Union Ridge Solar

Exhibit L

Decommissioning Plan

Case No. 20-1757-EL-BGN

DECOMMISSIONING PLAN

UNION RIDGE SOLAR
HARRISON TOWNSHIP
LICKING COUNTY, OH

Prepared for:

Union Ridge Solar, LLC

6688 N Central Expressway Suite 500

Dallas, TX 75206 Contact:

Kelly Pacifico

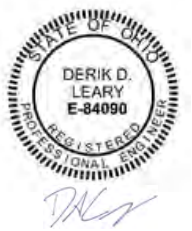
Prepared By:

Kimley-Horn & Associates, Inc.

2400 Corporate Exchange Dr. Suite 120

Columbus, OH 43231

Contact: Derik Leary, P.E.



Prepared on: February 26, 2021

TABLE OF CONTENTS

1.0 INTRODUCTION *1*

Background 1

2.0 PROJECT COMPONENTS *2*

PV Equipment 2
Internal Power Collection System 2
Earthwork 2
Roads 2
Fencing 2

3.0 PROJECT DECOMMISSIONING AND RECYLCING *3*

Decommissioning Preparation 3
Permits and Approvals 3
PV Equipment Removal and Recycling 3
Internal Power Collection System 3
Roads 4
Fencing 4
Landscaping 4
Site Restoration 4

4.0 FUTURE LAND USE *4*

5.0 PROJECT DECOMMISSION COSTS AND FINANCIAL ASSURANCE *5*

Appendices

A. Union Ridge Solar – C.101 Overall Site Plan

This page intentionally left blank

1.0 INTRODUCTION

Background

Union Ridge Solar, LLC (Project Company) is developing the Union Ridge Solar Project (Project) on approximately 513 acres of leased land. The Project will be located in Harrison Township, Licking County, Ohio. The Project will be located along the east and west sides of Watkins Road SW., approximately 0.7 miles north of the intersection of Watkins Road SW and Refugee Road SW. The site is accessible off Watkins Road SW and the geographical coordinates are 39°58'49.48"N, 82°38'43.99"W. The Solar Project is anticipated to remain operational for 35-40 years. Refer to **Appendix A: C.101 Overall Site Plan** for general location and Project layout.

The Project is planned to occupy approximately 513-acres of agricultural land for the solar field. The site is bound to the south and east by agricultural fields and residential property, to the west by agricultural fields, and to the north by woodland and agricultural fields. Site topography is moderately sloped and slopes from the north to the south with drainage towards the South Fork of the Licking River. The Federal Emergency Management Agency (FEMA) has designated the southern portion of the western site as Zone AE. No disturbance is anticipated in these areas.

This Decommissioning Plan (Plan) is developed in compliance with Ohio Power Siting Board and industry standards.

This Plan covers the following elements of the Solar Photovoltaic (PV) portion of the development:

- Removal off-site for disposal of all Project Components as defined, including any underground structures to at least 3 feet below-grade;
- Revegetation, restoration and road repair activities;
- Decommissioning escrow account.

If the Project ceases to perform its intended function for more than twelve (12) months, the Project will be completely removed within twelve (12) months, and the site restored in accordance with this Decommissioning Plan and Ohio Power Siting Board rules and regulations.

2.0 PROJECT COMPONENTS

The Project Components that are subject to decommissioning include the Solar PV equipment summarized below. The decommissioning activities associated with these components are discussed in Section 3.0 of this Plan.

PV Equipment

The Project will use Solar Photovoltaic (PV) modules mounted on single axis trackers installed on steel pile foundations.

Internal Power Collection System

The PV-generated DC power will be collected from each of the multiple rows of PV modules through one or more combiner boxes and conveyed to inverters. The inverters will convert the DC power to AC power. A project substation will be constructed to covert the electricity voltage, as necessary. The project will be interconnected into the existing Kirk Substation through a High Voltage Overhead Power Line.

Inverters, transformers, and PV combining switchgear will be mounted on concrete or pile foundations.

Earthwork

It is anticipated the site will require minimal grading for the Project. Site grading and drainage will be conducted in accordance with Final Engineering plans approved by Harrison Township, Licking County and the Ohio Power Siting Board.

Roads

Access to the Project will be via Watkins Road SW. The site access roads will be constructed in accordance with Licking County requirements. The on-site access roads will be compacted dirt or gravel in accordance with the Final Geotechnical Report.

Fencing

The Project site will be fenced with an approximately seven-foot-high fence for security purposes. Entry gates will be provided at the site access points on Watkins Road SW.

Kimley»Horn

3.0 PROJECT DECOMMISSIONING AND RECYLCING

Decommissioning includes removal of above-ground and below-ground structures relating to the Solar PV portion of the Project. Only minor grading is anticipated during construction; and therefore, will require limited to no grading following decommissioning. Temporary erosion and sedimentation control Best Management Practices will be implemented during the decommissioning phase of the Project.

Decommissioning Preparation

The first step in the decommissioning process will be to assess existing site conditions and prepare the site for demolition. Onsite storage area(s) will be established, for collection and temporary storage of demolition debris, pending final transportation and disposal and/or recycling according to the procedures listed below.

Permits and Approvals

It is anticipated that an NPDES Permit from the Ohio Environmental Protection Agency Division of Surface Water (DSW) will be required. The site is not anticipated to impact waters of the United States or Threatened or Endangered species; thus, no federal approvals are expected. Appropriate applications for permits will be submitted and approved prior to decommissioning activities, including any permits required through the Soil and Water Conservation District, Harrison Township, and/or Licking County.

PV Equipment Removal and Recycling

During decommissioning, Project components owned by the Project Company that are no longer needed will be removed from the site and recycled or disposed of at an appropriately licensed disposal facility. Above ground portions of the PV module supports will be removed. Below ground portions of the PV module supports will be removed entirely where practical. Those supports that are more firmly anchored may be cut off to a safe depth of at least three (3) feet below grade or to the depth of bedrock, and the remaining support may be left in place. This depth will avoid impact of underground equipment on future farming or other construction activities. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the onsite equipment being used. The debris and equipment will be processed for transportation and delivery to an appropriately licensed disposal facility or recycling center. Modules will be disposed of or recycled in accordance with local, state, and federal regulations.

Internal Power Collection System

The combiner boxes, cables, inverters, and transformers will be dismantled. The concrete foundations will be broken up, removed and recycled. If ground-screw or steel foundations are used, they will be removed and recycled. The underground cable and conduit will be removed where less than three (3) feet below grade. Overhead conductors will be removed from the poles, and the poles and pole foundations will be removed. Aluminum from the conductors will be recycled or removed from the site to an appropriately licensed disposal facility. All components of the project substation including, but not limited to, foundations, buildings, machinery, equipment, cabling, and connections to transmission lines will be removed.

Roads

Unless requested in writing by the landowner, gravel from on-site access roads will be removed and recycled. Once the gravel is removed, the soil below the gravel along compacted dirt access roads will be scarified a depth of 18-inches and blended, as noted in the Site Restoration section below.

Fencing

Unless requested in writing by the landowner, project site perimeter fence will be removed at the end of the decommissioning project. Since the Project site is not currently fenced, this includes removal of all posts, footings, fencing material, gates, etc. to return the site to pre-Project condition.

Landscaping

Unless requested in writing by the landowner to be removed, all vegetative landscaping and screening installed as part of the Project will be left in place. Landscape areas in which landscaping is removed will be restored as noted in the Site Restoration section below.

Site Restoration

Once removal of all Project equipment and landscaping is complete, all areas of the Project site that were traversed by vehicles and construction and/or decommission equipment that exhibit compaction and rutting, will be restored by the Project Company. All prior agricultural land will be ripped at least 18 inches deep or to the extent practicable and all pasture will be ripped at least 12 inches deep or to the extent practicable. The existence of drain tile lines or underground utilities may necessitate less ripping depth. Once this is complete, seed will be distributed for the establishment of vegetative land cover.

4.0 FUTURE LAND USE

The Project site is currently agricultural land. All solar panels will be removed from the property and the land will be restored so that it can be returned to agricultural use at the end of the Project life cycle. This Decommissioning Plan is consistent with Ohio Power Siting Board (OPSB) requirements to return the land to its pre-Project conditions, suitable for agricultural use.

5.0 PROJECT DECOMMISSION COSTS AND FINANCIAL ASSURANCE

This Decommissioning Plan will be updated prior to Construction and will consider salvage value of the Solar PV components of the Project. All solar components will be repurposed, salvaged, recycled, or hauled offsite for disposal. Solar components that are anticipated to have resale or salvage value that may be used to offset the cost of decommissioning include solar modules, racking system, steel piles, inverters, and transformers. Materials that have no value at the time of decommissioning will be recycled when possible or hauled offsite to a licensed solid waste disposal facility. A Project decommissioning cost estimate was created based on the Union Ridge Solar – Overall Site Plan included in Appendix A. See Table 1 below for a current decommissioning cost estimate, excluding salvage value This estimate will be updated prior to construction to include salvage value. See Table 1 below for a current decommissioning cost estimate. Industry standard prices in 2021 for removal costs were determined using RS Means cost data. Removal costs includes materials, contractor installation/demolition, mobilization and demobilization, overhead and profit, and performance bonding.

In the event that the Total Decommission Cost (decommission costs minus salvage value) is a net positive number, the Project Company will post decommissioning funds in the form of a surety bond, letter of credit, guaranty, including affiliate guaranty or other financial assurance consistent with the Final Decommissioning Cost Estimate. This Decommissioning Plan and financial assurance will be reviewed and updated in year 10 of operations and every 5 years thereafter to assess the value of the financial assurance versus the Total Decommission Cost.

Kimley»Horn

TABLE 1
UNION RIDGE SOLAR DECOMMISSIONING COST ESTIMATE[1]

NO.	ITEMS	QUANTITY	UNITS	PRICE	COST
1	Mobilization	1	LS	$117,080	$117,080
2	SWPPP, Erosion Control Measures	1	LS	$20,000	$20,000
3	Seeding	478	AC.	$208	$99,424
4	Ripping 18" soil/ scarifying and rough grading existing soil	478	AC.	$99	$47,322
5	Fence Removal (includes gate removal)	34,032	LF	$5	$170,160
6	Underground Collector Removal (AC and DC) and Backfill	30,735	LF	$2	$61,470
7	Remove Electrical Equipment (includes inverter removal, transformer removal, and foundation removal)	34	EA	$204	$6,936
8	Remove Photovoltaic Modules	281,060	EA	$2	$562,120
9	Remove Steel Piles (12' W6x9 piles @ 14.6' OC assumed)	44,000[3]	EA	$13	$572,000
10	Remove Support Assemblies (Racking)	3,889[3]	EA	$204	$792,000
11	Substation Removal	1	LS	$85,000	$85,000
12	Gen-Tie Line Removal	1	LS	$13,000	$13,000
13	Disconnection and demolition of substation equipment	1	LS	$17,813	$17,813
14	Transportation (this assumes 300-mile round trip)[2]	1	LS	$78,570	$78,570
				SUB-TOTAL OF DECOMMISSION COSTS	**$2,642,895**
14	Salvage Steel Piles	44,000[3]	EA	($7)	($320,760)[4]
15	Salvage Tracker Steel	1	LS	($1,120,000)	($1,120,000)[4]
				SUB-TOTAL OF SALVAGE VALUES	**($1,440,760)**
TOTAL (DECOMMISSION COSTS – SALVAGE VALUE)					**$1,202,135**

[1] This Engineer's Opinion of Probable Construction Cost is based upon the Overall Site Plan prepared Westwood Professional Services, Inc. dated 11/18/2020. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs. These quantities and costs are subject to change pending Final Engineering and should be updated as necessary.

[2] This assumes that approximately 423 trips of a 40,000 lb. capacity demolition roll-off truck will travel 300 miles round trip to a recycling and disposal facility.

[3] Steel pile and support assembly quantities were provided by Leeward Renewable Energy.

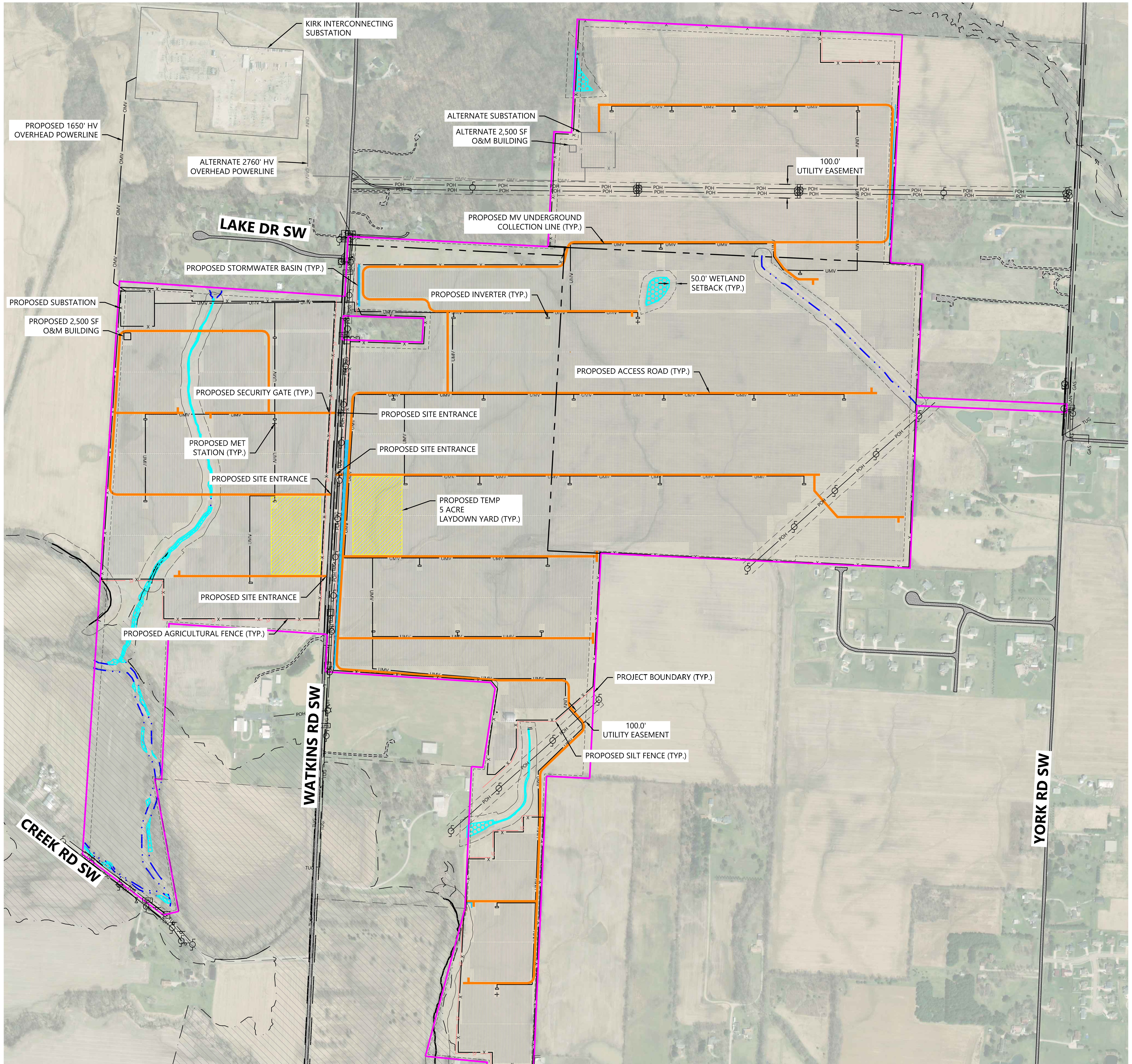
[4] This Salvage Value Estimate is based on the following salvage and material values:

Steel pile salvage value of 12' W6x9 at $7.29 per pile, using scrap metal steel price of $135 per ton;

Steel tracker salvage value is assumed to be 10% of original cost based on information provided by Leeward Renewable Energy;

APPENDIX A

Union Ridge Solar – C.101 Overall Site Plan



LEGEND:

- PROPERTY LINE
- SETBACK LINE
- PARCEL LINES
- EASEMENT LINES
- EX. WETLAND
- EX. FEMA FLOOD PLAIN
- EX. STREAM
- EX. OVERHEAD POWER
- EX. GAS LINE
- EX. OVERHEAD POWER
- EX. SANITARY LINE
- EX. WATER LINE
- EX. GRAVEL ROAD
- EX. PAVED ROAD
- PROPOSED SOLAR ARRAY
- PROPOSED ELECTRICAL EQUIPMENT
- PROPOSED MET STATION
- PROPOSED ACCESS ROAD
- PROPOSED AGRICULTURAL FENCE
- ALTERNATE AGRICULTURAL FENCE
- PROPOSED SILT FENCE
- PROPOSED UNDERGROUND COLLECTOR
- PROPOSED OVERHEAD COLLECTOR
- ALTERNATE OVERHEAD COLLECTOR
- PROPOSED STORMWATER BASIN
- PROPOSED TEMPORARY LAYDOWN YARD

System Specifications

System Size - MWDC	151.77
System Size - MWAC (At Inverter)	120.70
System Size - MWAC (At POI)	107.70
DC/AC (At Inverter)	1.26
DC/AC (At POI)	1.41
Interconnection Voltage (kV)	138
DC System Voltage (V)	1500
Module Model	Longi Hi-MO 540
Module Rating (W)	540
Module Quantity	281,060
Strings (26 Modules per String)	10,810
3-String Tracker Quantity	3,032
2-String Tracker Quantity	857
Inverter Model	HEM FS3510M
Inverter Rating (MVA @ 40C)	3.55
Inverter Quantity	34
Racking System	Horizontal Single Axis Tracker
Tracker Pile to Pile Spacing (FT)	14.6
GCR (Tracker)	49.5
Road Length (LF)	36,871
Fence Length (LF	34,032
Silt Fence Length (LF)	25,011

0' 400' 800' 1200'

Westwood

Phone (214) 473-4640
Toll Free (888) 937-5150
2740 North Dallas Parkway, Suite 280
Plano, TX 75093
westwoodps.com

Westwood Professional Services, Inc.

PREPARED FOR:

C:\Users\jsbox\OneDrive - Westwood Active Directory\Desktop\Printing\Leeward Logo.jpg

6688 N CENTRAL EXPY SUITE 500
DALLAS, TX 75206

REVISIONS:

#	DATE	COMMENT
A	09/13/2020	Issued For Review
B	11/18/2020	Issued For Review

Union Ridge Solar Project

Licking County, Ohio

Overall Site Plan

NOT FOR CONSTRUCTION

DATE: 11/18/2020

SHEET: C.101