically include straw bales, silt fencing, run-off channels, sediment basins, and hay coil logs.

After construction, natural vegetation will be established throughout the Site to ensure erosion and sediment control. This ground cover will include native pollinator seed mix with multi-season bloom composition as identified through the Virginia Department of Conservation and Recreation's Pollinator-Smart program and affirmed in our proposed conditions.

Operations and Maintenance

After construction is complete, we anticipate minimal site access requirements for Project maintenance activities. At a minimum, the Project will undergo two annual preventative maintenance checks, once in the spring (~April) and once in the fall (~August). While all products installed on site are of the highest quality per industry standard testing practices & classifications, occasional dispatch to site may be required to correct outages on an as needed basis. Corrective activities such as this may add two to four site access instances each year.

As the long-term owners & operators of the proposed Project, our team will also actively monitor site performance 24/7 and will address any issues in a timely manner; based on performance impact, our contracted O&M providers will respond within 24, 48, or 72 hours depending on the outage type. Average rainfall in Montgomery County is anticipated to be adequate for natural cleaning of the panels. Vegetative ground cover will be managed during the growing season in compliance with local requirements, including but not limited to land use permit specifications, water management plans, and site access agreements. The method of vegetation management will include pollinator-friendly vegetation plantings with one mechanical mow per season after plants have gone to seed.

Impacts and Mitigations

Water – No on-site source of potable water will be required during construction or operations for Kumis Solar. If any on-site water source is required during construction or operation, it will be supplied by the host Project and sourced offsite. No new well will be dug for this project.

Sound – The majority of sound associated with the proposed Project will occur during construction. This is expected to be the result of material deliveries to the Property and support beam installation for the array. Impacts from noise are mitigated from a selected site that requires minimal ground disturbance and restricted hours of construction operations as seen in our proposed conditions.

Once operational, Kumis Solar will be practically inaudible. At a distance of 3ft from the security fence, our inverters and racking equipment create a sound comparable to a home HVAC unit. These sound measurements fall to less than 30dB at only 50ft from the perimeter—equivalent to background noise in the county. Given the nearest abutting structure (Eastern Montgomery Elementary School) is approximately 700ft from the array, no sound impact is expected.

Glare – No glare hazard is expected during construction or operations. Our Tier I panels are treated with anti-glare coating and are designed to absorb as much sunlight as possible. The setbacks and

robust vegetative screening from neighbors will further obscure any visual impact of the proposed Project.

Odor – Our EPC team will store, collect, and dispose of any solid construction material waste to prevent any odors from the Site, mitigating any impact on neighboring properties. No detectable odors are produced from the solar array components during operations.

Dust – Possible dust occurrence during operations is most likely to result from delivery or construction trucks on the Site. This will be mitigated by spraying water on dry dirt and enforcing a 5 MPH speed limit within the construction area. Minimal vehicle or foot traffic during operations and vegetative groundcover will naturally mitigate against concerns for dust.

Security and Access – The perimeter fence around the array will be no taller than 8 feet in height and contain no barbed wire. This fence will be black or another neutral color with final design approval to be sought from the Planning Director. The gates within the fence will remain locked while access will be coordinated through our operations and maintenance personnel. Our Site will provide a “Knox Box” to provide 24/7 access for local emergency personnel. The Applicant will ensure suitable access from Roanoke Road is maintained for fire or other emergency vehicles.

Removal

At the end of the Project’s life, it will be decommissioned and removed from the Property. Formal notice of end of operations will be sent to Montgomery County via Certified Mail. The Project will then be completely removed from the Property and reasonably restored to previous condition within 365 days of receipt of notice. Kumis Solar has included a proposed condition of county approval of our decommissioning plan—to include posting of surety funds—prior to building permit issuance. We have included a preliminary decommissioning cost estimate in our submission.

Economic Development

Jobs

To the extent possible, Kumis Solar will source local materials and labor for the construction and maintenance of the project and have committed to hosting jobs fairs in Montgomery County as seen in our proposed conditions. We estimate that this project will create approximately 30 new construction positions and 1-2 operations positions. Operations jobs will be focused on facility upkeep with responsibilities such as vegetation management, equipment repair, and component maintenance. Typical cadence for site maintenance is every two to three months.

Increased County Revenue

Kumis Solar will increase the site acreage tax revenue to over 75x the current land use rate. This increase is a product of increased assessment of the host acreage and the proposed annual voluntary payment.

The property is currently under a Deferred Land Use assessment of $28,700 for the 53.343 acre parcel. The 30-acre portion of land from Parcel ID 023523 that hosts Kumis Solar could increase in assessment from $538.03/acre (Deferred Land Use Rate) to $15,000/acre (Solar Rate).

	Assessment Rate	**Assessed Value (Acres x Assessment Rate)**	**Real Property Tax Rate**	**Annual Real Property Tax (Assessed Value x Real Property Tax Rate)**	**30 Year Revenue**
Current (30 Acres)	$538.03 / acre	$16,140.90	$0.89 / $100 assessed value	**$143.65 / year**	**$4,310**
Project (30 Acres)	$15,000 / acre	$450,000	$0.89 / $100 assessed value	**$4,005.00 / year**	**$120,150**

Voluntary Payment

The Project offers a voluntary annual payment of $1,400 per MW for the life of the project to the County's Public Works department to support construction of public improvements such as transportation infrastructure or various public safety facilities. Over a 30-year period, revenue stream would bring provide an additional $210,000 to Montgomery County. This payment is included as a proposed condition in our permit application.

Regulatory Conformance

Virginia Code § 15.2-2232 requires that the Planning Commission makes a determination as to whether or not the general location, character, and extent of a proposed solar energy facility is in substantial accord with the locality's adopted comprehensive plan *Montgomery County, 2025.*

Location

The location of Kumis Solar is substantially in accord with the County's Comprehensive Plan. The Project is located in the Resource Stewardship Area. According to the Planning and Land Use Policies on page 46 of the 2025 Comprehensive Plan, "the preferred land uses for Resource Stewardship Areas include agriculture, forest uses, outdoor recreational uses, **other natural resource based uses…"** (PLU 1.2.1.a). This clearly shows that a natural resource use such as solar energy is a preferred land use within the Resource Stewardship Area.

The compatibility of well-screened solar, lack of threat to public welfare, and preservation of scenic and natural resources meet PLU 1.2.1.f. No sewer or water service required for the proposed development meets PLU 1.2.3.a. Robust vegetative screening that exceeds the county requirements will "preserve on-site natural, cultural, historic, scenic, open space, or environmental resources" (PLU 1.2.2.b).

Character and Extent

The character and extent of Kumis Solar is substantially in accord with the County's Comprehensive Plan. The Project will provide clean, locally sourced energy to nearby APCo customers while investing in county infrastructure improvements. Kumis Solar's proposed low intensity use effectively puts the land in a development conservation for decades and meets PLU 1.2.1.c.

Kumis Solar's commitment to job fairs within Montgomery County to hire locally for positions created by the development addresses ECD 2.1. The considerable uptick in country revenue derived from the development addresses ECD 4.3. The overarching ECD 1.0 to "activity promote economic development in the region, which takes a sustainable approach to the environmental, social, cultural, and economic integrity of the county and which contributes to the quality of life." Kumis Solar squarely meets this goal in providing infrastructure investment for sustainable, environmentally-friendly energy that helps Montgomery County meet its climate goals and deliver cost-savings to local APCo customers who wish to subscribe.

Planning Commission Determination Request

Kumis Solar has been designed to be in substantial accord with the Comprehensive Plan and confirm with all the requirements set forth in the County's Zoning Ordinance. The Applicant, CF VA Solar 105 LLC, requests that the Planning Commission makes this determination pursuant to Virginia Code § 15.2-2232 in one of two ways:

TO RECOMMEND APPROVAL AS IS (please say the following):

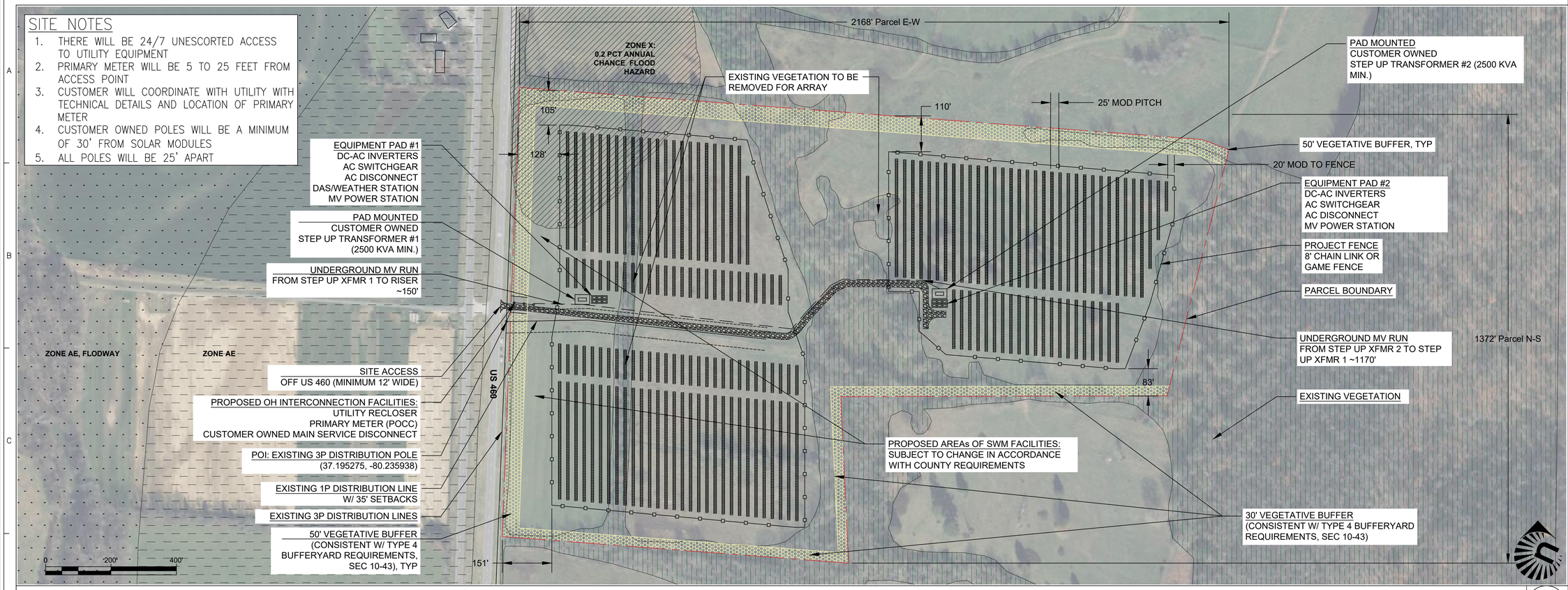
"I move that the Planning Commission adopt to forward the application for Kumis Solar to the Montgomery County Board of Supervisors with a favorable recommendation, as it complies with the requirements of the Zoning Ordinance and is substantially in accord with the Comprehensive Plan"

TO RECOMMEND APPROVAL WITH CHANGES (please say the following):

"I move that the Planning Commission adopt to forward the application for Kumis Solar with the following changes: _____ to the Montgomery County Board of Supervisors with a favorable recommendation, as it complies with the requirements of the Zoning Ordinance and is substantially in accord with the Comprehensive Plan"

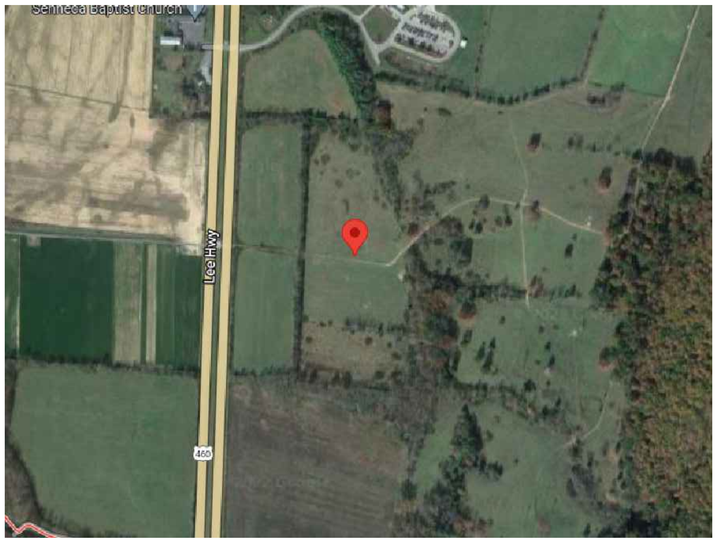
SITE NOTES

1. THERE WILL BE 24/7 UNESCORTED ACCESS TO UTILITY EQUIPMENT
2. PRIMARY METER WILL BE 5 TO 25 FEET FROM ACCESS POINT
3. CUSTOMER WILL COORDINATE WITH UTILITY WITH TECHNICAL DETAILS AND LOCATION OF PRIMARY METER
4. CUSTOMER OWNED POLES WILL BE A MINIMUM OF 30' FROM SOLAR MODULES
5. ALL POLES WILL BE 25' APART



SITE PLAN

1 / E.2



SATELLITE VIEW

2 / E.2

PARCEL MAP

3 / E.2

	OWNER	PARCEL ID	ZONING
1	FOTHERINGAY LLC	023523	A1
2	FOTHERINGAY LLC	013680	A1
3	YAGLE WILLIAM R	024109	M1
4	FOTHERINGAY LLC	013683	A1
5	FOTHERINGAY LLC	013681	A1
6	MONTGOMERY COUNTY	150048	A1
7	MILTON JULIA S	018591	A1
8	SENECA BAPTIST CHURCH TRS	070542	A1

SYSTEM SPECIFICATIONS

SOLAR MODULE
10560 – Q.PEAK DUO XL-G11.3/BFG 580W

INVERTER
20 – CPS SCH250KTL-DO-US-800

MOUNTING SYSTEM
7 – ATI DURATRACK SINGLE AXIS TRACKER

SYSTEM SIZE
6.125 MW DC
5.00 MW AC

PARCEL AREA
52.79 ACRES

FENCED AREA
30.03 ACRES

NOTES & SPECIFICATIONS

4 / E.2

NO.	DRWN	DATE	REVISION	CHKD	DATE	APPVD	DATE
0	BEP	8/4/22	PRELIM. DESIGN				

Pivot Energy
1750 15TH STREET, SUITE 200
DENVER, CO 80202
WWW.PIVOTENERGY.NET

KUMIS
37.195416, -80.235898
ELLISTON, VA, 24087

DATE: 8/4/22

PROJ. NO.: TBA

072-A 2
SITE PLAN

SOLAR ARRAY
WORK PLAN

DRAWING NUMBER: E.2

SHEET NUMBER:

REVISION 0

Pivot Energy

August 3, 2022

Montgomery County
Brea Hopkins, Director of Planning & GIS
755 Roanoke St, Ste. 2A
Christiansburg, VA 24073

Dear Ms. Hopkins,

Please let this letter serve as the proposed SUP conditions for Pivot Energy's SUP application for our proposed solar project at Parcel ID 023523.

1) *Master Plan.* This SUP shall be valid for the construction of a photovoltaic solar electrical generation facility (the "Facility") and electrical lines serving the Facility (all together, the "Project") on the property located immediately south of 4580 Eastern Montgomery Ln and further identified as Montgomery County Parcel ID 023523, (the "Property"). The Property shall be developed, and the Project constructed substantially in accordance with the master plan included in the SUP application submittal, (the "Master Plan").

2) *Vegetated Buffer.* Prior to final approval of any building permit, the Planning Director or designee shall review and approve a landscape plan for the Project. The landscape plan shall provide a 50-foot landscaped buffer (the "Perimeter Buffer") along the northern and western perimeter of the Project site and a 30-foot landscaped buffer along the eastern and southern perimeter of the Project site.

   The Perimeter Buffer shall be provided by one of the three treatment options below:

   (a) In areas of the Perimeter Buffer that are currently comprised of mature forest, as determined by the Planning Director or designee, the buffer shall be left undisturbed in its natural state.
   (b) In areas of the Perimeter Buffer that are not completely comprised of existing, mature forest, as determined by the Planning Director or designee, supplementation with evergreen shrubs and trees shall be required in accordance with Condition 2c.
   (c) In areas of the Perimeter Buffer where little or no vegetation exists, as determined by the Planning Director or designee, the buffer shall be landscaped with a 50% evergreen tree and 50% deciduous tree mix. Species selection will be made in consultation with County staff with developer recommendations to reflect the natural aesthetic of existing local varieties. Evergreen trees within the buffer will be no less than eight feet (8') tall at the time of planting.

3) *Lighting.* If any lighting of the Project is proposed, the Planning Director or designee shall review and approve a lighting plan prior to issuance of a building permit. Any exterior site or building lighting on the Property shall be shielded and directed downward. No glare, defined as 0.1 foot-candle or higher, shall extend outside the boundaries of the Property. Lights shall be operated by a motion detector or be able to be turned on as needed by the Facility operator and shall not be routinely illuminated at night. No light poles

shall exceed a height of 16 feet above finished grade unless otherwise approved in writing by the Planning Director prior to building permit issuance.

4) *Signage.* Unless otherwise required by the Planning Director or relevant utility regulations, no outdoor signage related to the Project shall be permitted on the Property.

5) *Fencing.* Any fence on the Property shall be black or other neutral color and shall not exceed a height of 8 feet above finished grade and no consist of barbed wire. Prior to issuance of a building permit, the Planning Director or designee shall review and approve a detail of any proposed fencing on the Property for consistency with this condition.

6) *Emergency Management Plan.* The Facility operator shall prepare and maintain an Emergency Management Plan (EMP) to address situations that may require response from Montgomery County public safety personnel, including, without limitation, fire safety and emergency response personnel. The EMP shall:

   (a) Be developed in conjunction with and approved by the Montgomery County Fire Chief and Montgomery County Police Chief or their designees prior to issuance of a building permit.
   (b) Provide a mutually agreed-upon schedule for the Facility operator to provide information sessions and training for Montgomery County public safety personnel relative to possible emergency response situations at the Facility.
   (c) Provide pertinent contact numbers for the Facility operator emergency personnel.
   (d) Provide that all emergency contact information will be posted on access gates.

7) *Construction Management and Mitigation Plan.* Prior to issuance of a building permit, The Facility operator shall provide a Construction Management and Mitigation Plan (CMMP) for review and approval of the Planning Director or designee. The CMMP shall include those items listed below:

   (a) Construction Management:
      i. Designated parking areas.
      ii. All pile driving activity on the Property shall be limited to the hours of 8 a.m. to 6 p.m., Monday through Friday.
      iii. Other construction activities, including clearing and grading of the Property, shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday.
      iv. Construction delivery traffic to the Property shall not be allowed during pick-up/drop-off times for surrounding schools.
      v. Appropriate methods for the storage, transportation, and disposal of any waste and/or hazardous materials.

   (b) Construction Mitigation:
      i. Dust mitigation, such as water trucks, mulch, or similar methods.
      ii. Smoke and burn mitigation, such as containments or similar methods.

8) *Construction Traffic Mitigation Plan*. A Construction Mitigation Plan (CTMP) shall be submitted to the Virginia Department of Transportation (VDOT) and the Planning Director, or designee, for review and approval prior to the issuance of a land disturbing permit for the Facility. The CTMP shall identify all existing conditions along Roanoke Road, provide a plan to address all necessary repairs required as a result of damage from construction traffic,

provide a timeline for completion of repairs, and provide a surety in a form acceptable to the County Attorney guaranteeing such repairs. All road repairs as identified by the approved CTMP shall be completed within 6 months of the Facility becoming operational.

9) *Off-Site Parking.* Prior to issuance of a land disturbing permit, an Off-Site Parking Plan (OPP) shall be submitted to the Planning Director, or designee, for review and approval. The off-site parking area shall be used by construction workers who shall be transported to the Property via a shuttle van and/or bus. The OPP shall conform to all Zoning Ordinance requirements and shall identify elements such as, but not limited to, the number of off-site parking spaces provided and the location of the off-site parking area. In order to reduce the amount of construction-related traffic along Roanoke Road, and to ensure that the construction workers are parking their vehicles at the off-site parking area, no more than 20 vehicles may be parked on the Property for the Project at any time expect for trucks and delivery vehicles. No on-street parking for the Project shall be allowed.

10) *Decommissioning and Restoration Plan and Agreement.* Prior to issuance of a building permit, a Decommissioning and Restoration Plan (DRP) shall be submitted to the Planning Director or designee for review and approval. The DRP shall outline the required steps for removal of above and below-ground Facility components, disposal and or/recycling of wastes and materials, soil stabilization, and the revegetation and restoration of native habitat of the Property. At the time of decommission of the Facility, the stormwater facilities on the Property must be evaluated for continued need and the final DRP must include the close-out or remediation of stormwater facilities. The DRP shall be enforceable by a written Decommissioning Agreement in accordance with and subject to the terms of Virginia Code § 15.2-2241.2(B). To ensure sufficient funds are available to the County to conduct the DRP, a surety in an amount sufficient for decommissioning the Facility and remediating the Property shall be posted with Montgomery County in a form acceptable to the County Attorney. The Decommissioning Agreement shall be executed prior to approval of a building permit for the Facility.

11) *Height Limitation.* The maximum height of all structures in the Facility, including the photovoltaic solar panel mounts, shall not exceed 15 feet above finished grade.

12) *Glare.* All photovoltaic solar panels on the Property shall be made of or be coated with anti-reflective materials to prevent glare.

13) *Public Improvements.* Pursuant to Code of Virginia § 15.2-2288.8(B), after commercial operation of the Facility, a payment of $1,400 per megawatt of alternating current (AC) generation capacity shall be made to the County on July 1 of each year to support construction of public improvements (including but not limited to transportation infrastructure, facilities for provision of public safety, etc.), the need for which is not generated solely by the Facility, but are reasonably related to it.

14) *Solar Panel Details.* As part of the Site Plan review, the applicant shall provide documentation that the selected panels are “Tier 1” modules as established by the most recent “PV Module Tier 1 List” issued by BloombergNEF or a similar third-party analysis widely accepted in the solar industry.

15) *Commencement.* The Facility shall be operational within 36 months from the date of adoption of this resolution authorizing the SUP, or the SUP shall automatically be void. The Facility operator shall submit a signed letter to the Planning Director prior to 36 months from the issuance of the SUP to confirm the operational status of the Facility.

16) *Native Pollinators.* Prior to issuance of a building permit, the Planning Director or designee shall review and approve a seed mix for site groundcover that includes native pollinators blooming in spring and/or summer as recommended by the Virginia Department of Conservation and Recreation.

17) *Job Fairs.* The applicant shall host at least two separate job fairs within Montgomery County to hire for jobs created for the construction and/or operations of the Facility. These job fairs will be planned, located, and scheduled in consultation with Montgomery County staff and/or members of the Montgomery County Board of Supervisors.

Sincerely,

Buzz Becker | Director, Project Development
bbecker@pivotenergy.net
918.346.9542

Pivot Energy

August 3, 2022

Montgomery County
Brea Hopkins, Director of Planning & GIS
755 Roanoke St, Ste. 2A
Christiansburg, VA 24073

Dear Ms. Hopkins,

Please let this letter serve as the Transportation Plan for Pivot Energy's SUP application for our proposed solar project at Parcel ID 023523. This Transportation Plan is a key measure to ensure traffic safety and route navigability for the proposed Facility. This plan outlines multiple strategies for efficient and safe road use during the Project's construction period.

A subsequent road use impact study will follow this plan to refine and document the measures to be implemented during construction within the planned haul routes. Such measures include school bus avoidance, delivery procedures, on-site and off-site parking and ridesharing programs, haul route pavement maintenance, temporary traffic control measures, and overall safety.

Pivot Energy and the contractor will work closely with Montgomery County and VDOT to ensure safe and efficient movement of local traffic throughout the anticipated 2-3 month construction period.

School Bus Avoidance

After confirming the Project's construction haul routes, Pivot Energy will identify all school bus stops that exist along the roads and connecting side streets in the vicinity of the project area. Pivot Energy will work to minimize interactions between construction traffic and school bus operations to the greatest extent possible. This work will be achieved through multiple methods:

- Wide-load deliveries will be restricted during student pick-up or drop-off times during the school year. Pivot Energy will ensure delivery drivers are aware of school bus times and stop locations.
- Employees will be encouraged to participate in ridesharing programs to reduce traffic to the site.
- Reduced speed limits during the school year near bus stop locations will be a suggested traffic calming measure to VDOT. Speed limits will be communicated via temporary signage along construction traffic routes and driver education where applicable.
- Possible "high risk" bus stops will be identified in collaboration with Montgomery County Schools. These locations will be considered for temporary relocation or enhanced safety measure such as signage indicating safe waiting areas and/or heavy truck traffic warnings.

Pavement Maintenance Along Haul Routes

Portions of the public roads identified in the transportation plan will be designated haul routes for deliveries during construction. The following procedures will be set in place for the evaluation and maintenance of haul route pavements before, during, and after construction:

- Before construction, representatives from Montgomery County, Pivot Energy, VDOT, and the contractor will coordinate to drive the designated haul routes to collect observations and video footage of current pavement conditions. The pre-construction pavement conditions will be documented for future reference.
- Upon construction conclusion, previously identified representatives will repeat their observation drives to collect video footage of current pavement conditions. The post-construction pavement conditions will be documented and compared to pre-construction conditions.
- At project's completion, Pivot Energy will restore road damage determined to be cause by construction vehicle negligence in coordination with Montgomery County and to the satisfaction of VDOT as permitted.
- If pavement along a haul route becomes damaged due to construction traffic, and is determined by VDOT to be unsafe, Pivot Energy will repair the damage at their expense within 48 hours upon notice from the County's transportation planner and/or VDOT.

Temporary Traffic Control Measures

Temporary traffic control measures will be implemented in accordance with the most recent version of the Virginia Work Area Protection Manual. Traffic control for construction activity within the public right-of-way will be implemented in accordance with typical traffic control applications. Necessary construction activity within the public right-of-way will be identified as construction documents are prepared and traffic control plans will be included in the construction documents as necessary.

Traffic control measures will also be installed at active construction entrances. These include but are not limited to:

- Advanced warning signs
- Flaggers at the entrance location to facilitate truck turns for wide-load deliveries
- If sight distance is limited on a construction entrance approach, additional installed warning signs
- Reduced speed limits
- Additional construction traffic warning signage
- Channelizing devices

These VDOT-approved measures may be implemented as needed and will be addressed during the site plan review and VDOT permitting process.

Deliveries

- Delivery instructions shall be provided to all suppliers and contractors.
- Trained employees shall assist when deliveries are accessing the Project Site.
- Banksmen shall ensure the safe passage of pedestrians and vehicular traffic when vehicles are being loaded and unloaded.
- Delivery vehicles shall not stack or wait on County roads.
- Contractors and suppliers shall utilize primary delivery routes in consultation with County staff to the greatest extent possible. In the event delivery routes are not feasible, new routes shall be identified and coordinated with County staff.
- Pivot Energy and its contractor shall issue strip maps to suppliers identifying primary delivery routes.
- In the event that GPS maps do not accurately direct delivery trucks to the site, flaggers may be stationed at key junction points to ensure trucks are traveling the designated haul route.
- Identification of surrounding truck stops shall be identified prior to construction to ensure that trucks can stage overnight prior to scheduled deliveries.
- Permits for oversized or overweight loads, if any, on primary delivery routes shall be obtained from VDOT and coordinated with the County. Such permit loads shall be subject to the conditions of the permit at the time of the issuance.

Safety

- Where necessary, flagmen with communication devices shall be used to coordinate delivery and hauling activities at the project site.
- General construction signs shall be placed in a pre-approved areas along primary delivery routes in the vicinity of the project site to notify residents of construction delivery locations.

Parking

- On-site parking will be provided adjacent to construction entrances within the project where feasible. Parking area size will fluctuate based on the construction phasing and number of workers needed at each entrance.
- If offsite parking is needed, the contractor will utilize multiple seat vehicles to transport employees to and from the site to reduce the number of vehicle trips.

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Sincerely,

Buzz Becker | Director, Project Development
bbecker@pivotenergy.net
918.346.9542

Pivot Energy

August 3, 2022

Montgomery County
Brea Hopkins, Director of Planning & GIS
755 Roanoke St, Ste. 2A
Christiansburg, VA 24073

Dear Ms. Hopkins,

Please let this letter serve as the decommissioning cost estimate and methodology for our proposed solar project at Parcel ID 023523. Please note that the items listed and described below represent estimates and are subject to change. Prior to issuance of a building permit, we will engage a 3rd party engineer to submit the Decommissioning and Restoration Plan as outlined in our proposed conditions for county review and approval, to include the posted decommission surety funds posted with the county.

In the interest of conservative financial planning, this estimate is not inclusive of salvage value. The decommission surety will cover the cost of removing the system and restoring the site to as close to its original condition as is reasonably possible. It will also include a mechanism for a cost-of-living adjustment after every five (5) years that the project is in operations.

Based on the estimates provided below, the cost of decommissioning the facility, including equipment removal and site restoration, is approximately $336,418.75,

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Buzz Becker | Director, Project Development
bbecker@pivotenergy.net
918.346.9542

Decommissioning Schedule

Facility decommissioning is generally described as the removal of all system components and the rehabilitation of the site to pre-construction conditions. The 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. A detailed cost estimate of decommissioning the Project can be found below.

The decommissioning of Kumis Solar will proceed in reverse order of the installation within 365 days of the date of abandonment or discontinuation.

1. The PV facility shall be disconnected from the utility power grid.
2. PV modules shall be disconnected, collected, and recycled off-site by an approved recycling facility. If no recycling facility is available, PV modules are deemed non-hazardous waste by EPA guidelines and can be landfilled.
3. Above ground and underground electrical interconnection and distribution cables shall be removed and salvaged or recycled off-site by an approved facility.
4. PV module support aluminum racking shall be removed and recycled off-site by an approved recycler.
5. PV module support steel and support posts shall be removed and recycled off-site by an approved metals recycler.
6. Electrical and electronic devices, including transformers and inverters shall be removed and recycled off-site by an approved recycler.
7. Concrete foundations shall be removed and recycled off-site by a concrete recycler.
8. Fencing shall be removed and will be recycled off-site by an approved recycler.
9. The interior roads can remain onsite should the landowner choose to retain them or be removed, and the gravel repurposed either on or off-site.
10. The Project Site may be converted to other uses in accordance with applicable land use regulations in effect at that time of decommissioning. There are no permanent changes to the site, and it can be restored to its original condition including re-vegetation. Any soil removed for construction purposes will be relocated on the site or used for landscaping after construction is complete.

Pivot Energy

Decommissioning Cost Estimate

Item	Quantity	Unit	Unit Removal Price	Total Removal Price
Solar Modules	10,560	Each	$ 5.00	$ 52,800.00
Solar Panel Support Steel Piles	5,602	Each	$ 15.00	$ 84,030.00
Solar Panel Racks	431	Each	$ 50.00	$ 21,550.00
125kW Inverters	22	Each	$ 100.00	$ 2,200.00
1.5kVa Transformers	3	Each	$ 3,000.00	$ 9,000.00
MV Cabling	12,830	Ft	$ 0.50	$ 6,415.00
Fence Removal	5,640	Linear Ft.	$ 1.00	$ 5,640.00
Land Restoration	35	Acres	$ 500.00	$ 17,500.00
Erosion Control	35	Acres	$ 2,000.00	$ 70,000.00
			Subtotal Removal Cost	$ 269,135.00
			Additional Allowances (25%)	$ 67,283.75
			Total Cost	**$ 336,418.75**

U.S. Fish and Wildlife Service
National Wetlands Inventory

Kumis Solar National Wetlands Inventory

July 14, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Kumis Solar National Wetlands Inventory 2

July 14, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette

FEMA

80°14'20"W 37°12'N

0 250 500 1,000 1,500 2,000 Feet 1:6,000

80°13'43"W 37°11'31"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/14/2022 at 9:17 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Virginia Dept. of Historic Resources

V-CRIS

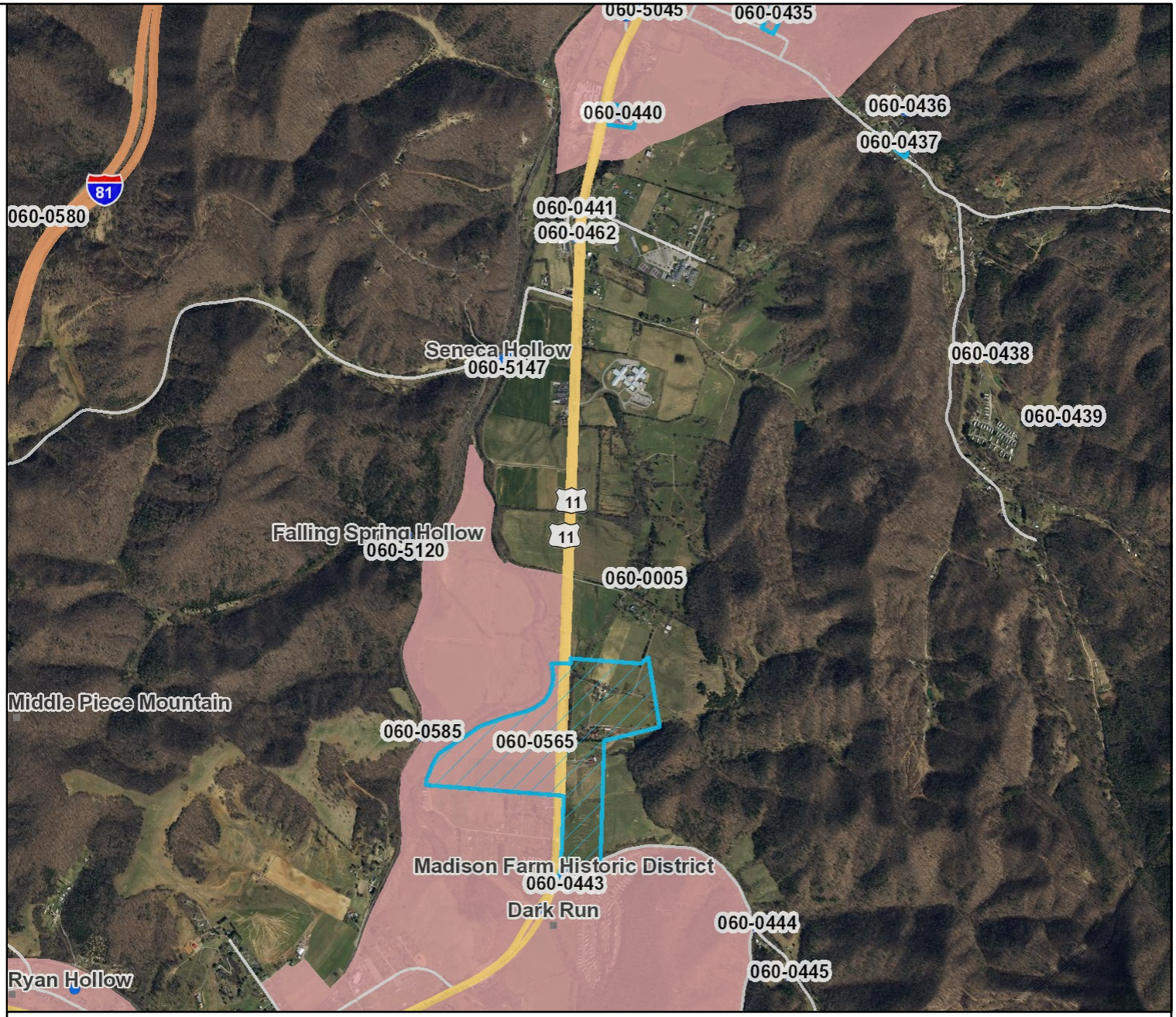
Virginia Cultural Resource Information System

Legend

- Architecture Labels
- Architecture Points
- Historic Districts
- USGS GIS Place names

Roads (200,000)

- Interstate
- Primary Highway
- Secondary
- County Boundaries
- Towns



N

Feet

0 600 1200 1800 2400

1:36,112 / 1"=3,009 Feet

Title: Kumis I - VCRIS - 0 Roanoke Rd **Date: 9/2/2021**

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Montgomery County, Virginia

Local office

Virginia Ecological Services Field Office

(804) 693-6694
(804) 693-9032

6669 Short Lane
Gloucester, VA 23061-4410

http://www.fws.gov/northeast/virginiafield/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. http://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Smooth Coneflower Echinacea laevigata Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/3473	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

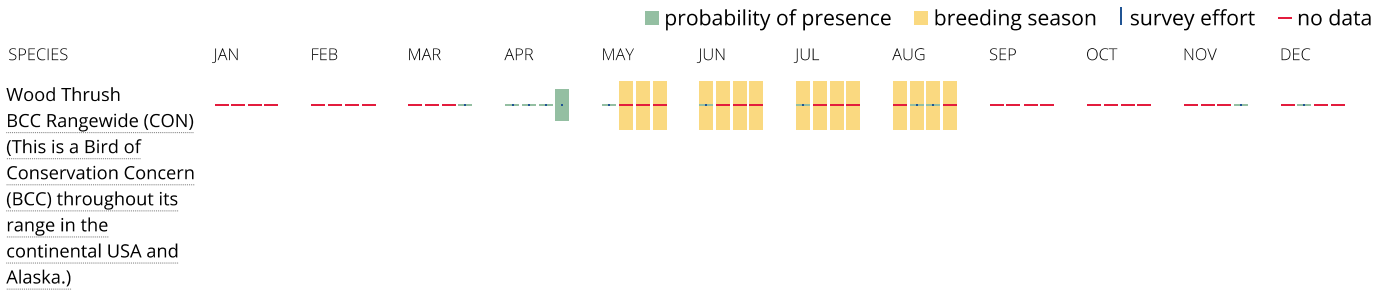
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception

to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities

(e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.