

# SR Simpson Solar Decommissioning Plan

Submitted to:

Franklin-Simpson  
Planning and Zoning

Submitted on behalf of:

Horus Kentucky 1, LLC  
222 2<sup>nd</sup> Ave South, Suite 1900  
Nashville, TN 37201

615-577-4786

[srcoperations@siliconranch.com](mailto:srcoperations@siliconranch.com)

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# 1 INTRODUCTION

## 1.1 Background

Horus Kentucky 1 LLC (Horus Kentucky), will construct, own and operate a 69.3-megawatt (MW AC) (plant capacity at point of interconnection) solar photovoltaic (PV) power generation facility and associated electrical Collector Substation facility, collectively referred to as SR Simpson Solar ("Project"). The Project is situated on approximately 551 acres of land, with 339 acres being fenced in for the project boundary. The Project site is privately owned land, approximately 3 miles southeast of the City of Franklin in Simpson County. The Project is located near the intersection of Interstate 65 and Highway 31W (Attachment 1).

This Facility Decommissioning Plan ("Decommissioning Plan") is developed for Simpson County and the City of Franklin. The Decommissioning Plan provides for the decommissioning and deconstruction of the facility, and for restoration of the Project site, collectively referred to as "decommissioning". The Decommissioning Plan is to be implemented upon completion of project lifecycle, discontinuance of operations or abandonment (i.e., no electricity has been generated for up to a period of 6 months) of the Project in whole or in part.

The Decommissioning Plan includes the following:

1. Removal of solar panel structures and all appurtenant above and belowground equipment located within the site including the Collector Substation (does not include new TVA Switchyard);
2. Removal of on-site above and below ground electricity lines within the Project area (does not include existing overhead TVA transmission line);
3. Restoration of any disturbed soil and re-vegetation of the site to the pre-construction condition, with native vegetation similar to the vegetation in the surrounding vicinity; and
4. Restoration or reclamation of project roads to their pre-construction condition unless the then- existing landowner of the property elects to retain the improved roads for access throughout the site

The Decommissioning Plan shall factor in the following items, some of which are redundant with those above:

1. Cost to remove solar panels and support structures, with allowance for salvage value for the support structures;
2. Replacement of disturbed soil from removal of support structures;

## 1.2 Decommissioning Plan Purpose

The purpose of this Decommissioning Plan is to clarify the process to conduct decommissioning activities for the permanent closure of the Project or a portion of the

Project. The facility is intended to operate for at least 40 years. This Decommissioning Plan describes the approach for removal and/or proper abandonment of facilities and equipment associated with the Project and describes anticipated land restoration activities at the end of the term or earlier if all or a portion of the Project is discontinued. Elements of this process may be adjusted based on baseline conditions at the time of decommissioning.

## **2 PROJECT COMPONENTS**

The Project's components subject to decommissioning include the equipment summarized below. The decommissioning activities associated with these components are discussed in Section 3.0 of this Decommissioning Plan.

### **2.1 Site Construction Preparation**

Construction facilities will be located off Tyree Chapel Road and Hendricks Road in Simpson County within the Project boundaries. The construction facilities will include the construction entrance/exit, roadway and the parking and staging areas for vehicle and equipment storage and maintenance. A laydown area will be used for pre-assembly of components and materials storage/staging. Space in the construction facility area will also provide construction worker parking.

Approximately five site access points will be built for access to the site via new gates at each access point shown on the Site Plan. The site access driveways and gates will remain in place for the operational phase of the Project.

### **2.2 PV Equipment Installation**

The PV equipment for the Project will consist of approximately 198,000 First Solar S6 PV modules (or modules of a similar quality) mechanically fastened onto a steel mounting system. The steel mounting system will include approximately 20,000 galvanized steel posts that will be driven into the ground. The project site will include a 34.5kV to 161kV Collector Substation with a main power transformer and associated equipment on concrete foundations.

A “light-on-land” philosophy will be used for the grading and installation of the entire Project. Several features of this philosophy are as follows:

1. Minimal soil disturbance. Existing vegetation will be preserved where possible, and soil disturbance will be reduced to the extent practicable.
2. Preservation of property. Temporary fencing will be used to protect areas not to be disturbed. Existing improvements, properties, utilities, facilities, trees and plants that are not to be removed will be protected from damage.
3. Temporary staging areas will be utilized within the solar field during construction, and they will ultimately be built over with solar arrays or interconnection facilities. The areas will be seeded after construction is complete.

4. Site internal roads in the solar field will be constructed by compacting existing soil and placement of compacted gravel (where necessary).

## **2.3 Roads**

Access to the project will be from Tyree Chapel Road and Hendricks Road as shown in the attached layout.

## **2.4 Vegetation Management**

Vegetation will be monitored and controlled throughout the production term in order to provide adequate vegetative cover and reduce erosion. Control methods include mechanical control via typical mowing equipment and/or biological control via managed sheep grazing, as well as appropriate use of herbicide for noxious/invasive weed control.

# **3 PROJECT DECOMMISSIONING AND RECYCLING**

The activities involved in the facility closure will depend on the expected future use of the site. Certain facility equipment may have future uses, such as roads. The currently envisaged plan involves completion of the initial decommissioning in a six-month period with full restoration requiring additional time for plant re-growth and establishment as required.

In general, decommissioning will attempt to maximize the recycling of all facility components. Specific opportunities for recycling (e.g., PV solar modules) are discussed below in the context of various site components. The individual Project components to be decommissioned will be recycled to the maximum extent practicable.

The key Project components to be affected by decommissioning activities are discussed below. The general decommissioning approach will be the same whether a portion of the Project or the entire Project is decommissioned. Horus Kentucky shall provide notice to the Kentucky State Board on Electric Generation and Transmission Siting if the project replaces more than 20 percent of the facility, Horus Kentucky shall remove the debris and replaced components from the Project site and Simpson County, unless they are disposed of at a permitted facility within Simpson County.

Silicon Ranch Corporation, parent corporation of its wholly owned subsidiary Horus Kentucky 1, LLC, will provide a parental guarantee, bond or letter of credit based on the estimated net decommissioning cost (decommissioning cost minus the salvage value) as surety for the benefit of Simpson County Fiscal Court for the removal and appropriate recycling, reuse and/or disposal of the photovoltaic panels, racking systems, inverters, breakers, switches, cabling, power transformers, generation tie-in, and related equipment as described in this Decommissioning Plan. The bond shall be in place at the time of commencement of operation of the Project. The bond amount shall be reviewed every five years at Horus Kentucky's expense to determine and update the cost of removal amount.

## **3.1 Decommissioning Preparation**

The first step in the decommissioning process will be to assess existing site conditions and prepare the site for demolition.

Site decommissioning and equipment removal can take several months. Therefore, access roads, fencing and electrical power will temporarily remain in place for use by the decommissioning and restoration workers until no longer needed. Re-vegetation of disturbed areas can take several years to establish.

Demolition debris will be placed in temporary onsite storage area(s) for no more than 120 days per location with no more than one 120-day extension per location if determined.

### **3.2 Equipment Removal and Recycling**

During decommissioning, Project components will be removed from the site and recycled to the extent practicable. The PV solar panels, tracker and supports will be removed in their entirety from the site using forklifts, dump trucks, and flat-bed and rear-loader garbage trucks. The tracker support posts will be removed by backhoes with attachments. Cranes will be required to remove the inverters and transformers. Miscellaneous PV and Collector Substation equipment on concrete pads will be removed, and concrete pads broken up and removed for disposal. Cable and wiring shall be removed, unless otherwise agreed upon with landowners for buried cables deeper than 3 ft (approximate plow depth).

The First Solar S-6 Plus Modules (or modules of a similar quality) will be de-energized, disconnected and dismantled from the table mounts by sliding the panels off the table once the mounting clamps have been loosened. The panels will then be collected and loaded into standard enclosed trucks and transported to a recycling or disposal facility as appropriate.

The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the on-site equipment being used. The majority will be processed for transportation to an offsite recycling center. Steel, copper, and aluminum will be recycled to the extent practicable.

### **3.3 Roads**

Onsite access roads will remain in place to accomplish decommissioning at the end of the facility's life. At the time of decommissioning, if the landowner(s) determines that certain roads will be beneficial for future use of the property, those roads may remain after decommissioning. Roads that will not be re-used will be restored to preconstruction conditions. The ground surface will be restored and revegetated as described in Section 3.4.

### **3.4 Site Restoration**

Once removal of Project equipment is complete, the site will be restored to preconstruction conditions or as directed by applicable local, State or Federal regulations, and re-vegetated.

### 3.4.1 Evaluation of Restoration Requirements

Revegetation of disturbed areas can take several years to accomplish. The restoration will be enhanced by the operational vegetation management plan outlined in Section 2.4 above.

### 3.4.2 Restoration Plan

Decommissioning shall be completed with the appropriate dust suppression and erosion control methods utilized as appropriate and in accordance with local, State or Federal regulations. Based on the site conditions, a biologist will develop a restoration plan acceptable to the County at the time of decommissioning. The restoration plan will include de-compaction as appropriate and re-vegetation requirements to restore the site to pre-construction conditions. Any land that is to be returned to farming will not be re-vegetated, but instead will be cultivated. Any additional soil treatments will be indicated in the restoration plan. Because of the limited disturbance to soils and site contours by the construction of the Project, it is expected that restoration will largely involve reseeding. De-compaction, as required, may involve disking or similar method. Reseeding will be accomplished by broadcast, possibly using manually operated cyclone-type bucket spreaders, mechanical seed spreaders, blowers, hydroseeders, rubber-tired all-terrain vehicles equipped with mechanical broadcast spreaders, or other similar or more effective measures. Seed in the spreader hoppers will be mixed to discourage separation of the component seed types. Where broadcast seeding is employed, seeded areas may be raked or harrowed to cover the seed.

Re-vegetation will be monitored to evaluate the recovery status of rehabilitated areas, identify the need for additional re-vegetation, and to make a final determination regarding re-vegetation success. Seeding efforts will be monitored during the first growing season after seeding to assess initial vegetation establishment, distribution, soil stability, and erosion control. Monitoring will occur annually during each successive growing season and cease when rehabilitation meets the criteria for success.

### 3.4.3 Monitoring

All rehabilitated areas will be visually inspected to 1) detect areas that require attention, such as areas in which erosion is occurring or invasive or other weeds and 2) identify areas that may require additional measures. Additional measures will be implemented, as necessary, to ensure vegetation growth/establishment. Temporary fencing, when necessary, will be installed to avoid adverse effects to rehabilitation efforts, such as vehicular use of these areas during growth establishment.

Following each growing season, the re-vegetated areas will be visually inspected to identify areas that may require additional measures. Monitoring will qualitatively assess the effectiveness of temporary and permanent erosion control structures in stabilizing disturbed areas and controlling runoff. Site areas requiring remedial work will be identified and any additional erosion control work will be performed. It is anticipated that any active erosion problems will be apparent during the first year or two following re-vegetation or after the first major storm or runoff event. It is anticipated that the monitoring process will continue for at least three growing seasons.

#### 3.4.4 Criteria for Restoration Success

Success criteria for site restoration will be established prior to commencement of decommissioning activities as part of the restoration plan, based on the documented pre-construction conditions, experience gained with re-vegetation during operation and the condition of the site at the time of decommissioning. After a re-vegetated area meets success criteria, re-vegetation will be considered complete and re-vegetation monitoring will cease in that area.

#### 3.4.5 Reporting and Schedule

Acceptable levels of re-vegetation success and the schedule for achieving them could vary based on various factors such as soil and rainfall conditions. It is expected that successful re-vegetation will be accomplished within three years of initiation of re-vegetation activities.

#### 3.4.6 Fence

Following removal of all Project-related equipment, the chain link fence, posts and gates surrounding the project site can be removed and recycled or reused.

## 4 FUTURE LAND USE

The activities involved in the facility closure will depend on the expected future use of the site. Certain facility equipment may be utilized for future uses. Therefore, the extent of site closure activities will be determined at the time of the closure. Future uses of the lands occupied by the Project will be contingent on the County land use plans and regulations applicable to the site at the time such future use is proposed to be established.

## 5 DECOMMISSIONING COST ESTIMATE

It is anticipated that there will be costs and credits (salvage) associated with the decommissioning of the Project. These current estimates of costs and credits for the Project presented in this plan are based on preliminary design quantities and are to be updated for the as-built conditions in 5 years based as previously indicated. The table below shows the summary of the estimated present day net decommissioning costs for the Project.

### 5.1 Decommissioning Cost

The estimated decommissioning costs are associated with construction costs of a contractor decommissioning the site. This includes but is not limited to activities listed in Section 3. Decommissioning costs consisting of labor, equipment, and materials are based on labor activities from RSMeans, a construction cost estimating database. Labor activities most closely associated with each step in the decommissioning process were selected to build up the decommissioning cost estimate. Further breakdown of the material quantities and costs can be found in Attachment 2.

### 5.2 Net Salvage Value



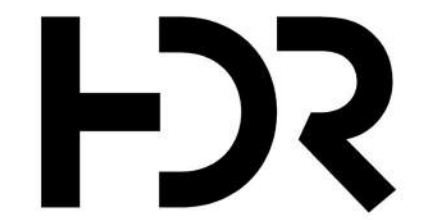
The estimated Net Salvage Value is associated with the salvage value or recycling/disposal costs of significant project materials and equipment. Salvage values are based on an estimated salvage recovery rate of raw material and current estimated unit value. Further details regarding these values can be found in the Attachment A. It should be noted that salvage values and recycling markets can fluctuate greatly, and as noted will be updated every 5 years for current market conditions.

**Decommissioning Net Cost Summary Table:**

Total Decommissioning Cost	\$5,660,800
Total (Salvage Value) or Cost	(\$3,055,300)
<b>OVERALL TOTAL</b>	<b>\$2,605,500</b>

**ATTACHMENT 1  
SITE LOCATION MAP  
AND PROPOSED LAYOUT**





NOT FOR CONSTRUCTION

PROJECT NAME  
**SR SIMPSON**

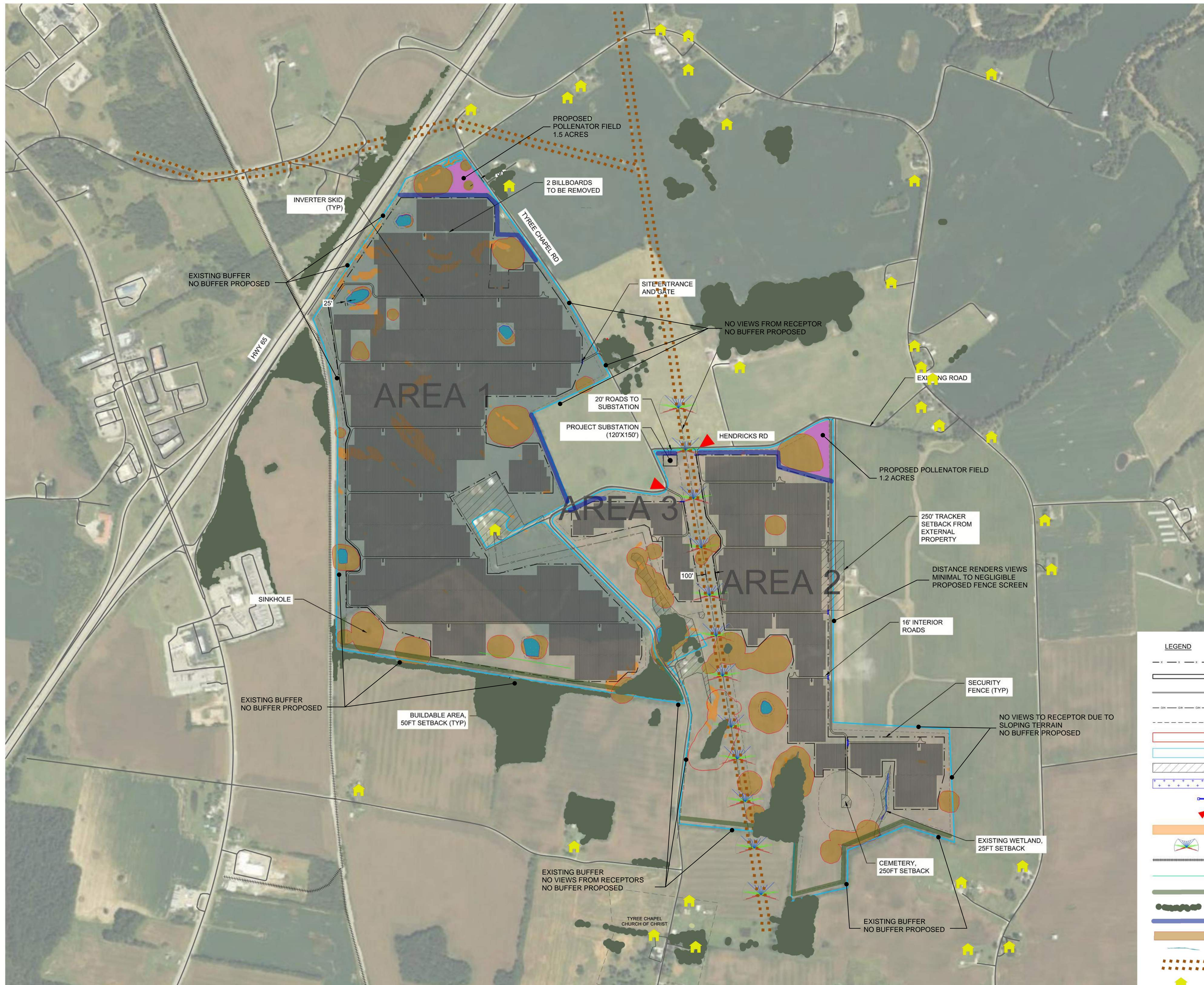
SITE LOCATION  
SIMPSON COUNTY, KY  
36.666761°,- 86.537175°

REV. NO.	DESCRIPTION	DATE

SHEET TITLE:  
**PRELIMINARY SITE LAYOUT**

PROJ. MGR. HRS	PROJ. ENGR. MWB	DATE:
DRAWN BY: KH/	CHECKED BY:	SCALE: 1" = 700'
DRAWING NO.		

**L100**



**LEGEND**

- FENCE LINE
- PROPOSED ROAD
- EXISTING ROAD
- EXISTING OVERHEAD ELECTRICAL
- SETBACK / WATERS
- SINKHOLES
- BUILDABLE AREA
- EXCLUSION AREA
- WETLANDS, 25 FT SETBACK (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- SLOPE >12%
- TRANSMISSION STRUCTURE SHADE
- RAILROAD
- SHADE SETBACK
- EXISTING BUFFER
- EXISTING WOODLAND
- PROPOSED BUFFER
- EXCLUSION AREA
- WETLAND STREAM
- OVERHEAD ELECTRIC LINES
- VISUAL RECEPTOR
- POLLINATOR FIELD

**1 OVERALL SITE LAYOUT**  
1" = 500'  
0' 250' 500' 1000'







