



Marion County
OREGON

CONDITIONAL USE APPLICATION

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**Marion County
Planning**

Do not double-side or spiral bind any documents being submitted

Fee: Please check the appropriate box:

- Conditional Use - \$1250
- Conditional Use Hardship - \$375
- Conditional Use Hardship Change of Occupant - \$100
- Non-Farm Dwelling \$1880
- UT Zone Replacement Dwelling - \$375
- Conditional Use Home Occupation - \$640
- Wireless Communication Facility - \$3130
- Amend Conditions/Permit - \$500
- Aggregate Site (non Goal 5) - \$2500+\$65/acre
- Agri-Tourism Single Event - \$375
- Agri-Tourism Max 6 Events - \$640
- Agri-Tourism Max. 18 Events/Longer Duration-\$640

PROPERTY OWNER(S): Earl E. Coffey	ADDRESS, CITY, STATE, AND ZIP: 3840 Silver Falls Dr. NE, Silverton, OR 97381
PROPERTY OWNER(S) (if more than one):	ADDRESS, CITY, STATE, AND ZIP
APPLICANT REPRESENTATIVE: Silver Creek Solar, LLC	ADDRESS, CITY, STATE, ZIP 3519 NE 15th Ave. #106, Portland, OR 97212
DAYTIME PHONE (if staff has questions about this application): 503-207-7302	E-MAIL (if any): reuben@greenkeysolar.com
ADDRESS OF SUBJECT PROPERTY: 3840 Silver Falls Dr. NE, Silverton, OR 97381	SIZE OF SUBJECT PROPERTY: 30.31 Acres
THE PROPERTY OWNERS OF THE SUBJECT PROPERTY REQUEST TO (summarize here; explain in detail on the "Applicant's Statement"):	
The proposed use is to construct a 10-acre solar power generation facility. The solar facility will consist of photovoltaic modules supported by piles driven into the ground. The project area is comprised of solar generating facilities consisting of solar panels, racking, invertors, overhead lines, and perimeter fencing. Please see attached Burden of Proof and supporting documents for more details on the proposed use, including the site plan and applicable-code criteria. The solar facility will be located on Map Tax Lot #071E06D000200.	

FOR OFFICE USE ONLY:			
Township	07	Range	1E
		Section	060
Tax lot number(s)	200 + 1900		Application elements submitted:
Zone:	FT		<input checked="" type="checkbox"/> Title transfer instrument
Zone map number:	77		<input checked="" type="checkbox"/> Site plan
<input type="checkbox"/> TPA/header			<input checked="" type="checkbox"/> Applicant statement
Case Number:	CU22-041		<input checked="" type="checkbox"/> Filing Fee
<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural			<input type="checkbox"/> GeoHazard/Peer Review (if applicable)
Signs given:			<input type="checkbox"/> Physician's Certificate (if applicable)
			<input type="checkbox"/> Home Occupation Supplemental (if applicable)
			<input type="checkbox"/> Agri-Tourism Supplemental (if applicable)
Date determined complete:			Application accepted by: NLZ
			Date: 11-2-22

IF THIS IS FOR A CONDITIONAL USE HARSHIP:

This section is not applicable to the proposed use.

WILL THE TEMPORARY DWELLING BE () MANUFACTURED HOME OR () RV? Check one.

IF USING AN RV, DO YOU INTEND TO:

() CONNECT TO THE EXISTING SEPTIC SYSTEM OR () USE THE RV HOLDING TANK? Check one.

NAME OF PERSON(S) WITH MEDICAL HARSHIP:

HE/SHE/THEY WILL RESIDE IN: () PRIMARY DWELLING OR () TEMPORARY DWELLING

NAME OF CAREGIVER:

HE/SHE WILL RESIDE IN: () PRIMARY DWELLING OR () TEMPORARY DWELLING

RELATIONSHIP OF CAREGIVER TO PERSON(S) WITH MEDICAL HARSHIP:

WHAT TYPE OF ASSISTANCE WILL CAREGIVER PROVIDE:

IF THERE ARE OTHER ADULTS THAT RESIDE OR WILL RESIDE IN THE DWELLING WITH THE PERSON(S) NEEDING CARE, PLEASE EXPLAIN WHY HE/SHE CANNOT BE THE CAREGIVER:

THE APPLICANT(S) SHALL CERTIFY THAT:

- A. If the application is granted the applicant(s) will exercise the rights granted in accordance with the terms and subject to all the conditions and limitations of the approval.
- B. I/We hereby declare under penalties of false swearing (ORS 162.075 and 162.085) that all the above information and statements and the statements in the plot plan, attachments and exhibits transmitted herewith are true; and the applicants so acknowledge that any permit issued on the basis of this application may be revoked if it is found that any such statements are false.
- C. I/We hereby grant permission for and consent to Marion County, its officers, agents, and employees coming upon the above-described property to gather information and inspect the property whenever it is reasonably necessary for the purpose of processing this application.
- D. The applicants have read the entire contents of the application, including the policies and criteria, and understand the requirements for approving or denying the application.

PRINTED NAME AND SIGNATURE of each owner of the subject property.

EDWARD EARL COFFEY

Print Name Signature

Print Name Signature

Earl Coffey
Print Name Signature

Print Name Signature

DATED this 28th day of October, 2022

BURDEN OF PROOF

I. Project Summary

Application: Conditional Use Permit in the FT (Farm Timber) Zone ("Application")

Project Proposal: To construct a 10-acre photovoltaic solar power generation facility on a 30.31-acre tract located at 3860 Silver Falls Dr NE, Silverton, Oregon, 97381 ("Project").

The Project will consist of photovoltaic modules supported by piles driven into the ground. The project area is comprised of approximately 10-acres of solar generating facilities, consisting of solar panels, racking, invertors, overhead poles and lines, and perimeter fencing.

Applicant: Silver Creek Solar, LLC ("Applicant")

Property Owner: Earl Coffey

Location: The Project is located along Silver Falls Dr NE in Marion County ("County"), Oregon. The proposed site is approximately 2 miles east from the city of Silverton. The subject property map tax lot number is 071E06D000200.

Zoning: FT (Farm Timber)

Attachments: Completed CUP form
Site Plan
Warranty Deed copy
Wetlands Map
Fire District Map
Exhibit A

II. Applicable Review and Decision Criteria

This Application is for a 10-acre photovoltaic solar power generation facility within the Farm/Timber (FT) district. The requirements being addressed by the Applicant are found in Marion County Code ("MCC") Sections 17.139.050, 17.139.060, 17.139.070, and 17.139.100. As reflected below, the Applicant identifies the approval criteria applicable to the Project and provides a narrative demonstrating compliance (in italics) with each of the approval criteria.

MCC 17.139.50 (F)(3) lists "utility facilities for the purpose of generating power" as a conditional use provided that the power generation facility "shall not preclude more than: a. Ten acres from use as a commercial forest operation unless an exception is taken pursuant to OAR Chapter 660, Division 004."

FINDING: *The proposed 10-acre solar photovoltaic project is a utility facility for the purpose of generating power and will not preclude more than 10 acres from a*

forest operation. See Site Plan. Therefore, the Project is conditionally allowed in the FT zone pursuant to MCC 17.139.F.3.a, and this criterion is met.

Generally, counties can adopt standards that are more restrictive than allowed by state law, but in the case of the FT zone, the County has not done so. For example, County Ordinance No. 1387 does not preclude or prohibit any uses in the FT zone. Rather, MCC 17.139.50 (F)(3)(a) remains applicable and utility facilities for the purpose of generating power remain conditionally allowed in the FT zone.

MCC 17.139.060(A) includes the following general approval criteria applicable to the proposed use:

(1) The use will not force a significant change in, or significantly increase the cost of, accepted farm or forest practices on surrounding lands devoted to farm or forest use. Land devoted to farm or forest use does not include farm or forest use on lots or parcels upon which a non-farm or non-forest dwelling has been approved and established, in exception areas approved under ORS 197.732, or in an acknowledged urban growth boundary.

FINDING: *The proposed 10-acre solar project is located on the 30.31 acre subject tract. For the purpose of analyzing the project's impact on surrounding land, all parcels adjacent to the property have been inventoried and are listed in Table 1 found in Exhibit A. The results of this analysis reveal no need to expand the study area to capture additional land uses that do not already exist immediately adjacent to the proposed use on the subject tract. Therefore, the adjacent parcels are more than adequate to accurately analyze the project's impact to the existing land use pattern in the area.*

Based on the analysis found in Exhibit A, the proposed use will not force a significant change in accepted or significant increase in the cost of farming or forest practices on the surrounding lands devoted to farm or forest uses. Accordingly, the Application satisfies this criterion.

(2) The use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

FINDING: *The majority of all material used in the construction of this facility is from non-combustible material, thus reducing the possibility of fire risk both during the course of construction as well as during normal operations, maintenance and repair. The facility will be designed and built to meet all relevant industry design and safety standards and operated in a manner that conforms to best utility practices. The proposed facility includes vegetation mitigation and adequate access, turnaround, and egress for emergency vehicles. The proposed facility also implements fire safety zones. As such, the proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.*

Therefore, for the reasons stated above, this criterion is met.

(3) Adequate fire protection and other rural services are or will be available when the use is established.

FINDING: *Adequate fire protection and other rural services are or will be available when the use is established. The site is located within the Silverton Fire District, 4.6 miles from the Silverton Fire District Headquarters, which is located at 819 Railway St, Silverton, OR 97381. Accordingly, this criterion is met.*

(4) The use will not have a significant adverse impact on watersheds, groundwater, fish and wildlife habitat, soil and slope stability, air and water quality.

FINDING: *The solar facility will not have a significant adverse impact on wetlands, groundwater, fish and wildlife habitat, soil and slope stability, air or water quality. See Exhibit A for further detail. Accordingly, this criterion is met.*

(5) Any noise associated with the use will not have a significant adverse impact on nearby land uses.

FINDING: *Noise levels are expected not to exceed that of natural ambient rural sound levels in adjacent public and private spaces. See Exhibit A for further detail. This criterion is met.*

(6) The use will not have a significant adverse impact on potential water impoundments identified in the Comprehensive Plan, and not create significant conflicts with operations included in the Comprehensive Plan inventory of significant mineral and aggregate sites.

FINDING: *The subject tract is not located within any potential water impoundments identified in the comprehensive plan and will not create any conflict with any significant mineral or goal 5 resources included on the comprehensive plan inventory. Therefore, this criterion is met.*

MCC 17.139.070(A) lists the following special use and siting requirements:

(1) Dwellings and structures shall comply with the special requirements in subsection (A)(2) or (3) of this section. Compliance with the provisions in subsection (A)(2) of this section and subsections (B), (F) and (G) of this section satisfies the criteria in (A)(3) of this section. Alternative sites that meet the criteria in subsection (A)(3) of this section may be approved concurrently with any land use application or as provided in Chapter 17.116 MCC.

(2)(a) Dwellings shall be at least 200 feet from any abutting parcel in farm use or timber production. Buildings other than a dwelling shall be located at least 100 feet from any abutting parcel in farm use or timber production.

FINDING: *The proposed Project is not a dwelling. This criterion is not applicable.*

(2)(b) The special setback in subsection (A)(2)(a) of this section shall not be applied in a manner that prohibits dwellings approved pursuant to ORS 195.300 through 195.336 nor should the special setback in subsection (A)(2)(a) of this section prohibit a claimant's application for homesites under ORS 195.300 through 195.336.

FINDING: *The proposed Project is not a dwelling. This criterion is not applicable.*

(2)(c) The dwelling or other building shall be located within 300 feet of the driveway entrance on an abutting public road; or, if the property does not abut a public road for a distance of at least 60 feet, the dwelling or other building shall be located within 300 feet of the point where the driveway enters the buildable portion of the property.

FINDING: *The proposed Project is not a dwelling or building. This criterion is not applicable.*

(3) Review Criteria for Alternative Sites. Sites for dwellings or buildings that do not meet the siting requirements in subsection (A)(2) of this section may be approved if the proposed site will meet additional criteria.

FINDING: *The proposed Project is not a dwelling or building. This criterion is not applicable.*

MCC 17.139.070(B) requires that the owner of property for which a dwelling, structure or other specified use has been approved shall be required to sign and allow the entering of a declaratory statement into the chain of title for the subject lots or parcels

FINDING: *As a condition of approval, the Applicant will sign the Declaratory Statement and allow the entering of the statement into the chain of title for the subject parcel. Therefore, this criterion is met.*

MCC 17.139.070(C) provides criteria related to domestic water supply.

FINDING: *The proposed Project does not require water. This criterion is not applicable.*

MCC 17.139.070(D) provides that as a condition of approval, if road access to the dwelling is by a road owned and maintained by a private party or by the Oregon Department of Forestry, the Bureau of Land Management, or the U.S. Forest Service, the Applicant shall provide proof of a long-term road access use permit or agreement. The road use permit may require the applicant to agree to accept responsibility for road maintenance.

FINDING: *As a condition of approval, the Applicant shall provide proof of a long-term access use permit or agreement. This criterion is met.*

MCC 17.139.070(E) provides tree planting requirements for lots or parcels over 10 Acres prior to issuance of a building or siting permit for a dwelling.

FINDING: *The proposed Project is not a dwelling. This criterion is not applicable.*

MCC 17.139.070(F) requires that dwellings be located upon a parcel within a fire protection district or shall be provided with residential fire protection by contract. If the dwelling is not within a fire protection district, the applicant shall provide evidence that the applicant has asked to be included within the nearest such district.

FINDING: *The proposed Project is not a dwelling. This criterion is not applicable.*

MCC 17.139.070(G) list fire hazard reduction requirements:

(1) The owners of a dwelling, or structure occupying more than 200 square feet, shall maintain a primary fuel-free break area on land surrounding the dwelling that is owned or controlled by the owner in accordance with the provision in "Recommended Fire Siting Standards for Dwellings and Structures and Fire Safety Design Standards for Roads" dated March 1, 1991, and published by the Oregon Department of Forestry.

FINDING: *The Project will include a primary fuel-free break area in compliance with the above fire siting standards. See Site Plan. Therefore, this criterion is met.*

(2) The dwelling shall have a fire-retardant roof.

FINDING: *The proposed Project is not a dwelling. This criterion is not applicable.*

(3) The dwelling shall not be sited on a slope of greater than 40 percent.

FINDING: *The proposed Project is not a dwelling. This criterion is not applicable.*

(4) If the dwelling has a chimney or chimneys, each chimney shall have a spark arrester.

FINDING: *The proposed project is not a dwelling. This criterion is not applicable.*

MCC 17.139.070(G) requires that public road access to structures of more than 200 square feet in area or a dwelling shall comply with the Marion County Department of Public Works Engineering Standards applicable at the time the application was filed.

FINDING: *The proposed access to the public road will comply with the Marion County Department of Public Works Engineering Standards applicable at the time the application was filed. Accordingly, this criterion is met.*

III. Conclusion

The foregoing narrative and attachments demonstrates that the application for a solar facility meets all applicable criteria under the County's Zoning Ordinances. This Application represents a unique opportunity to provide economic benefits to Marion County and generate clean, pollution-free renewable energy.

**Silver Creek Solar
Burden of Proof
Exhibit A**

Analysis of Impacts on Farming, Forestry, and Surrounding Parcels

I. Introduction

This memorandum supplements the findings in the applicant's burden of proof and provides a detailed analysis of the project's impact to surrounding farmland and the existing land uses surrounding the project site. Detailed explanation of these uses and why the proposed solar facility is compatible with all existing farm and forest uses in the area is provided below.

II. Proposed Use

The proposed use is to construct a 10-acre solar utility facility for the purpose of generating power on a 30.31-acre tract located at 3840 Silver Falls Dr NE, Silverton, Oregon. The solar facility will consist of photovoltaic modules supported by piles driven six to ten feet into the ground. The project area is comprised of solar generating facilities, consisting of solar panels, racking, invertors, connection lines, and perimeter fencing.

The project area will remove 10-acres from an existing 30.31-acre tract. The remaining 20.31 acres will be available for the discretionary use of the landowner. The shape of the proposed facility area will ensure that the established farming or forest practices and other land uses on the remainder of the parcel are not materially impacted. There will be no material adverse impacts to adjacent agricultural or forest uses. No air emissions are discharged, and no water will collect or drain offsite. The access road for the project will not separate fields or forest land.

Once constructed, the proposed facility is essentially unoccupied with only an occasional inspection or maintenance required. The solar facility does not cause any vibrations, smoke or other particulates, temperature fluctuations, or stormwater impacts.

III. Study Area

For the purpose of analyzing the project's impact to farming and surrounding land, all parcels or portion of parcels that are adjacent to the subject tract have been inventoried and listed in the Table 1, below.

Creating a larger study area surrounding the subject property would not alter the results of the analyses. This is because if any conflicts existed it would be between the two conflicting uses within the study area. Therefore, the size of the Study Area provided here is more than adequate to accurately analyze the project's impact to the existing land use pattern in the area.

Table 1: Inventory of Adjacent Parcels

Taxlot No.	Zone	Acres	Location in relation to subject tract and project area	Current use status and description
071E060000200	FT & AR	41.60	Property to the north	Timber, Transmission Lines
071E06D000100	FT	57.43	Property to the east	Dwelling, Christmas Tree Farm, Timber/Forestland, Outbuildings
071E07A001400	AR	4.06	Property to the south	Dwelling, Hay, Open Field
071E07A001900	FT	101.54	Property to the south and west	Dwelling, Christmas Trees, Transmission Lines, Timber, Grazing/Hay/Vacant
071E06D000500	FT	8.13	Property to the west	Dwelling, Farm Use Structure, Grazing/Hay Field
071E06D000400	FT	1.00	Property to the west	Dwelling, Outbuilding, Vacant/Open Field
071E06D000300	FT	1.00	Property to the west	Timber/Forestland/Vacant
071E060000300	FT & AR	30.18	Property to the northwest	Dwelling, Farm Use Structures, Grazing/Hay Field

IV. STUDY AREA ANALYSIS

Compatibility with surrounding farm and forest practices

Information on surrounding farm use and other uses within the Study Area surrounding the subject tract has been provided, in Table 1, above. For the purposes of this analysis "farm use" is defined by Oregon's Revised Statutes for zoning ordinances establishing farm use zones¹, forest practices as set forth in ORS 527.722, and forest operation as defined in ORS 660-006-005(8). A forest operation means any commercial activity relating to the growing or harvesting or any forest tree species as defined in ORS 527.620(6).

The farm and forest practices in the Study Area are compatible with the proposed use and will not experience any adverse or negative impacts. Only the project area on the subject tract will see a change in land use.

Plowing, burning, application of herbicides and pesticides, disking, felling, planting, pruning, and machine harvesting are accepted farming and forest practices that may take place in the surrounding study area. None of the lands in the Study Area devoted to farming will be impacted by the proposed solar facility because the facility will not cause any impacts that conflict with the farming practices and such activities will be able to continue throughout project construction and operation.

Additionally, none of the adjacent or surrounding parcels in the Study Area will experience any indirect impacts due to emissions, vibration, or temperature fluctuations. The project does not produce any emissions, either atmospheric or into waterways, or any perceivable vibrations or temperature fluctuations.

Glare and Sound

While operation of a solar facility does produce minimal reflective light glare and ambient sound impacts, they are insignificant and will not cause any issues for the surrounding farm uses.

With regards to glare, Solar panels are designed to absorb light from the visible spectrum, not to reflect it, although some upward reflection does occur. To assist light absorption, solar panels are constructed of dark-colored (blue or black) materials and are covered with an anti-reflective coating. Studies on the topic of glare from experts in industry and academia have concluded that modern PV panels reflect as little as two percent of incoming sunlight, which is about the same as water and less than soil or wood

¹ OAR 215.203(2)(a) As used in this section, "farm use" means the current employment of land for the primary purpose of obtaining a profit in money by raising, harvesting and selling crops or the feeding, breeding, management and sale of, or the produce of, livestock, poultry, fur-bearing animals or honeybees or for dairying and the sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof. "Farm use" includes the preparation, storage and disposal by marketing or otherwise of the products or by-products raised on such land for human or animal use. "Farm use" also includes the current employment of land for the primary purpose of obtaining a profit in money by stabling or training equines including but not limited to providing riding lessons, training clinics and schooling shows. "Farm use" also includes the propagation, cultivation, maintenance and harvesting of aquatic, bird and animal species that are under the jurisdiction of the State Fish and Wildlife Commission, to the extent allowed by the rules adopted by the commission. "Farm use" includes the on-site construction and maintenance of equipment and facilities used for the activities described in this subsection. "Farm use" does not include the use of land subject to the provisions of ORS chapter 321, except land used exclusively for growing cultured Christmas trees as defined in subsection (3) of this section or land described in ORS 321.267 (3) or 321.824 (3).

shingles.^{2,3} Naturally occurring ponds and streams, snow, and even certain kinds of soil and vegetation are reflective. The small amount of light that is reflected away from the solar panels is comparable to the glare from a body of smooth water such as a flat pond or a lake.

Additionally, the solar panels are mounted at an angle that allows for the most light to be absorbed throughout the year, which results in the panels facing the sky at shallow angles (typically less than 25 degrees). As a result, what little light is reflected is not visible to ground-level observers.

To address concerns for aviation, all solar farms are required to be approved by the FAA as potential glare hazards for aviators. To date, no PV array has been deemed a glare hazard as is represented by the large numbers of PV power plants built next to highways and around airports.⁴

As for noise, the only source of noise is from the inverter cooling fan that runs on warmer days. Noise ratings from manufacturers for the type of inverter the project will use indicate that noise levels are comparable to the perceived ambient noise of a quiet rural or suburban setting at nighttime – about 35-40 decibels within 5 meters. Again, no sound is produced at night.

Additionally, the equipment's noise rating is less than the most stringent noise level standards for industrial or commercial sources in quiet areas as defined by OAR 340.35.035 which permits L50 noise levels of 50 decibels from 7 a.m. to 10 p.m. and 45 decibels from 10 p.m. to 7 a.m., as measured from an appropriate measurement point.

Further, due to the placement of the inverters within the project area, any noise will be effectively obstructed and dissipated by the other project components such that the decibel level from inverter fan noise will be indistinguishable from ambient noise at any point beyond the project area. The proposed use, once installed is relatively passive and remains that way during the life of the facility. None of the facility's remaining components actively produce any significant sound.

Soil Erosion

The facility will protect soils and prevent water-borne runoff with control measures which typically includes straw bales, hay coil logs, run-off channels, silt fencing, and sediment basins. Once constructed, natural vegetative growth is encouraged within the facility to prevent erosion, and the areas where panels are located are not considered impervious. Additionally the project will acquire from the Oregon Department of Environmental Quality a National Pollutant Discharge Elimination System Stormwater Construction General Permit 1200-C to ensure runoff is effectively managed during construction.

Minimal ground disturbance only occurs during the short (6 to 12 week) construction period. Heavy equipment and traffic is restricted to perimeter roads, which comprise less than 3% of the site area during construction. To further protect against erosion, most roads on the site are re-seeded with vegetation after construction unless otherwise required by the soil conditions or indicated by the jurisdiction.

² Palmer, C. & Laurent, C. (2014). Solar and Glare. Meister Consultants Group Inc. <http://solaroutreach.org/wp-content/uploads/2014/06/Solar-PV-and-Glare-Final.pdf>

³ Riley, E. & Olson, S. (2011). A study of the hazardous glare potential to aviators from utility-scale flat-plate photovoltaic systems. ISRN Renewable Energy, <http://dx.doi.org/10.5402/2011/651857>

⁴ Federal Aviation Administration (2010). Technical Guidance for Evaluating Selected Solar Technologies on Airports. Washington, D.C.

Traffic

All traffic during the construction phase will be coordinated with the county road department and/or the state highway department, as applicable, and adjacent landowners as needed, to minimize any potential adverse traffic impact. The Applicant will design and construct a new driveway per Marion County and/or ODOT roadway standards to access the subject parcel from Silver Falls Dr NE/Highway 214.

No Toxicity

The solar PV panels are composed of non-toxic materials, do not erode, and do not have any emissions. The facility will use Crystalline Silicon (C-Si) solar PV panels. The solar PV panel is an inert crystal composed of non-toxic materials like a glass pane. The sealed PV panels do not leach metals into the environment and are recycled at the end of their lifecycle.

C-Si modules are produced by sourcing extremely high quality, pure silicon or quartz. The silicon is heated until it melts, after which a crystal is grown from a source ingot. The silicon crystal is sliced into thin wafers and mounted onto a durable backing material, after which the panel is encapsulated by glass and an aluminum frame.⁵

Electro-Magnetic Fields (EMF)

The International Commission on Non-Ionizing Radiation Protection has established 833 milli-Gauss (mG) as the limit for prolonged exposure to electro-magnetic fields. The inverter is the strongest source of magnetic fields in the solar facility with levels varying from 150-500 mG at a distance of one to two feet. As an unmanned facility, prolonged exposure is never an issue. At 150 feet, the inverter's magnetic field levels drop below 0.5 mG or less, often falling to the background level of earth's magnetic field of 0.2 mG.⁶

No other solar PV component emits EMFs that are measurable above the earth's magnetic field. There are no EMFs emitted at night.

Wildlife Protection

Wildlife is protected by using perimeter fencing and barbed wire to prevent access for large mammals, such as deer. Large animals are kept out of the site because they can interfere with equipment, damage wiring, or injure themselves. In cases when barbed wire is not used, perimeter fence height is increased.

Smaller animals, such as squirrels and birds, are allowed to pass throughout the facility following construction. The environment in the solar facility is often conducive to a wildlife habitat for its natural vegetation as well as providing a significant amount of shade and being relatively undisturbed. Wildlife access to electrical equipment is prevented with conduit protection for wires and sealing all equipment entry points with foam sealant.⁷

Decommissioning

⁵ Electric Power Research Institute and California Energy Commission. (2004). Potential health and environmental impacts associated with the manufacture and use of photovoltaic cells. Sacramento, CA.

⁶ Massachusetts Clean Energy Center. (2012). Study of acoustic and EMF levels from solar photovoltaic projects. Boston, MA.

⁷ Turney, D. & Fthenakis, V. (2011). Environmental impacts from the installation and operation of large-scale solar power plants. Renewable and Sustainable Energy Review, 15, 3261-3270.

Decommissioning and dismantling of the solar PV power plant is not expected to occur until over thirty years after the facility is constructed. The system's equipment, including wires, conductors, and racking, has significant salvage value since it is comprised of useful metals such as copper, aluminum and steel. The PV panels are valuable for their semiconductor materials and rare metals such as silver. The salvage value meets or exceeds the cost of decommissioning. At the end of the facilities' lifetime, a solar reclamation firm will collect the modules for recycling, the inverters for refurbishing, and the hardware for salvage. The land is then reseeded with a local seed mix and can be used for agriculture or other uses.⁸

Property Values

Studies by licensed appraisers on the impacts of a solar facility on neighboring property values have shown that there is no or negligible impacts to property values. 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 in rural/residential areas.⁹

Additionally, numerous studies found the impact of wind energy generation on neighboring property values to be negligible. As solar farms do not have the same impacts as wind farms (i.e., PV facilities do not cast a shadow on neighboring properties, cause light flicker, or have the same visual impact as wind farms), the impacts on property values caused by solar farms are anticipated to be less than the impacts of wind farms.¹⁰

Conclusion

Once constructed, the proposed facility is essentially unoccupied and its ongoing operation and existence will not cause adjacent farmers to alter or curtail in anyway the farming practices on nearby agricultural lands or make farming more difficult. As a result, the project will not use, occupy, or cover any additional land from farm use on the subject tract or the surrounding lands.

⁸ McGavran Engineering, P.C. (2014) *Solexus development corporation decommissioning proposal*. Charlotte, NC.

⁹ Kirkland Appraisals, LLC (2016). *Fox Solar Impact Study* (Conditional Use Permit for the Fox Solar Farm). Cascade County, MT.

¹⁰ National Association of Realtors (2017). *Field Guide to Wind Farms & Their Effect on Property Values*. Chicago, IL.