



Appendix 8-A Visual Impact Assessment



**Visual Impact Assessment
Cider Solar Farm**

Towns of Elba and Oakfield
Genesee County, New York

April 30, 2021

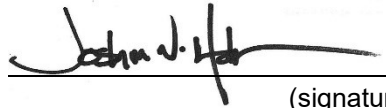
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**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**

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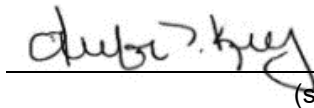
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Acronyms and Abbreviations

DEM	Digital Elevation Model
ESRI	Environmental Systems Research Institute
GIS	Geographical Information System
KOP	Key Observation Point
kV	kilovolt
LSZ	landscape similarity zone
mm	millimeter
MW	megawatt
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
ORES	New York State Office of Renewable Energy Siting
POI	point of interconnection
PV	photovoltaic
VIA	Visual Impact Assessment
VP	Viewpoint



Glossary

These terms are included in Federal Highway Administration (FHWA) Guidelines for the Assessment of Highway Projects (FHWA 1988, 2015). Slight modifications in terminology and descriptions have been made to some terms to reflect the way the Federal Highway Administration method is applied in this report.

Color	The light reflecting off an object at a particular wavelength that creates hue (green, indigo, purple, red, etc.) and value (light to dark hues).
Distance Zones	<p>Distance zones are based on the position of the viewer in relationship to the landscape. They are measured from one static point, such as the location of a viewpoint. There are three defined distance zones:</p> <ul style="list-style-type: none">• Foreground: Up to 0.25–0.5 miles from the viewer• Middleground: Extends from the foreground zone to 3–5 miles from the viewer• Background: Extends from the middleground zone to infinity
Form	The unified mass or shape of an object that often has an edge or outline and can be defined by surrounding space. For example, a high-rise building would have a highly regular, rectangular form whereas a hill would have an organic, mounded form.
Intactness	The integrity of visual order in the natural and human-built landscape, and the extent to which the landscape is free from visual encroachment.
Key Observation Point (KOP)	A viewpoint usually selected for use in a visual impact analysis because it is either critical or representative of the visual character of either the environment or the project. If simulations are prepared for an analysis, they are prepared for views from KOPs.
Landscape Similarity Zones	Defined areas within a project area that have similar visual features and homogeneous visual character and frequently, a single viewshed (i.e., an “outdoor room”). Typically, the spatial unit used for assessing visual impacts.



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Line	Perceived when there is a change in form, color, or texture and where the eye generally follows this pathway because of the visual contrast. For example, a city's high-rises can be seen silhouetted against the blue sky as a skyline, a river can have a curvilinear line as it passes through a landscape, or a hedgerow can create a line where it is seen rising up against a flat agricultural field.
Simulations	Two- or three-dimensional depictions of the visual character of a future state. Simulations range from artistic renderings to computer animations.
Texture	The perceived coarseness of a surface that is created by the light and shadow relationship over the surface of an object. For example, a rough surface texture (e.g., a rocky mountainside) would have many facets resulting in several areas in light and shadow and, often, with distinct separations between areas of light and shadow. Conversely, a smooth surface texture (e.g., a beach) would have fewer facets, larger surface areas in light or shadow, and gradual gradations between light and shadow.
Unity	The degree to which the visual resources of the landscape join to form a coherent, harmonious visual pattern. Unity refers to the compositional harmony or inter-compatibility between landscape elements.
Viewers	<p>Those who occupy or will occupy a project site or lands within a project's viewshed can see the proposed project and travelers who would use it.</p> <ul style="list-style-type: none">• Neighbors: Viewers who occupy or will occupy land adjacent or visible to the proposed project. For a complex or controversial project, neighbors can be defined by land-use, including residential, retail, commercial, industrial, agricultural, recreational, and civic neighbors.• Travelers: Viewers who use area transportation corridors that intersect a project area. For complex or controversial projects, travelers can be defined by the purpose of traveling, including commuting, hauling, touring, or exercising travelers, or by their mode of travel as motorists, bicyclists, or pedestrians.
Viewshed	The surface area visible from a location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail). The area in which the project would theoretically be visible as influenced by the presence or absence of intervening topography, vegetation, and structures.



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Visual Character	The description of the visible attributes of a scene or object typically using artistic terms such as form, line, color, and texture.
Visual Quality	What viewers like and dislike about visual resources that compose the visual character of a particular scene. Different viewers may evaluate specific visual resources differently based on their interests in natural harmony (harmony is considered desirable; disharmony is undesirable), cultural order (orderly is considered desirable; disorderly is undesirable), and project coherence (coherent is considered desirable; incoherent is undesirable). Neighbors and travelers may have different opinions on what they like and dislike about a scene.
Visual Resources	<p>Components of the natural, cultural, or project environments capable of being seen.</p> <ul style="list-style-type: none">• Natural Visual Resources: The land, water, vegetation, and animals that compose the natural environment. Although natural resources may have been altered or imported by people, resources that are primarily geological or biological in origin are considered natural. A grassy pasture with rolling terrain, scattered trees, and grazing cows, for example, is considered to be composed of natural visual resources, even though it is a landscape created by people.• Cultural Visual Resources: The buildings, structures, and artifacts that compose the cultural environment. These are resources constructed by people.• Project Visual Resources: The constructed resources that were or will be placed in the environment as part of the proposed project.
Vividness	The memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern.



1.0 INTRODUCTION

Hecate Energy Cider Solar LLC (Hecate, or “Applicant”) is proposing to develop the Cider Solar Farm (the Project), an approximately 500-megawatt (MW) alternating current photovoltaic (PV) solar energy generation facility north of the Village of Oakfield, Village of Elba, and approximately 5 miles north of the City of Batavia in Genesee County, New York (Figure 1. Project Location; Figure 2. Project Layout). The Project Area is 7,518 acres in size, approximately 4,650 acres of which would include the built Project (“Project Site”). Existing land use in the vicinity of the Project is characterized predominantly as agricultural and includes expansive farming operations.

Not all of the lands in the Project Site or Project Area will be included in the final Project; they comprise the broader area that has been studied, within which parts will eventually be developed with solar facilities. This approach provides flexibility during Project development to minimize and avoid impacts to wetlands, cultural resources, visual resources, wildlife habitat, and other sensitive resources. The Project will ultimately occupy approximately 2,452 acres of the Project Site (the “Project Footprint”). Hecate plans to lease land from private landowners, which will provide a stable and predictable revenue stream without having to sell their property.

The Project will involve the construction, operation and maintenance of a utility scale solar project consisting of PV panels arrayed primarily in fields on tracking structures and include buried electrical collection cables, inverters, access drives, an electrical transmission line and a point of interconnection (POI), fencing, and temporary laydown areas for equipment staging during construction. The Project will interconnect to the New York Power Authority Dysinger – New Rochester 345-kilovolt (kV) transmission line to deliver power to the New York State (NYS) Grid. It is anticipated that the Project will be constructed in 2022 and 2023. It has a proposed In-Service Date of August 31, 2023, and a Commercial Operation Date of December 31, 2023.

On behalf of Hecate, Stantec Consulting Services Inc. (Stantec) prepared this Visual Impact Assessment (VIA) for the Project. The VIA is intended to assess the potential visibility and visual impact associated with the Project. It is considered a large-scale renewable energy project and will be reviewed by the NYS Office of Renewable Energy Siting (ORES) pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act and Chapter XVIII, Title 19 of New York Codes, Rules and Regulations Part 900 (Part 900).

1.1 PART 900 EVALUATION OF VISUAL IMPACTS

Part 900 regulations require the following primary components for an evaluation of the Project's potential visual impacts:

- a) A VIA that addresses: the character and visual quality of the existing landscape; the visibility of the facility, including glare; the visibility of all above-ground interconnections and roadways to be constructed within the facility as determined by viewshed analysis; the appearance of the facility upon



completion; proposed facility lighting; representative views of the facility; the nature and degree of visual change resulting from construction of the facility and above-ground interconnection; the nature and degree of visual change resulting from operation of the facility; an analysis and description of related operational effects of the facility such as glare; and a description of all visual resources that would be affected by the facility.

- b) A viewshed analysis depicting areas of facility visibility within two (2) miles of a solar facility as well as any potential visibility from specific significant visual resources beyond the specified Study Area, based on topography and vegetation, the highest elevation of facility structures and distance zone (foreground, midground and background areas); landscape similarity zones and the potential screening effects of vegetation shall also be shown.
- c) A visual contrast evaluation based on photographic simulations of the facility and mitigation where proposed, conducted by a rating impact panel.
- d) A Visual Impacts Minimization and Mitigation Plan including proposed alternatives based on an assessment of mitigation strategies, including those to address potential glare impacts.

2.0 PROJECT DESCRIPTION

The Project will involve the construction, operation, and maintenance of a utility scale solar project consisting of PV panels arrayed primarily in fields on tracking structures and will include buried electrical collection cables, inverters, access drives, an electrical transmission line and a POI, fencing, and temporary laydown areas for equipment staging during construction.

The Project will consist of the following components:

- Arrays of PV panels mounted on single axis tracking or fixed tilt structures
- Inverters to convert direct current electricity to alternating current electricity
- An electrical collection system among the panel arrays
- A new substation to deliver power to the existing on-site transmission interconnection
- New access roads approximately 15 to 20 feet wide
- Fencing approximately 6 feet to 8 feet high
- Temporary on-site laydown areas for equipment staging during construction

While the model of PV panels has not been selected, the anticipated height of the solar array will be approximately 10 to 12 feet.

The proposed POI will be on the existing Dysinger – New Rochester 345 kV transmission line. A new substation will be sited on approximately five acres of private land located within the Project Site, adjacent to the existing line.



It is anticipated that the Project will be constructed in 2022 and 2023, with a proposed In-Service Date of August 31, 2023 and a Commercial Operation Date of December 31, 2023.

3.0 METHODS

This report was developed based on standard methodologies of visual impact assessment to address requirements described in Part 900-2.9 (Exhibit 8). Visual impact assessment and the general approach included in methodologies are developed by various state and federal agencies, including the Federal Highway Administration (2015); U.S. Department of the Interior, Bureau of Land Management (1986); and the NYS Department of Environmental Conservation (2000).

This VIA includes identification of visual and aesthetic resources within the visual Study Area ("Study Area"), viewshed analysis, photographic documentation of the Study Area, representative visual simulations of the Project, and the assessment of the Project's visual impacts, including cumulative effects, and proposed visual impact mitigation. The methods for each of these are described in further detail in this section.

The Study Area in this VIA is the area evaluated for visual resources. It is the area within a 2-mile radius of the Project Site, as required by Part 900 (Figure 3. Visual Study Area). Potentially significant visual resources beyond the 2-mile radius are identified below and eliminated from further consideration.

3.1 INVENTORY OF AESTHETIC RESOURCES

Stantec Geographical Information Systems (GIS) specialists conducted a desktop inventory of aesthetic resources within the visual Study Area (Figure 4. Visual Study Area and Landscape Similarity Zones). Resources of statewide significance were identified within a 5-mile radius of the Project and locally significant visually sensitive resources were identified for the area within 2 miles of the Project. Historically significant resources within 2 miles of the Project are based upon the architectural resources survey produced for the Project (Panamerican Consultants, 2021).

To identify aesthetic resources of statewide and local importance within the Study Area, Stantec consulted digital geospatial data (shapefiles) obtained primarily through the National Register of Historic Places, NYS GIS Clearinghouse, or Environmental Systems Research Institute (ESRI); national, state, county, and local agency websites; websites specific to identified resources; and web mapping services such as Google Maps.

Aesthetic resources were inventoried in accordance with the NYS Department of Environmental Conservation (NYSDEC) Program Policy DEP-00-2 Assessing and Mitigating Visual Impacts (NYSDEC, 2019), which defines 16 specific types of properties as scenic and aesthetic resources of statewide significance. Visual resources identified by NYSDEC in Program Policy DEP-00-2 are consistent with the



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types of resources identified in Part 900. All sources of data that were used to identify scenic resources within the Study Area are identified in Attachment A. The types of resources inventoried include:

Resources of Statewide Significance¹

- A historic resource listed or eligible for inclusion in the State or National registers of historic places
- State Parks
- NYS Heritage Areas (formerly Urban Cultural Parks)
- The State Forest Preserve
- National Wildlife Refuges and State Game Refuges
- National Natural Landmarks
- The National Park System, Recreation Areas, Seashores, and Forests
- Rivers designated as National or State Wild, Scenic, or Recreational
- A site, area, lake, reservoir, or highway designated or eligible for designation as scenic, including NYS Scenic Byways or NYS Department of Transportation equivalent
- Scenic Areas of Statewide Significance
- A state or federally designated trail, or one proposed for designation
- Adirondack Park Scenic Vistas
- State Nature and Historic Preserve Areas
- Palisades Park
- Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space category
- National Heritage Areas

Resources of Local Interest

- Recreation areas including playgrounds, athletic fields, boat launches, fishing access, campgrounds, picnic areas, ski centers, and other recreational facilities/attractions
- Areas devoted to the conservation or the preservation of natural environmental features (e.g., reforestation areas/forest preserves, wildlife management areas (WMAs), open space preserves)
- Designated bicycling, hiking, ski touring, or snowmobiling trails

¹ The Coastal Area Scenic Areas of Statewide Significance, Adirondack Park Scenic Vistas and Palisades Interstate Park will not be affected by any activities or development in the Project Area.



- Designated parkways, highways, or scenic overlooks and vistas
- An interstate highway or other high volume (relative to local conditions) road of regional importance

Based upon the inventory, Stantec identified scenic and aesthetic resources of statewide significance in the following categories within the Study Area:

- State WMAs
- State or federally designated trails
- Aesthetic resources of local interest

The results of the desktop inventory of aesthetic resources are presented in Attachment B. Their locations are shown in Figure 5. Visibility Assessment, Visually Sensitive Resources, and Key Observation Points. The majority of national or state Register of Historic Places resources are buildings, churches, and cemeteries. All registered resources are outside of the 2-mile Study Area. A NYS Heritage Area near the Study Area is the Western Erie Canal Heritage Corridor, which is a part of the larger National Heritage Area known as the Erie Canalway National Heritage Corridor. These corridors are very wide, encompassing much of the area surrounding the Erie Canal; however, the nearest part of the actual canalway is over 9 miles away from the Project Site. The Project will not be visible from this resource.

The nearest WMA is the Oak Orchard Wildlife Management Area in the towns of Alabama and Oakfield. This WMA falls within the Study Area and the Project Site boundaries and would be approximately 0.52 miles away from the Project. Within the WMA and the surrounding area are several state designated hiking and snowmobile trails that pass through or near to the Project Site. Aesthetic resources of local interest surrounding the Project primarily include schools, local parks, churches, cemeteries, emergency service buildings, and local government buildings. The East Oakfield and Gardner cemeteries are the only aesthetic resources of local interest that are within the Project Site boundary. East Oakfield Cemetery would be approximately 362 feet away from the Project, while Gardner Cemetery, located on private property, would be about 118 feet away from the Project. The remaining local resources are located outside of the Project Site and are documented in Attachment B.

Identification of these aesthetic resources established a framework for preliminary identification of viewpoints for use in this VIA so that potentially sensitive views would be addressed. Identification of viewpoints was further refined by development of a series of viewshed analyses.

3.2 VIEWSHED ANALYSIS

A viewshed analysis is a GIS-based map based on the maximum height of proposed components and surrounding topography that identifies areas of potential project visibility within the Study Area. In its most basic form, a viewshed graphic's line-of-sight analysis between project components and ground elevations throughout the surrounding terrain. It does not account for intervening vegetation or structures but serves as an initial step in defining a project's visibility and informs selection of preliminary viewpoints in representative areas. Assumptions for presence of vegetation are typically made for projects located within or near forested areas.



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Topographic viewshed maps were prepared using United States Geological Survey digital elevation model (DEM) data, coordinates, and dimensions of the Project Site layout as proposed, an assumed viewer height of 1.7 meters (5.6 feet), and ESRI ArcGIS® software with the Spatial Analyst extension. The viewshed analysis assumes a maximum height for the Project of 12 feet, the highest point of the solar arrays. The solar arrays were represented in the viewshed model by a polygon consisting of 1,431 uniformly distributed points. In addition, a base vegetation layer was created using the most recent United States Geological Survey National Land Cover Dataset to identify the mapped location of forest land within the Study Area. The mapped locations of the forest land were assigned an assumed height of 40 feet and added to the DEM. The Project substation was under design at the time the viewshed analysis was conducted. Its potential effects are evaluated elsewhere in this VIA, but it was not included in the viewshed analysis. The Project includes no new above-ground conductor or transmission lines aside from those between the switchyard and the adjacent POI (223 feet).

Figure 5 presents the results of the viewshed analysis, based on the combined screening effect of topography and mapped forest vegetation. This map is presented on a 1:24,000 scale topographic base map, with areas of “more” or “less” visibility indicated by color shade. Indication of theoretical visibility informed identification of viewpoints for site photography and selection of Key Observation Points (KOPs; Section 3.5) used in analysis of Project effects.

3.3 IDENTIFICATION OF LANDSCAPE SIMILARITY ZONES

Part 900 also requires inclusion in the viewshed maps of a landscape similarity zone (LSZ) overlay. An LSZ is a discrete area or collection of areas within a project area that possess common characteristics with regard to landform, water resources, vegetation, land use, and land use intensity. An LSZ has a unified landscape of visual character and allows for the distinguishing of both views and viewer types within the broader landscape. Identification of LSZs within a Study Area allow for delineation between landscapes and land uses and provide for some differentiation within the area with regard to not only potential project visibility but also viewer type, sensitivity, and expectations. The LSZs identified for the Project are based on National Land Cover Dataset categorization:

- “Community Crossroads / Corridor” includes all lands categorized at “Developed” (including the High Intensity, Medium Intensity, Low Intensity, Open Space sub-categories).
- “Forest” includes all lands categorized as Deciduous Forest, Evergreen Forest, Mixed Forest, Shrub/Scrub, or Woody Wetlands
- “Agriculture” includes the remainder of the lands within the Study Area which are categorized as Open Water, Barren Land, Herbaceous, Hay/Pasture, Cultivated Crops, or Emergent Herbaceous Wetlands.
- The LSZs are shown in Figure 4.

3.4 FIELD VERIFICATION

Areas identified in initial viewshed analyses as potentially affording views toward the Project from public roadways and other publicly accessible vantage points were verified by Stantec staff during visits to the



Study Area. Field review was conducted from various distances, LSZs, and inventoried aesthetic resources within the Study Area. Site photography was also conducted during these visits.

Stantec photographers visited the site on three separate occasions, documenting views toward the Project Site from locations throughout the surrounding area. Preliminary photographs were collected in June 2020. Formal photography took place over 2 days in October 2020. And a brief follow-up site visit occurred in December 2020. Atmospheric conditions ranged from clear to partly to mostly cloudy during each instance of site photography.

Formal photography was conducted with a high-resolution, full-frame, 35 millimeter (mm) Digital Single-Lens-Reflex camera with a fixed 50mm lens. A 50mm focal length is widely accepted as an industry standard for approximating the field of vision of the human eye. That is, a photograph of a landscape shot with a full-frame camera with a 50mm lens generally replicates what a person would see in a single frame of view. Preliminary photographs collected with a 24mm lens included in this VIA have been cropped appropriately and it has been noted where that occurred.

Viewpoint locations were documented using coordinates from a hand-held global positioning system device. Photograph orientation was based on site layouts current at the time of each site visit and site photography itineraries were developed to align west-facing views with morning hours (when the Project's articulating panels would be oriented toward the east) and east-facing views with afternoon hours (when Project panels would face west). This was done to maximize the Project's visibility in simulations.

Stantec collected more than 400 photographs of the Study Area from 60 viewpoints (VPs). These locations included preliminary viewpoints identified by the viewshed analysis, which were validated and retained or revised based on confirmation of Project Site visibility, as well as views from inventoried aesthetic resources in the direction of the Project Site. All photographs serve to document Project visibility and existing visual conditions within and near the Project Site. Views from all VPs are represented in the photograph log in Attachment C.

3.5 SELECTION OF KEY OBSERVATION POINTS

From the set of VPs photographed, Stantec identified 7 KOPs that represent the general ranges of viewer sensitivities, landscapes, and land uses in the Project Area. These KOPs are viewpoints that:

- Are informed by viewshed mapping;
- Provide open views toward the Project Site from different directions throughout the visual Study Area;
- Represent inventoried aesthetic resources within the visual Study Area;
- Illustrate open, representative views from the various LSZs within the visual Study Area;
- Illustrate open views of the Project that may be available to representative viewer/user groups within the visual Study Area; and
- Illustrate the range of visual effects that could result from the Project, including vegetation removal, view obstruction from Project components, and extent of Project in view.



Once potential KOPs were identified, Hecate sent a request to ORES, the Town of Elba, and the Town of Oakfield, seeking feedback regarding the identification of important aesthetic resources and/or representative VPs in the Project vicinity to inform the selection of candidate VPs for the development of visual simulations. Hecate provided a memorandum related to recommendations for visual simulations to the visual stakeholders and solicited comments on the VPs selected from municipal planning representatives and visual stakeholders that were identified on the master stakeholder list for the Facility. Stakeholder correspondence is presented in Attachment D. The KOPs are described in Section 5.

3.6 SIMULATIONS

Visual simulations, in which a photo-realistic model of a project is placed into existing photographs, serve as the basis by which contrast between existing conditions and those with the project is evaluated. Based upon the VP selection, photographic simulations were developed by constructing a three-dimensional computer model of the proposed Project components and layout based on Project specifications and coordinates.

Using Autodesk 3ds Max™, Stantec visualization specialists built a three-dimensional model of the Project based on the layout and specifications provided by Hecate. Along with the solar module arrays, the location and appearance of proposed inverters, access roads, and substation facilities were incorporated into the model and are present in the simulations where they would be visible. A simulated perspective (camera view) was built to match the geo-referenced location of each VP, as well as the bearing and focal length of each photograph. Stantec obtained and used DEM data as the land base upon which existing elements in each view (e.g., buildings, vegetation, infrastructure) were modeled based on aerial imagery. A three-dimensional topographic model of the landform (based on DEM data) was developed, and minor adjustments were made to camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph. Vegetation in view was modeled in the elevation model and eliminated from view where it would be removed with the Project. The orientation of the solar array modules is consistent with the time at which the photograph was taken. In simulations of Visual resources specialists reviewed simulations for photo-realistic quality and consistency with the Project plans and layout.

Photographic simulations of the Project from each of the selected VPs are provided in Attachment E. The simulations assume a maximum height of 12 feet for the solar panels.

3.7 ASSESSMENT OF EFFECTS ON VISUAL RESOURCES

The Project's potential effects on visual resources were then assessed by a panel consisting of landscape architects and a community planning professional. The panel was provided contrast rating forms for each of the 7 KOPs that included general data about the VP location and its vicinity and showed the existing view along with the view with the Project simulated. Panelists assessed existing visual character for the view by describing in terms of form, line, color, and texture the landscape elements that are part of the natural environment (land, water, vegetation, and animals) and the cultural environment (buildings, infrastructure, structures, and artifacts and art). They assessed existing visual quality based on the view's natural harmony, cultural order, and overall coherence, assigning a rating ranging from "very low" to "very



high". This assessment of visual quality was replicated for the simulated images showing the Project as it would be seen from each VP. The difference in visual quality rating for each view between existing and proposed conditions established the degree of contrast in visual quality from the Project. In addition, for landscape elements present in views, panelists rated the change in visual character from "none" to "strong."

The assessment of effects on visual resources in Section 5 of this VIA summarizes and aggregates panelists' assessments of changes to visual character and quality to the existing environment with the Project in place. Contrast in visual character is reported where observed by panelists. Contrast in visual quality is reported comparatively, with existing and proposed conditions as assessed for each KOP presented side-by-side. Finally, upon completion of the Landscape Plan, developed to screen portions of the Project in views toward the Project site, panelists qualitatively assessed the extent to which proposed mitigation would minimize identified effects.

During the review process, one of the original panel members became unavailable for further work on the Project; an alternate panelist with comparable credentials and familiarity with the Project Area assumed the previous panelist's role, vetted the previous analysis, and completed the evaluation.

KOP 3 shows the view toward the Project substation. While initially among the set of views intended to be reviewed by panelists, during the Project design phase the substation location was shifted further away from public view and beyond rows of vegetation that would effectively screen it from view. KOP 3 remains part of the set discussed in this document, but panel evaluation of the view is no longer included.

The results of the panel evaluation are presented in Section 5.3. The review panel evaluation forms are included in Attachment F and the resumes of the review panelists are included in Attachment G. Proposed screening is shown in the Landscape Plan summarized in Figure 6. Figure 6A shows species types and proposed locations of solid and intermittent screening throughout the Project. Figure 6B shows modules for solid and intermittent screening, indicating spacing between plants for each one.

4.0 EXISTING SETTING

This section defines the Project Site and Study Area, describes the LSZs identified for this study, and identifies the primary sets of viewers presumed to have views toward the Project.

The Project setting is the Ontario Lowlands ecoregion of New York, which is defined by the extent of Glacial Lake Iroquois (Bryce et al., 2010). The relative proximity of the Ontario Lowlands ecoregion to Lake Ontario allows for a temperate climate in summer and winter. This lake effect contributes to cloudy, frequent fog, and significant amounts of snow in the late fall and winter months. Historically, forests in the area were dominated by beech and sugar maple with a small number of white oaks, basswood, elms, and white ash. Woodlands once entirely covered this ecoregion; however, only scattered forests remain today due to the region's high agricultural capability. The loamy soils of the area are derived from limestone and calcareous shale. Generally, these soils are deep and finely textured. Although dairy and livestock farming is common in Genesee County, the soils and climate of are also highly suitable for growing fruit, vegetables, and other specialty crops.



This section defines the Project Site and visual Study Area, describes the LSZs identified for this study, and identifies the primary sets of viewers presumed to have views toward the Project.

4.1 PROJECT SITE

The Project Site will be located within Genesee County, north of the Village of Oakfield, Village of Elba, and approximately 5 miles north of the City of Batavia. The area is roughly bordered by Albion Road / Highway 9 to the west, and Arnold Road to the east. Lockport Road bisects the Project Site from east to west. The villages of Oakfield and Elba are located approximately 1.5 miles and 0.7 miles, respectively, south of the Project's southern boundary.

The Project will be located on leased and private land in an area generally characterized by agricultural and forested lands spread across a landscape that is mostly topographically level but also includes some rolling hills. Rural residences, many associated with the active farmlands, are concentrated along the roadways that cross the area.

The Project Site is defined as the parcels and surrounding/adjacent land, currently under assessment for development, or being pursued, for purchase, lease (or other real property interests), by the Applicant for the location of all Project components, totaling approximately 4,650 acres. The Project Area refers to the Project Site and surrounding/adjacent land totaling approximately 7,518 acres. Ultimately, the limit of disturbance of the Project, or the Project Footprint, will include 2,452 acres.

4.1.1 Regulatory Setting

NYS has regulatory authority over proposed major renewable energy facilities pursuant to a permit issued by ORES in accordance with the requirements of Part 900. This permit process provides consolidated environmental review and permitting for major renewable energy facility siting by establishing ORES as the singular forum for application review. ORES undertakes a coordinated and timely review of proposed facilities while ensuring the protection of environmental, social, and economic factors. This process allows for a streamlined review of applications by not requiring developers or owners of proposed facilities to apply for numerous state and local permits while ensuring that these facilities are constructed and operated in compliance with local laws and regulations.

Part 900 requires a VIA to determine the extent and assess the significance of facility visibility, including the identification of visually sensitive resources. Although ORES has regulatory authority over the development of the Project, local laws and regulations were also reviewed to identify regional visually sensitive areas and aesthetically valuable resources surrounding the Project. The towns of Elba and Oakfield have put in place solar energy laws and recommended zoning for solar energy facilities, respectively, which establish the design and setback requirements for locally sited solar energy facilities. These requirements aim to preserve the aesthetic value of the towns and to minimize adverse impacts on properties neighboring the Project Site. All sources of data that were used to identify scenic resources within the Study Area are included in Attachment A.



4.2 VISUAL STUDY AREA

The Study Area for this VIA is a 2-mile area around the Project Site. Part 900 also requires consideration of specific significant visual resources beyond the specified Study Area. Figure 3 shows the 2-mile Study Area, along with distance zones from Project Site, indicating the areas within which the Project could be visible in foreground (up to 0.5 miles from the viewer), middle ground (between foreground and 3 miles away), and background views (greater than 3 miles away). The VPs from which photographs were collected in support of the VIA are also shown on Figure 3. The Project would not be identifiable as a solar energy development, or visible at all, in views from the Oak Orchard Wildlife Management Area, the Iroquois National Wildlife Refuge, or the John White Wildlife Management Area. The Study Area is also included in Figure 4, which identified LSZs within the Study Area (see Section 4.3) and Figure 5, which is a map book showing the results of a viewshed analysis, the inventory of aesthetic resources and visually sensitive receptors of statewide significance, and the KOPs used in the analysis of visual effects at the scale required by Part 900, all of which are discussed in Section 5.



Views from within Oak Orchard Wildlife Management Area (VPs 47 and 48) in the direction of the Project Site, which is over 2.5 miles away, outside of the 2-mile Study Area. Intervening vegetation common throughout this area limits views to short-distance ones.



Vegetation, topography, and distance contribute to the lack of Project Site visibility from Iroquois National Wildlife Refuge headquarters, left (VP 59) and the John White Wildlife Management Area, right (VP 60). These locations are approximately 6 miles from the Project Site, outside of the Study Area.

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The 2-mile Study Area occupies portions of Genesee County and Orleans County that include four towns and two villages (Table 1. Towns, Cities, and Villages within the Visual Study Area).

Table 1. Towns, Cities, and Villages within the Visual Study Area

County	Towns, Cities, and Villages		
Genesee	Town of Elba Village of Elba	Town of Oakfield Village of Oakfield	Town of Alabama
Orleans	Town of Barre		

The landscape character of the Study Area is defined by a widespread, visible contrast between forested lands and managed agricultural fields. Throughout the Study Area, mature vegetation appears to compartmentalize relatively small tracts of agricultural land such that, in many views, farmland appears framed on one or more sides by forests or hedgerows of trees and shrubs. Though there are slight variations in topography, most of the Project Site is relatively flat. The depth of the area visible in views is generally limited more by vegetation than terrain, with some exceptions.

Farms in the area mostly raise row crops; corn, in various stages of harvest, was the predominant crop observed during site photography. There is, therefore, a linear uniformity to much of the farmland for a portion of each year. Existing high-voltage transmission lines that transect the Study Area add a strong linear element to views where they are visible. They also contribute an industrial character in views, as do some of the larger farms in the area, where sheds, processing facilities, machinery, and other mechanized components are visible.



Left: Vegetation bounds agricultural plots throughout the Study Area (VP 26). Right: Agricultural facilities and transmission structures appear along the top of a knoll, one of the relatively few portions of the Project Site with a pronounced variation in topography (VP 32).



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Left: A farm with highly visible crop processing equipment (VP 40). Right: A high-voltage transmission line crosses a segment of the Project Site (VP 28).

The Study Area is located within a network of local, regional, and state roadways, which provide the majority of the publicly accessible viewing locations from which the Project would be visible. There are also intermittent views along snowmobile trails. Roads and trails are not primary components of any view; most roads are narrow and two-laned and none in the Study Area have scenic designation. Rather, these linear components are subordinate to the landscape and afford locations from which viewers can observe the dominant components of existing visual character. Farms are visible in close-in views, as are residences, which, outside of established villages, are concentrated along roads. Single-family homes are observable in clusters or as lone residences associated with farms, where they are often backdropped in views by a tree-formed horizon. The predominant visual character of the Study Area is a natural-appearing combination of forest and agriculture with development generally limited to villages and corridors.

Views throughout the broader Study Area are limited in distance by forests and vegetative stands. Within the villages of Oakfield and Elba, as well as within other areas of clustered development, structures, landscaping, or other elements of the built environment partially to fully obstruct views and limit visible areas to the viewpoint's immediate surroundings.



Views in the direction of the Project Site from within the Village of Oakfield (left; VP 51) and the Village of Elba (right; VP 17) are obstructed by structures and vegetation within the immediate foreground, an effect typical in views from within villages and other developed areas.



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Most of the scenic resources inventoried for the Project are within these villages (Figure 5). Outside of Elba and Oakfield are the trails within the Oak Orchard Creek State Game Refuge and cemeteries. Distance, vegetation, or both enclose views in these areas and eliminate visibility of the Project Site.



Left: Like ground-level views from elsewhere within the Oak Orchard Wildlife Management Area, this elevated view from an eagle observation platform (VP 45) is screened by vegetation. Right: Vegetation along the south side of the East Oakfield Cemetery obstructs views from within the cemetery to the Project Site just beyond (VP 33).

4.3 LANDSCAPE SIMILARITY ZONES

Three LSZs, each of which possesses common landscape characteristics and visual character, were identified within the 2-mile Study Area. They are described here, mapped in Figure 4, and summarized below in Table 2. Landscape Similarity Zones in Study Area. Identification of such areas is intended to broadly categorize primary uses and activities within the visual Study Area.

Table 2. Landscape Similarity Zones in Study Area

Landscape Similarity Zone	Area of LSZ within 2-mile Study Area (square miles)	Percentage of Total Area
Agriculture	35.6	62.0
Community / Crossroad / Corridor	3.1	5.4
Forest	18.7	32.6
Total:	57.5	100

Agriculture: Lands predominantly dedicated to agricultural production. Landscape indicators include managed or irrigated fields or crops, pasturelands, fallowed fields, and structures such as barns, siloes, or other outbuildings. These are landscapes of production. Within the visual Study Area, the Agriculture LSZ includes some variation in topography, with boundaries often signified by stands of vegetation. Rural residences, which often appear associated with or adjacent to agricultural uses, vary in density within the Agriculture LSZ. Some areas include sparsely placed residences while others include residential clusters. Roads and highways that pass through the Agricultural LSZ are considered part of the LSZ.



Forest: State forests and private forest lands. Landscape indicators include dense, wooded vegetation and formal or informal signage indicating land ownership/management and recreational facilities, including hiking and snowmobile trails.

Community Crossroads / Corridor: Established communities with concentrated populations, services, and some degree of incorporation, as well as areas of concentrated rural residences. Crossroads in this report are defined as intersections between two county roads or a county road and a state route. Residences are often clustered at crossroads areas, which also serve as landmarks within the local landscape.

4.4 VIEWERS / USER GROUPS

The primary groups of potential viewers include the following, which are described based on the Federal Highway Administration definitions of neighbors and travelers (FHWA 2015).

Local Residents: Residential neighbors are viewers who live within viewing distance of the Project. Such viewers are located throughout the Study Area, concentrated along arterial and local roads. Their visual preferences tend toward a desire to maintain the existing landscape as it is. Depending on their location, residential viewers are often interested in cultural order and natural harmony, with less emphasis on project coherence unless it impacts their ability to appreciate the other two aspects of visual quality.

Agricultural Neighbors: Agricultural neighbors are farmers of crops or herd animals. They often work in fields and pastures, such as those in the Study Area. Some are permanent; many are migratory but may return to the same area again and again over the years. Agricultural neighbors regard cultural order and natural harmony as critical components of the landscape. They are less interested in project coherence.

Recreationists / Tourists: Recreational viewers provide or participate in recreation within the project viewshed. Recreation includes organized sporting events, indoor and outdoor leisure activities, and cultural events. In areas within the Study Area, recreational activities mainly include wildlife watching and use of hiking and snowmobiling trails. The visual preferences of recreational viewers tend to be focused on and associated with their recreational activity. They tend to prefer the status quo and are leery of visual encroachments that may cause adverse effects on the setting of their activity. Depending on the type of recreation, recreational viewers are very interested in cultural order and natural harmony, with some emphasis on project coherence as it impacts their experience traveling to their recreational activity. Tourists travel on a highway, primarily for enjoyment, usually to a pre-determined destination. Tourist trips tend to be more adventuresome, cover longer distances, and take more time than commuting trips. Tourists frequently travel in groups with both a driver and passengers and are equally interested in project coherence, cultural order, and natural harmony. Because tourism in the Study Area is highly dependent on recreational activities, these two viewer types are addressed as a single group here.

Travelers / Commuters: Commuters are regular travelers of the same route and are present throughout the Study Area. The frequency of the travel may vary, but there tend to be peaks—such as morning and evening rush hours and holidays. Commuters, like all travelers, are particularly interested in project coherence. They are also interested in cultural order and natural harmony to the extent that it contributes to wayfinding.



5.0 RESULTS

This section summarizes findings related to the inventory of aesthetic resources, viewshed analysis, and panel evaluation of visual impacts based on simulated views from KOPs.

5.1 INVENTORY OF AESTHETIC RESOURCES

A complete inventory of aesthetic resources within the Study Area is included in this VIA as Attachment B. Resources are mapped in Figure 5. No sites listed on the National Register of Historic Places are within the Study Area. Few aesthetic resources of significance are within the Study Area. They are:

- Oak Orchard Wildlife Management Area, including portions of its trails network
- Segments of State Trails, including Albion Trail, Genesee Sno Packers snowmobile trails, and Southern Orleans Trailblazers snowmobile trails
- Village of Elba
- Village of Oakfield

Of these resources, as demonstrated by the viewshed analysis and as documented in Attachment B, only users of some segments of State Trails, as well as viewers in some portions of Elba and Oakfield would theoretically have some visibility of the Project Site.

5.2 VIEWSHED ANALYSIS

The Project's theoretical visibility is indicated by the visibility assessment shown in Figure 5, which shows the results of the viewshed analysis based on topography and forest lands. Areas where there would be "more visibility" or "less visibility" within the viewshed are indicated by color shade in Figure 5.

The viewshed occupies 13.75 square miles of the total 57.5 square miles within the 2-mile Study Area. The viewshed analysis indicates that in nearly 70% of the area where there would potentially be visibility of the Project (the solar panels), no more than 5% of the Project would be visible from any single location (see Table 3. Viewshed Analysis Results). Further, no more than 10% of the Project would be visible from throughout 90% of the Project viewshed (12.3 square miles). Less than 0.1% of the Project viewshed (0.01 square miles, or approximately 6 acres) would theoretically have visibility of more than 25% of the solar arrays, though because viewshed analyses calculate total points visible via lines of sight in all directions, fewer arrays are likely visible in any single, fixed view. And in no area would more than 32% of the Project site be theoretically visible from a single location.



Table 3. Viewshed Analysis Results

Portion of Viewshed Area		Percentage of Project Theoretically Visible
Percentage	Square Miles	
69.5%	9.56	1% to 5%
20.1%	2.76	6% to 10%
8.8%	1.21	11% to 15%
1.4%	0.19	16% to 20%
<0.2%	0.02	21% to 25%
<0.1%	0.01	25% to 32%
0%	0	>32%
100%	13.75	

5.3 KEY OBSERVATION POINTS

The seven VPs selected for visual simulation represent a range of views in terms of proximity to and orientation toward the Project (Figure 5). These KOPs, which are a subset of the VPs shown in Figures 3, 4, and 5, reflect both the inventory of aesthetic resources and the basic viewshed analysis discussed above. Table 4. Viewpoints Selected for Visual Simulations lists the KOPs for which simulations are presented in this VIA. Visual quality with the Project is compared with existing conditions later in this section for all but KOP 3, as noted in Section 3.7. While retained as a KOP, the view toward the substation location is not evaluated as part of the impact analysis because it will be screened by existing vegetation.



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Table 4. Viewpoints Selected for Visual Simulations

Key Observation Point	Approximate Distance to Nearest Solar Array	View Orientation	LSZ	Rationale for Selection of KOP / Aesthetic Resource(s) Represented by Viewpoint
1 – Lockport Road, east of Albion Road / Highway 9 (VP 39)	200 feet	SW	Community / Corridor / Crossroads	Residential view; populated portion of Lockport Road
2 – Fisher Road, north of Lockport Road (VP 35)	0.4 miles	E	Agriculture	More distant view; demonstrates Project visibility from 0.5 miles
3 – Graham Road, south of Ridge Road (VP 29)	0.25 miles	SW	Agriculture	View toward Project substation. Not evaluated.
4 – Snyder Road, north of Maltby Road (VP 27)	170 feet	W	Agriculture	Substantial vegetation removal
5 – Weatherwax Road, south of Maltby Road (VP 23)	0.1 miles (in view)	N	Agriculture	Project visible on both sides of road
6 – Quaker Hill Road, south of Lockport Road (VP 13)	175 feet	NE	Agriculture	First encounter of Project along highway
7 – Lockport Road, west of Oak Orchard Road (VP 7)	175 feet	S	Forest	Recreationists' view; snowmobile trail crossing

The rationale for selection of these views as KOPs is the type of Project effect potentially visible from each. While the precise combination of existing features in view, proximity to the Project, and viewer experience is unique to each KOP, these views represent other views from locations throughout the Study Area. Examples of such comparative views are included in this section. While the assessment of Project effects in Section 5.4 is based on simulations produced for views from KOPs, effects could be expected to be similar at the views shown below.



5.3.1 KOP 1 – Lockport Road

This view represents the view from the cluster of residences along the north side of Lockport Road.



KOP 1 (VP 39) – Lockport Road, east of Albion Road / Highway 9

Comparative views for KOP 1 include VP 26 and VP 2, each of which is located along stretches of roads where residences are concentrated, relative to the broader agricultural context.



Left: View looking west along a populated segment of Maltby Road, east of Snyder Road (VP 26). Right: View to the northwest from Miller Road, just north of a populated section of Barrville Road (VP 2).

5.3.2 KOP 2 – Fisher Road

This view shows the Project Site from nearly 0.5 miles away.



KOP 2 (VP 35) – Lockport Road, east of Albion Road / Highway 9

Comparative views for KOP 2 include VP 1 and VP 43, each of which shows the Project Site at some distance.



Left: View looking southwest from North Byron Road (VP 1), in which the Project would appear 0.7 miles away, beyond the field in the immediate foreground. Right: The Project Site would be visible beyond the second set of transmission towers in this perpendicular view down an existing utility corridor from Albion Road / Highway 9 (VP 43).

5.3.3 KOP 3 – Graham Road

This is the view toward the Project substation site as seen by southbound travelers along Graham Road near where they would have emerged from a heavily wooded area.



KOP 3 (VP 29) – Graham Road, about 0.5 miles north of Lockport Road

Because there would be only a single new substation as part of the Project, there are no comparative views included for this KOP.

5.3.4 KOP 4 – Snyder Road

This view is from a location where vegetation removal for the Project would be highly visible.



KOP 4 (VP 27) – Snyder Road, north of Maltby Road

Comparative views for KOP 4 include those from VP 37 and VP 12, in which the vegetative backdrop would be removed with the Project.



Left: The Project would require removal of the closest visible trees and vegetation in the left half of the view to the northwest from Fisher Road near East Oakfield (VP 37). Right: View to the east from Quaker Hill Road / Highway 98, south of Ridge Road (VP 12). The trees beyond the field would be removed.

5.3.5 KOP 5 – Weatherwax Road

In certain locations throughout the Study Area, the Project would appear on both sides of a road. KOP 5 represents such views.



KOP 5 (VP 23) – Weatherwax Road, north of West Avenue

Comparative views for KOP 5 include VP 13 and VP 36, where views down a particular roadway would include the solar panels on either side of the road.



Left: View to the north-northwest from Quaker Hill Road / Highway 98, south of Lockport Road (VP 13). Right: View to the south from Fisher Road, north of Lockport Road (VP 36).

5.3.6 KOP 6 – Quaker Hill Road

From some locations, the Project would occupy the majority of the area visible, potentially affecting visual character.



KOP 6 (VP 13) – Quaker Hill Road / Highway 98, south of Lockport Road

Comparative views for KOP 6 include VP 32 and VP 40, in which an identifiable visual character is visible.



Left: The Project would occupy the entirety of the hillside visible to the north from this segment of Lockport Road east of Fisher Road (VP 32). Right: Various farm structures serve as backdrop to fields that would be occupied by the Project as seen in views to the southeast from Lockport Road, east of Albion Road / Highway 9 (VP 40).

5.3.7 KOP 7 – Lockport Road

Recreationists will emerge from some forested areas and be presented with unobstructed views toward the Project Site. Such is the case at KOP 7, where a snowmobile trail intersects with Lockport Road.



KOP 7 (VP 7) – Lockport Road, east of Quaker Hill Road / Highway 98

Comparative views for KOP 7 include VP 10 and VP 11, which show other segments of established snowmobile trails within the Study Area, though the Project would not be in view from these locations.



Left: View looking south-southwest along Oak Orchard Road near a snowmobile trail crossing (VP 10). Right: View to the west Oak Orchard Road at Watson Road, toward a segment of a snowmobile trails (VP 11).

5.4 VISUAL IMPACT ASSESSMENT RESULTS

5.4.1 Existing Visual Character and Visual Quality at Key Observation Points

The existing visual character at the KOPs was described by the rating panel, which considered view elements related to the natural and cultural environment in terms of form, line, color, and texture. The existing visual quality is described in terms of natural harmony, cultural order, and overall coherence. Aggregated ratings for existing visual quality are summarized in Table 5. Existing Visual Quality by KOP, followed by a description of the existing views for each KOP.

Table 5. Existing Visual Quality by KOP

Key Observation Point	Natural Harmony	Cultural Order	Overall Coherence of View
1 – Lockport Road, east of Albion Road / Highway 9	Moderately High	Moderately High	Moderately High
2 – Fisher Road, north of Lockport Road	Moderate	Moderately Low	Moderately Low
4 – Snyder Road, north of Maltby Road	Moderately High	High	Moderately High
5 – Weatherwax Road, south of Maltby Road	Moderately High	Moderately High	Moderately High
6 – Quaker Hill Road, south of Lockport Road	Moderately High	High	Moderately High
7 – Lockport Road, west of Oak Orchard Road	Moderate	Moderately High	Moderately High

5.4.1.1 KOP 1 – Lockport Road

KOP 1 is located along Lockport Road, nearly 0.75 miles east of Albion Road and 1 mile west of East Oakfield. The view to the southwest is toward active farmland (Attachment E, Figure 1a). This viewpoint was selected to represent residential views from this stretch of Lockport Road where residential uses are concentrated and separate from agricultural uses compared with other parts of the Study Area. The visual character in this view is defined by the flat, cultivated lands bounded in the immediate foreground by natural-appearing grasses and perennials and across the back of the view by an irregular line of vegetation. A red barn and other structures in the right of the view are emblematic of the view's agricultural setting; a cellular communications tower is visible beyond the tree line in the left of the view. A linear pattern is visible on the ground and is evidence of a recent crop harvest.

Reviewers assessed the visual quality of this view as ranging from moderate to high, describing a unified, coherent landscape with a noticeable natural harmony and coherence among the three primary elements: field, farm buildings, and the tree line. While the farmlands in the foreground and middleground occupy



the most space within the view, the forested edge appears to contain farm activity, balancing visible components and contributing to a moderately high degree of cultural order.

5.4.1.2 KOP 2 – Fisher Road

KOP 2 is located along Fisher Road, about 0.3 miles north of Lockport Road. The view to the east looks down the Dysinger – New Rochester 345-kV transmission line (Attachment E, Figure 2a). This viewpoint was selected to include a view in which the Project would appear at some distance from the KOP relative to other views. From this location, the Project would be visible 0.4 miles away. The view is characterized by the bisection of active agricultural lands by a transmission corridor that includes strong vertical, geometric forms in the lattice towers and is a strong linear form when viewed as a whole. The slightly rolling landscape appears partially segmented by rows of trees and hedgerows and punctuated by the bales of hay being harvested at the time of site photography. Apparent variation in crop types and harvest periods adds textures and colors to the ground cover visible across the view.

Reviewers assessed the visual quality of this view as moderate to moderately low. A lack of overall coherence was attributed to the visual presence of a high-voltage transmission corridor appearing to interrupt an otherwise unified agrarian landscape. There is a noticeable degree of natural harmony in the relationship between farmlands and vegetative edges that separate the plots and parcels. Similarly, there is a degree of cultural order in that the visibility of large, human-made structures is limited to the transmission corridor. However, the overall coherence of a view in which these components are co-dominant is moderately low.

5.4.1.3 KOP 3 – Graham Road

KOP 3 is located along Graham Road, about 0.5 miles south of Ridge Road. The view to the southwest is toward the location of the Project substation (Attachment E, Figure 3a). The lack of views toward the proposed substation location from anywhere but this segment of Graham Road is the reason for inclusion of this view. As previously noted, because the substation would be placed beyond two rows of vegetation, it would be screened in views. Views are included to demonstrate existing and proposed conditions, but this view is not evaluated for impacts.

5.4.1.4 KOP 4 – Snyder Road

KOP 4 is located along Snyder Road, about 0.5 miles north of Maltby Road. The view to the west is toward a portion of the Project Site where multiple layers of vegetation would be removed (Attachment E, Figure 4a). This view is characterized by the apparent compartmentalization of agricultural development. Rows of mature vegetation, varying in color and form, appear along the edges of the corn fields, one of which is partially visible beyond the most proximate one. In the immediate foreground, a narrow band of grasses and perennials frames the view and appears to partially enclose the farmland from the front of the view, as well.

Reviewers assessed the visual quality of this view as moderately high to high. The natural harmony observed in this view extends from the immediate foreground to the relatively short backdrop. The high degree of cultural order is based on observation of cultivated lands appearing intact, contained, and



without evidence of any associated machinery or infrastructure that might be expected to be present. As such, the overall coherence of the view was rated as being moderately high.

5.4.1.5 KOP 5 – Weatherwax Road

KOP 5 is located along Weatherwax Road, just north of West Avenue. The view to the north is toward a portion of the Project Area in which solar panels would appear on both sides of the road, an effect that warranted its inclusion among KOPs (Attachment E, Figure 5a). This view is characterized visually by two strong linear elements. Weatherwax Road effectively splits the view horizontally as it extends away from the viewpoint. Though a flat, paved road, its soft shoulders and variation in color give it a patchy appearance, not unlike the coarse texture of the cornstalks and grasslands visible on either side of the road. The second strong linear element is the irregular, multi-colored line of vegetation at the back end of the farmland, which delineates between farmlands and both forested areas and residential uses.

Reviewers assessed the visual quality of this view as moderately high. A degree of intactness was observed, as non-crop human-made features do not appear outside of the roadway corridor or in front of the tree line at the back of the view. The natural appearing farmlands appeared uninterrupted beyond the road and in front of the forests and homes. The moderately high degree of overall coherence reflects reviewer observations related to the qualities of the view as a rural, agrarian landscape typical of others in the area.

5.4.1.6 KOP 6 – Quaker Hill Road

KOP 6 is located along Quaker Hill Road / Highway 98, about 0.25 miles south of Lockport Road. The view to the northeast is one in which a comparatively expansive segment of agricultural land is visible (Attachment E, Figure 6a). The potential for the Project to alter a uniform visual character informed the selection of this view as a KOP. A difference in color and texture between the two parcels of mostly flat farmland is evident, suggesting different crops have been planted. An irregular vegetative edge appears to bound the croplands, and a collection of barns is prominently visible along the left side of the view, emblematic of a rural farmland aesthetic character.

Reviewers assessed the visual quality of this view as moderately high to high. The forested edges of the scene make for a moderately high degree of natural harmony. The orderliness of the view's cultural features—the farm structures and the large but contained fields—is high. Elements such as the mainly intact parcels of cropland, along with the relatively few but highly evocative structures contribute to a moderately high degree of overall coherence and creates a scene typical of what viewers might expect in an agrarian landscape.

5.4.1.7 KOP 7 – Lockport Road

KOP 7 is located along Lockport Road, about 0.1 miles west of Oak Orchard Road. The view to the south from the point where a snowmobile trail emerges from a forested woodland is toward a farm on the south side of Lockport Road (Attachment E, Figure 7a). This view was selected to represent recreationists' views toward the Project, as well as views from the edge of a forest, where the Project would be visible upon emerging from the wooded area. The view as seen from across the road is one of farmland



backdropped by a wide band of mature vegetation. The irregular horizon line formed by this vegetation relates to the roadside plants and grasses in the immediate foreground. The farm structures are more angular compared with the tree line, and the discernable boundary of the agricultural land is clearly delineated.

Reviewers assessed the visual quality of this view as moderate to moderately high. Because the croplands and associated elements are the view's dominant feature the moderately high degree of cultural order—clearly delineated boundary between natural area and developed, agricultural lands—is highly noticeable. The view's natural harmony is diminished only due to the relegation of natural features to the backdrop; this effectively reinforces the moderately high degree of overall coherence.

5.4.2 Visual Character and Visual Quality with the Project

The panel's assessment of visual change when comparing images of existing conditions to those with the Project simulated in views from the KOPs indicated noticeable contrast. The change in assessed visual quality for each view with the Project included is summarized in Table 6. Comparison of Visual Quality with and without Project by KOP. A summary of the evaluations follows, with assessments of contrast in visual character between existing and proposed conditions reported where observed by panelists.

Table 6. Comparison of Visual Quality with and without Project by KOP

Key Observation Point	Natural Harmony	Cultural Order	Overall Coherence of View
1 – Lockport Road, east of Albion Road / Highway 9	Moderately High	Moderately High	Moderately High
1 – with Project	Low	Moderately Low	Low
2 – Fisher Road, north of Lockport Road	Moderate	Moderately Low	Moderately Low
2 – with Project	Moderately Low	Moderately Low	Moderately Low
4 – Snyder Road, north of Maltby Road	Moderately High	High	Moderately High
4 – with Project	Very Low	Low	Low
5 – Weatherwax Road, south of Maltby Road	Moderately High	Moderately High	Moderately High
5 – with Project	Moderately Low	Moderately Low	Moderately Low
6 – Quaker Hill Road, south of Lockport Road	Moderately High	High	Moderately High
6 – with Project	Moderately Low	Low	Low
7 – Lockport Road, west of Oak Orchard Road	Moderate	Moderately High	Moderately High
7 – with Project	Low	Low	Moderately Low



5.4.2.1 KOP 1 – Lockport Road

With the Project, visual quality in views from KOP 1 would be reduced from moderately high to a range of low to moderately low (Attachment E, Figure 1b). The nearest arrays would appear as close as 170 feet from this location. Project panels would appear to extend across most of the view and would obstruct views of anything beyond the Project Site all but the right-most portion of the view. The repeating rows of solar panel arrays would become the view's dominant feature.

The elements that contribute to a natural harmony under existing conditions—the layered, multi-colored vegetative edge consisting of trees and shrubs of varying forms and scale—would be obstructed by the Project. With Project panels replacing croplands in the view, the nature of the cultural environment would be substantially altered. While a series of rows of solar arrays would appear orderly, the Project would also appear alongside and partially in front of structures that convey different uses. As such, reviewers observed a substantial decline in the view's overall coherence.

Reviewers identified strong contrast in visual character related to land, vegetation, and structures. Solar panels would replace the entire agrarian area visible from KOP 1. They would also block views of the natural features that serve to enclose the view along the horizon. The introduction of the solar array structures would introduce a mechanized character that does not currently exist to a view in which no other element appears at such scale or with such uniformity.

With landscape screening installed (Attachment E, Figures 1c and 1d) reviewers noted a reduction, or softening, in the contrast between the natural-appearing existing landscape and the mechanized character of the proposed Project. From this location, vegetation would add vertical, multi-colored elements that intermittently screen solar arrays and relate to the broader visual setting. While not reverting to existing conditions, reviewers observed an improved degree of visual quality compared with conditions with just the Project.

5.4.2.2 KOP 2 – Fisher Road

With the Project, visual quality in views from KOP 2 would be reduced from a range of moderately low – moderate to moderately low (Attachment E, Figure 2b). The nearest arrays would appear no closer than 0.4 miles away. Project panels would appear from this distance as polygons occupying three separate areas in the distant foreground and extending into the view's middleground, and they would be partially obscured by existing, intervening vegetation.

The slight reduction in natural harmony noted by reviewers is related to the encroachment of solar arrays on what is currently more natural-appearing farmland. However, the effects are judged to be relatively minor from this distance and are offset by the presence of the prominently visible high-voltage transmission line. Despite the expansion of electricity generating elements outside of the existing electricity transmitting element, the overall coherence of the view was assessed as similar to existing conditions.

Reviewers identified moderate contrast related to land, vegetation, and structures. The portion of the Project set atop the slight rise in the landscape in the right of the view appears to alter the existing



horizon. While appearing parallel to the natural terrain, the arrays stand out as a structural alteration to the landform in profile. Further, the panel arrays are a new structural element that introduce a new use to the view.

No landscape screening is proposed for this location given the distance between the Project and publicly accessible viewpoints.

5.4.2.3 KOP 3 – Graham Road

With the Project, views would not be substantially altered in this location (Attachment E, Figure 3b, shows the view with the Project simulated, and Attachment E, Figure 3c highlights the simulated Project components because they are difficult to discern). The Project substation would be within 0.25 miles to the southwest of this location and the nearest panels would be 0.25 miles to the south-southwest. Existing vegetation would effectively screen the Project substation and panels in this view. Attachment E, Figure 3d is a wireframe image that demonstrates the degree to which the Project would be mostly obstructed by existing vegetation here. The removal of a nominal number of trees for the substation access road would be visible from this vantage point but not to any noticeable degree. There would be no substantive effects to this view and it is, therefore, not evaluated further here.

5.4.2.4 KOP 4 – Snyder Road

With the Project, visual quality in views from KOP 4 would be reduced from a range of moderately high – high to a range of very low – low (Attachment E, Figure 4b). The nearest arrays would appear as close as 170 feet from the viewpoint. Except for where a Project access road is proposed, Project panels would appear to extend across most of the view. Their placement here would require the removal of most of the vegetation visible under current conditions and the Project would, except for trees visible in the terminus of the view down the access road and in a stand of vegetation that would be retained along the right edge of the view, become the sole element visible.

The substantial decline in natural harmony was attributed to the comparative absence of vegetation in the view. With the Project installed, natural features would be minimized in views from KOP 4. The Project would dominate the landscape, providing a degree of intactness to the cultural environment that would appear more homogenous than coherent.

Reviewers noted strong contrast related to land, vegetation, and structures. While no landforms would be substantially altered with the Project, nearly all landcover would appear to be replaced by the solar arrays. The varied color and forms, as well as the skyline-defining tree line, would be removed from view, and the uniform, repeating rows of solar array structures would appear across the view. As in other views, the linear pattern of the solar arrays would relate in character to the seasonal row crops that they would replace in views but would be recognizable as permanent structures.

Reviewers observed little improvement in visual quality over proposed conditions with landscape screening installed, despite the re-introduction of natural forms, textures, and colors to the view (Attachment E, Figures 4c and 5d). Project massing would remain dominant even after 15 years of vegetation growth, in part because the gate and road cannot functionally be screened by planting.



5.4.2.5 KOP 5 – Weatherwax Road

With the Project, visual quality in views from KOP 5 would be reduced from moderately high to moderately low (Attachment E, Figure 5b). The Project would be visible on either side of the road within 0.1 miles of the viewpoint. Panels would appear set back from the roadway but would extend to the left and right edges of the view, suggesting broader development beyond the frame visible. From this slightly elevated viewpoint, the Project would not obstruct visibility of elements visible beyond the Project Site in existing views.

The appearance of the Project as a band that extends across most of the view was observed by reviewers to reduce the view's natural harmony, interrupting the croplands that in current views appear as a uniform element in the view, in front of the tree line along the back of the view, also a uniform element. The cultural environment in the existing view is reflected by the spatially contained agricultural uses, as well as the houses partially visible amid the forested part of the landscape. With the Project, the appearance of constructed elements would appear to encroach on the more natural appearing agricultural fields. This would have the effect of reducing the overall coherence of the view.

Moderate to strong contrast related to vegetation was observed by reviewers, who cited the replacement of crops with the Project's solar arrays.

Landscape screening visible in the view from KOP 5 would be mainly on the far side of the Project, where it would serve to screen views from residences concentrated along the south side of Maltby Road (Attachment E, Figures 5c and 5d). Reviewers noted the minimal effects from screening along this segment of Weatherwax Road and did not identify any adjustment to levels of visual quality assessed for the view showing just the proposed Project installed.

5.4.2.6 KOP 6 – Quaker Hill Road

With the Project, visual quality in views from KOP 6 would be reduced from a range of moderately high – high to a range of low – moderately low (Attachment E, Figure 6b). The nearest arrays would appear as close as 175 feet from the viewpoint and extend to tree line along the back of the view. The height of the panels from this proximity and view angle would obscure all buildings visible on the far side of the agricultural fields. The articulated rows of solar panel arrays would recede into a single shape across the landscape toward the back of the view. Collectively, the solar arrays would become the view's dominant feature.

The primary elements of the view's existing natural harmony would be altered by the Project. The lower portion of the trees that extend along the back of the view, while partially and periodically blocked from view by structures and seasonal crops, would be permanently obstructed by the solar panel arrays. The arrays would appear uniformly and in some parts of the view as a single polygon of built features across a landscape in which there appears some diversity within the managed farmlands. While there would be a strong degree of uniformity across the middle of the view because of this, the overall coherence of the existing view would be reduced.



Reviewers noted strong contrast related to land, vegetation, buildings, and structures. In addition to the covering of a detectable landform with a layer of solar array structures and removal of vegetation observed in many other views, the obstruction of the vivid red barn and other farm structures evocative of a rural, agricultural setting.

In this portion of the Project Site, the Landscape Plan emphasizes screening views from residences along Lockport Road. It also includes vegetation to break up the relatively expansive area that would be occupied by the Project (Attachment E, Figures 6c and 6d). Reviewers observed that landscaping produced a negligible change to the degree of visual quality assessed with the Project in place as viewed from this location.

5.4.2.7 KOP 7 – Lockport Road

With the Project, visual quality in views from KOP 7 would be reduced from a range of moderate – moderately high to a range of low – moderately low (Attachment E, Figure 7b). The nearest arrays would appear as close as 175 feet from the viewpoint, this perpendicular view making the rows of the arrays individually distinguishable and repeating in a row crop pattern represented throughout the broader landscape. A nearby barn would be partially obstructed by the Project, and portions of the tree line that frames the back of the view would be almost entirely removed from view by the arrays that would extend across the view and be its dominant feature.

The proximity and prominence of the solar panel arrays, which in addition to blocking the lower portions of the red barns in the left portion of the view, would encroach upon the view's tree line defined horizon, would reduce observable visual quality in terms of both natural harmony and cultural environment. Reviewers described an incongruity between the Project and the landscape within which it would be observed from KOP 7, with a resulting lack of overall coherence.

Reviewers also noted strong contrast related to land, vegetation, buildings, and structures, with a general consensus that the solar array structures appeared inconsistent with the existing buildings and resulted in alteration of the visual character observable under current conditions.

With landscape screening installed (Attachment E, Figures 7c and 7d), reviewers noted a partial mitigation of visual impacts. The trees and plants, which would not completely obstruct views of the Project, would break up the repetitive pattern of the solar arrays that would be dominant in views such close proximity. They would also, in certain areas, obscure existing vegetation visible beyond the Project Site. In general, landscaping in this location would help reduce the contrast between the Project and its more natural-appearing surroundings.

5.4.3 Glare

The Project would not be a significant source of glare. In general, solar PV panels absorb sunlight rather than reflect it. They have layers of glass and anti-reflective coating that both allow sunlight to pass through to solar cells with little reflection and also reduce reflectivity. Panels rotating along a single-axis would be calibrated to remain oriented toward the sun; thus, any unabsorbed light would be reflected back toward the source.



Beyond these general principles of current solar PV technology, a site-specific glare hazard analysis concluded, based on the solar array parameters and the site design, that glare is not predicted from the Project for pilots landing at two airports (Pine Hill Airport and Genesee County Airport) and one heliport (Troop A Headquarters) located in the vicinity of the Project. Further glare from the Project is not predicted to occur for drivers of vehicles on roadways or for residences in and adjacent to the Project (Stantec, 2021).

5.4.4 Cumulative Visual Impacts

A number of renewable energy projects proposed to be built within or adjacent to Genesee County are currently at various stages in application approval processes. Of those closest to the Project Area, the following are the largest in terms of land area:

- Heritage Wind (ORES Matter # 21-00026) – A 200-MW wind energy project proposed within the Town of Barre in Orleans County; its southern boundary is within 1.5 miles of the northern boundary of the Project Site.
- Excelsior Energy Center (Article 10 Case # 19-F-0299) – A 280-MW solar project proposed within the Town of Byron in Genesee County, 2 miles southeast of the Project Site.
- Orleans Solar (Article 10 Case # 20-F-0037) – A 200-MW solar project proposed within the Town of Barre and the Town of Shelby in Orleans County. It is approximately 2.5 miles northwest of the Project Site.

Both topographic and vegetative viewshed analyses are available as part of ongoing application processes for the Heritage Wind and Excelsior Energy Center projects. These were reviewed alongside the viewshed generated for Cider Solar Farm to determine where there would potentially be an overlap in areas of theoretical visibility. In such locations, multiple projects would potentially be visible in the same view, or in different views from the same viewpoint.

The Heritage Wind viewshed includes and extends beyond the Cider Solar Farm Project Site. Heritage Wind's 33 675-foot-tall wind turbines would be visible throughout its surrounding area. Where not obstructed by forested lands, wind breaks, or other vegetation or structures, one or more of the proposed turbines is likely to be visible, especially in broad landscape views, and including in portions of the Cider Solar Farm Project Site. The two project sites are situated within areas of comparable elevation. With turbines as close as 1.5 miles away, there are potentially some areas within the Project Area where, should both projects be approved and constructed, the Heritage Wind Farm turbines would be present in the background of views of Cider Solar Farm arrays. In the view from KOP 5, which is the north-facing view evaluated for the Project (Section 5.4.2.5), blades from one or more of the proposed Heritage Wind turbines could potentially be visible above the tree line along the back of the view. The northeast-facing view from KOP 6 (Section 5.4.2.6) would not include any Heritage Wind turbines, though there could be slight visibility of turbines in views to the north from the same location, according to the Heritage Wind viewshed. The Cider Solar Farm viewshed, however, does not extend into Orleans County, so there would be no locations where viewers could potentially see Heritage Wind Farm turbines in the foreground and much the lower profile Cider Solar Farm solar arrays in the area beyond.



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There is a slight overlap between the southeastern edge of the Cider Solar Farm 2-mile viewshed and the northwestern edge of the 2-mile viewshed for the Excelsior Energy Center. This overlapping zone consists of the land immediately to the northeast and southwest of the intersection of Bridge Road and Log City Road (Figure 5). These two areas contain agricultural and rural residential uses and include relatively small segments of elevated land where both solar projects would, accounting for vegetative screening by forestlands, theoretically be visible. From these areas, which do not include any mapped scenic resources, the projects would theoretically be visible at a distance of nearly two miles and in opposite directions. The projects would not be collectively present in any view.

The viewshed for the Orleans Solar project was not reviewed as it does not appear to be publicly available at the time of this report. However, based on its location 2.5 miles northwest of the nearest Cider Solar Farm Project Site, in an area where the adjacency of the Project to the forested Oak Orchard Wildlife Management Area results in the northwestern edge of the viewshed being almost entirely coterminous with the Project Area boundary, there would likely be a slight overlap between project viewsheds similar to that between Excelsior Energy Center and Cider Solar Farm. From such locations, Cider Solar Farm and Orleans Solar would be in opposite directions of each other; in any overlapping portions of the viewshed, portions of the two projects could potentially be visible from the same viewpoint, but they would not be visible in the same view.

The cumulative views of these projects would more likely be considered those that a viewer might experience passing through them sequentially. If a viewer's travel route happened to extend from south-central Orleans County into north-central Genesee County and then to the north and east of the village of Elba (e.g., southbound on Quaker Hill Road / Highway 98, east on Lockport Road, then south on Highway 237 / South Byron Road), they would likely view multiple renewable energy projects on this trip, with solar panels in some foreground views and wind turbines ranging from prominent visibility to being occasionally visible as backdrop. Such views would likely be shorter where viewers would be traveling at highway speeds and longer on local roads with lower speed limits. The layout of each of the solar project sites is fragmented to some degree meaning that while views may be more frequent along some routes, duration of individual views would generally be relatively short. The viewshed analyses for solar projects in this part of New York suggest that sustained views of the solar projects would need to be from roadway segments that pass within and adjacent to solar arrays. Intervening vegetation shortens views throughout much of the area.

Further, assuming each solar project implements mitigation / minimization measures intended to fully or partially screen portions of the respective project in views, mitigation would also be experienced cumulatively, which would reduce the aggregate visibility of solar projects in terms of total panels or developed areas viewed over the course of the trip. Even with such screening, however, increased conversion of agricultural lands to power generation facilities would be observable and representative of an alteration of the existing visual character within the broader landscape comprised of these individual project areas.



6.0 IMPACT MINIMIZATION AND MITIGATION

Part 900 requires the development of a Visual Impacts Minimization and Mitigation Plan, which is based on an assessment of mitigation strategies. For solar projects, the facility design is to incorporate the following summarized measures for the Visual Impacts Minimization and Mitigation Plan:

Advertisements, conspicuous lettering, or logos will not be included in Site design. Collector lines will be located underground and there will be no above-ground utility interconnection line; the Project POI will be via a new substation adjacent to the New York Power Authority Dysinger – New Rochester 345 kV line. A Glare Hazard Analysis was prepared for the Project (Stantec 2021).

The remainder of this section summarizes the Landscape Plan developed to screen portions of the Project, and Project lighting, which will only be required within/near the Project substation.

6.1.1 Landscape Plan

The proposed Project Landscape Plan is included among formal design documents prepared for the Project. An overview is included here as Figure 6. Figure 6A shows species types and proposed locations of solid and intermittent screening throughout the Project. Figure 6b shows modules for solid and intermittent screening, indicating spacing between plants for each one. Proposed Landscape Screening. The simulated views as part of the impact evaluation in Section 5 reflect application of the Landscape Plan and growth of proposed plantings at 5 and 15 years.

The Landscape Plan applies one of two planting modules to selected areas along the periphery of solar arrays throughout the Project Site based on typical duration of views and viewer exposure to the Project. Solid screening, which would install uninterrupted vegetation along particular segments of the Project Site boundary just outside of the fence line, is proposed in areas where viewers are likely to have static or long-duration views of the Project. These viewers are primarily residents who live within the Project Area. Intermittent screening, which would install vegetation intended to interrupt but not completely obstruct Project visibility, is proposed in areas where viewers are likely to be viewing the Project while in motion; primarily, these viewers would be traveling along the roadways adjacent to the Project Site.

The species included in the Landscape Plan are native, naturalized, and non-invasive species selected for their compatibility with the vegetative character of the Project Area. They include three types of trees (Eastern Red Cedar [*Juniperus virginiana*], White Spruce [*Picea glauca*], and Eastern White Pine [*Pinus strobus*]) and four types of shrubs (Shadblow Serviceberry [*Amelanchier canadensis*], Gray Dogwood [*Cornus racemosa*], Common Ninebark [*Physocarpus opulifolius*], and American Cranberrybush [*Viburnum trilobum*]). After 15 years of growth, demonstrated in simulations, the trees would grow to heights between 20 and 30 feet. The shrubs would range from 8 to 27 feet with widths of up to 12 feet.

The intention of the Landscape Plan is to provide variation in views of the Project where it would be visible in high-duration views. Solid screening would serve to obstruct visibility of the most proximate portions of the Project Site but may not entirely block all views toward solar arrays or other components. Intermittent screening would help the Project blend in with its more natural-appearing surroundings,



including areas of naturally occurring vegetation and of farmed croplands. The Landscape Plan does not propose screening of the Project substation, which is set beyond two separate rows of trees. This vegetation would screen it in publicly accessible views (see Section 5.4.2.3).

6.1.2 Lighting

Proposed lighting associated with the Project includes manually activated emergency and security service lighting located at the on-site collection substation. The service lighting will only be activated in the event of an outage or other repair-related event at the substation during nighttime hours. Within the substation a total of approximately four service lights will be installed. The lighting will be mounted at a height of 30 feet near all major equipment such as circuit breakers, transformers, and disconnect switches (two lights will be mounted on the structures near such equipment) and will be directed downward toward equipment. Lithonia HLF1 fixtures with a lumen output of 30,646 (or similar) will be used. HLF1 specifications are provided in Attachment H. The service lights will only be turned on when Project personnel are performing maintenance; lights will be turned off after repairs are completed. Security lights will be installed above the door of the control building at each substation and automatically switched on at night. RAB Slim26 fixtures (or similar) with a lumen output of 3,536 will be used. The security lights will be on during nighttime hours. Security lighting will be directed downward and shielded to avoid light trespass and nighttime light pollution impacts. Security lighting will also be located on 30-foot poles at the entrance gate to the on-site substation (along Graham Road) and at other select entrance gates within the solar Facility. Substation building security lights will be mounted on building walls above the entrance doors or on poles at 30 feet and will be photocell-activated. Lithonia HLF1 fixtures with a lumen output of 32,638 (or similar) will be used. No nighttime lighting is proposed in the solar array fields. Manual service lighting may be installed at the power conversion stations (inverters and MVTs), turned on only as needed to perform occasional work at night. The amount and character of light generated by the Project proposed security lighting will be consistent with other industrial and commercial facilities that may employ similar lighting within the Study Area, including some commercial agricultural facilities and uses within the villages of Elba and Oakfield.

7.0 CONCLUSIONS

The Cider Solar Farm would occupy 2,452 acres of mostly agricultural lands north of the villages of Elba and Oakfield. Where visible in foreground views, the Project would appear to sharply contrast with its environmental setting in both visual character and visual quality. Reviewers of Project effects identified reductions in visual quality in simulated views from all representative viewpoints within 0.25 miles of the Project. Implementation of a landscape screening plan was observed to reduce contrast somewhat, but not fully mitigate the impacts identified.

Viewers of the Project would predominantly be those who live, work, and travel or commute through or adjacent to the Project Site. No National or State Register of Historic Places resources—which in this area are buildings, churches, and cemeteries—are within the 2-mile Study Area evaluated in this VIA. Other scenic resources within the Study Area are concentrated within the villages of Elba and Oakfield



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and would have little to no visibility of the Project. Only three of the Scenic Resources identified in this analysis are located within the proposed Project Site:

- The snowmobile trails that cross the eastern half of the Project Site would have views of the Project that would be intermittently obstructed by vegetation and would vary in duration, depending on whether they are being used by snowmobilers or hikers;
- East Oakfield Cemetery and Gardner Cemetery, located near one another along Lockport Road near the center of the Project Site, afford little visibility of the site; intervening vegetation and topography generally shelter these two areas from their surroundings.

The Project's viewshed—the area within which solar arrays would theoretically be visible based on their height, topography, and intervening forested areas—would occupy 13.75 square miles, or 24%, of the 57.5-square-mile Study Area. In the majority of the Project viewshed (70%), no more than 5% of the Project's solar arrays would be visible from a single location. Less than 0.1% of the area within the Project viewshed would have visibility of more than 25% of the solar arrays from a single location. In no area would more than 32% of the Project site be theoretically visible from a single location. Each of these measurements likely reflects potential visibility in multiple directions meaning that fewer solar arrays would be visible in a single, fixed view.

As noted above, the panel that reviewed and compared existing and simulated images of the Project from six representative viewpoints observed substantial contrast in visual character between current and proposed conditions. In many views, the Project would be visible at a proximity and/or scale that would alter the composition of the landscape, which appears in most existing views as an area that is widely agricultural in character.

The visual quality of views compared with existing conditions would also be altered. As summarized in Table 6, assessments of natural harmony were reduced for every view with the Project, with the greatest difference observed for KOP 1 and KOP 4. These are two of the views where the Project would appear less than 200 feet away. Substantial reduction in cultural order was observed for KOP 4 and KOP 6. KOP 6 is another view from a location less than 200 feet from the proposed Project Site. Less pronounced reduction in cultural order was noted for all other views save KOP 2. Similarly, the overall coherence of the view from all but the longer distance one evaluated (KOP 2, from 0.4 miles away) was reduced, with the greatest difference noted for KOPs 1, 4 and 6. In each of these three views, the Project would eliminate, through visual obstruction or removal to accommodate the Project, natural or built elements that contribute to existing visual character or quality in some way: stands of mature trees that define the backdrop of the view; shorter vegetation that serves to limit the visibility of the land beyond; or farm structures that leave no doubt as to the areas predominant land use in the area and its associated landscape character.

Such effects are not likely to be as visible, or visible at all, in longer views. The Project's viewshed is relatively compact. The existing, mature vegetation that bounds most agricultural parcels in the Study Area limits the distance and breadth of views, which means that the Project would likely not be visible in any broad, vista view. As noted above, the viewshed analysis indicates that no more than 32% of the Project would be visible from a single location.



The proposed Project substation would be almost entirely screened in local views by existing vegetation. No substantial glare effects to drivers along roadways near the Project is expected. Viewers may, depending on their course of travel along publicly accessible roads, experience relatively extended exposure to the Project as a series of scenes represented in the KOP simulations shown here. Proposed landscaping would screen portions of the Project with a variety of solid or intermittent rows of vegetation placed between solar arrays and viewers.

8.0 REFERENCES

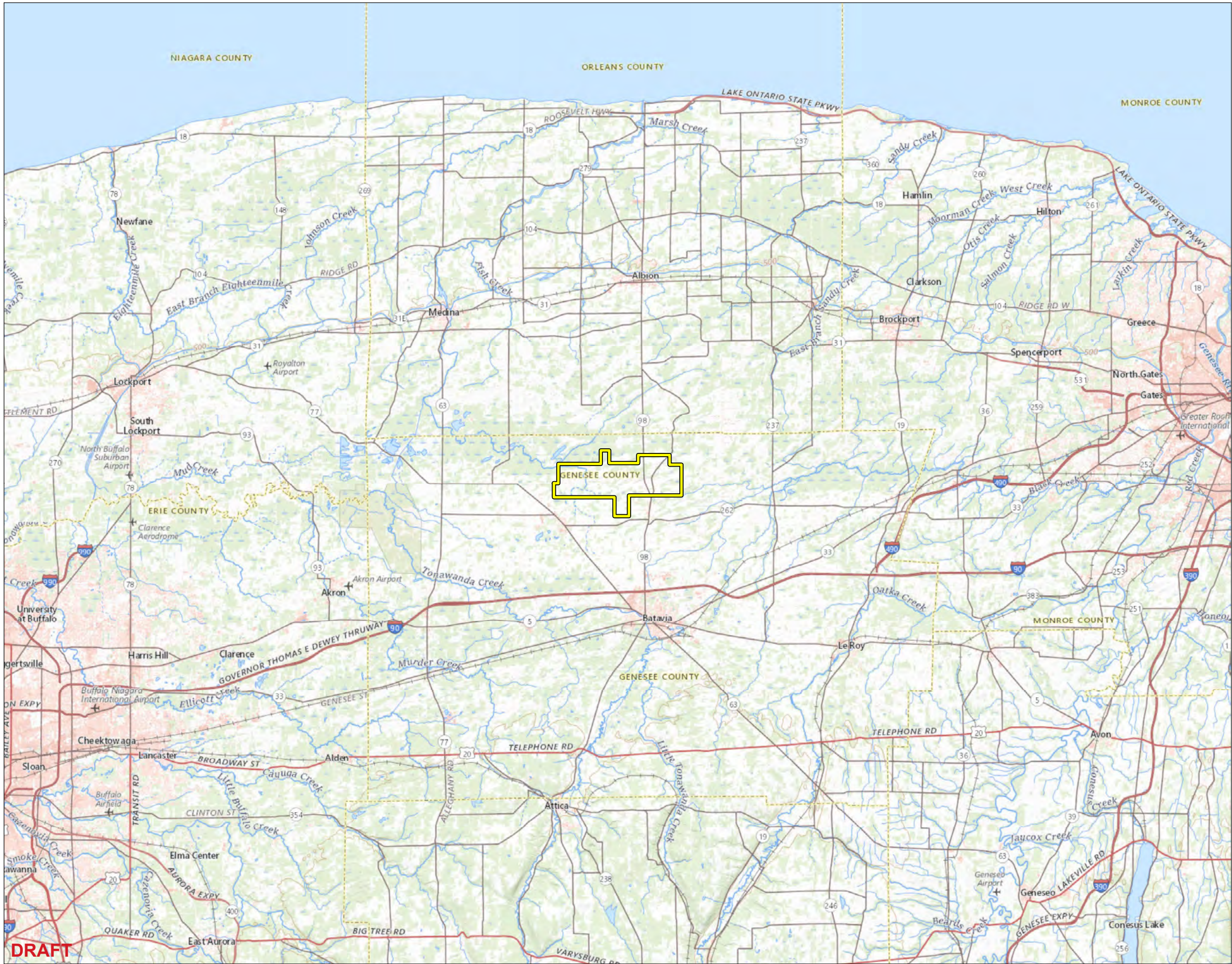
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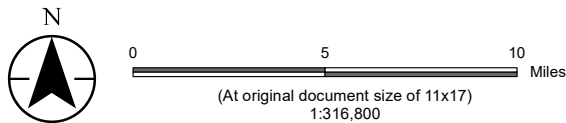
FIGURES



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Legend
Project Area



Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Background: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental



Project Location
Towns of Elba and Oakfield
Genesee County

Prepared by EE on 2021-05-24
TR by AS on 2021-05-24
IR by JH on 2021-05-24

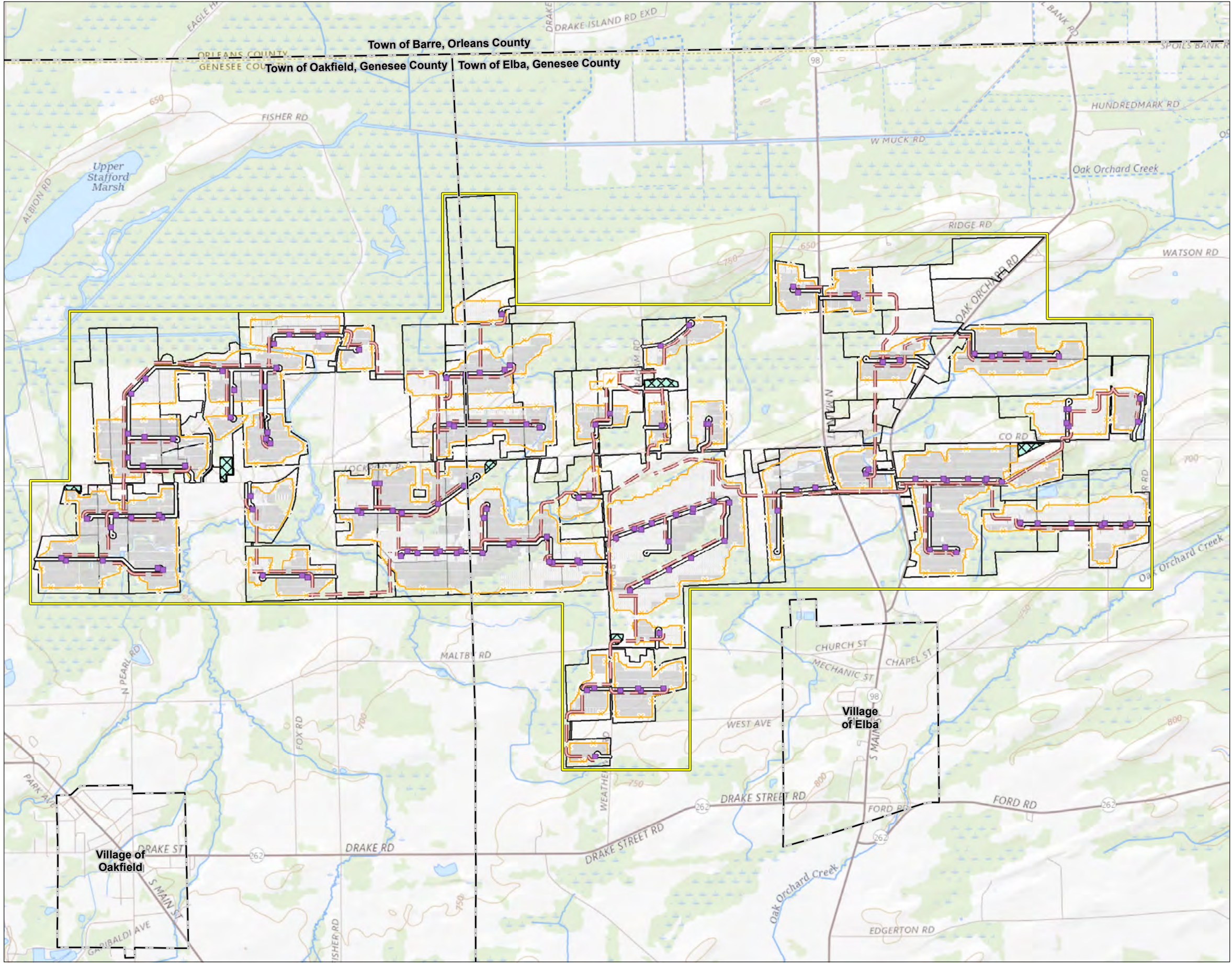
Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

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Figure No.
1

Title
Project Location

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Legend

Project Area

Proposed Project

Substation and Switchyard

Inverter

PV Panel Array

Collection Line

Fence Line

Access Road

Laydown Area

Project Site

Existing Features

Municipal Boundary



0 3,000 6,000 Feet
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Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: NYS Office of ITS GPO, NYS Civil Boundaries, 2018
3. Background: USGS Topo Basemap - The National Map (Web Map Service); Data refreshed May, 2020.



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-05-24
TR by AS on 2021-05-24
IR by JH on 2021-05-24

Client/Project

Hecate Energy Cider Solar LLC
Cider Solar Farm

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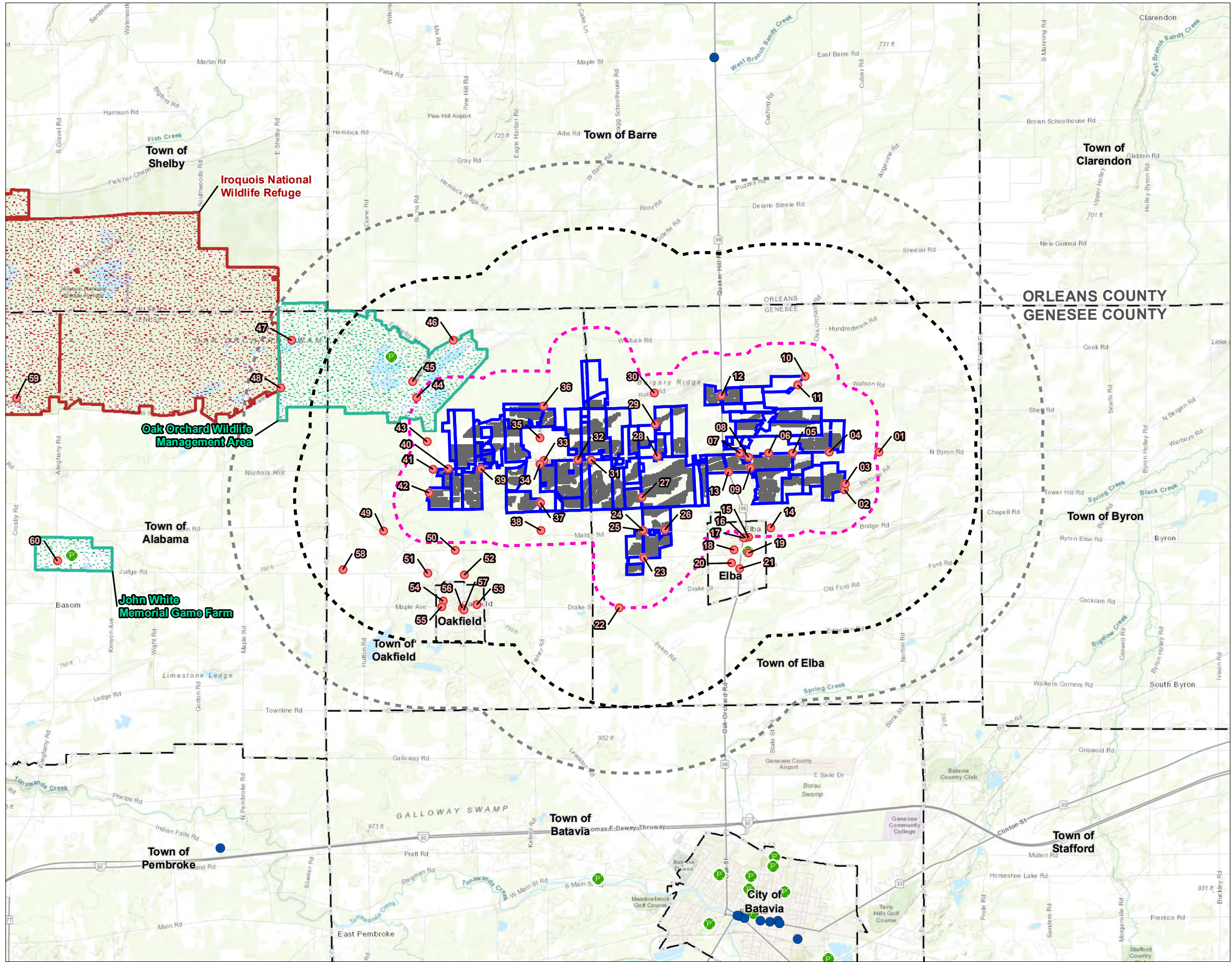
Figure No.

2

Title

Project Site

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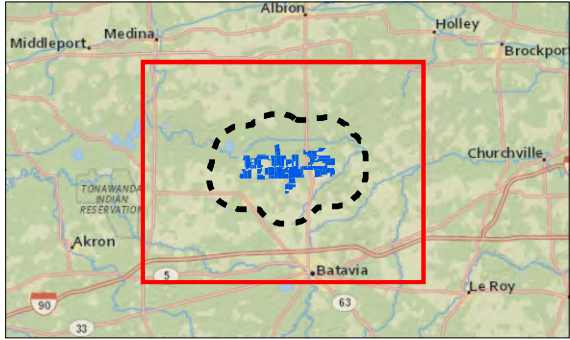


- Viewpoint
- Municipal Boundary
- Project Parcel
- 2 Mile Study Area
- Foreground View Distance Zone (Within 0.5 Mile of Project Site)
- Middleground View Distance Zone (Between 0.5 and 3 Miles of Project Site)
- Solar Panels
- NRHP Listed Site
- Park
- State Wildlife Management Area
- National Wildlife Refuge



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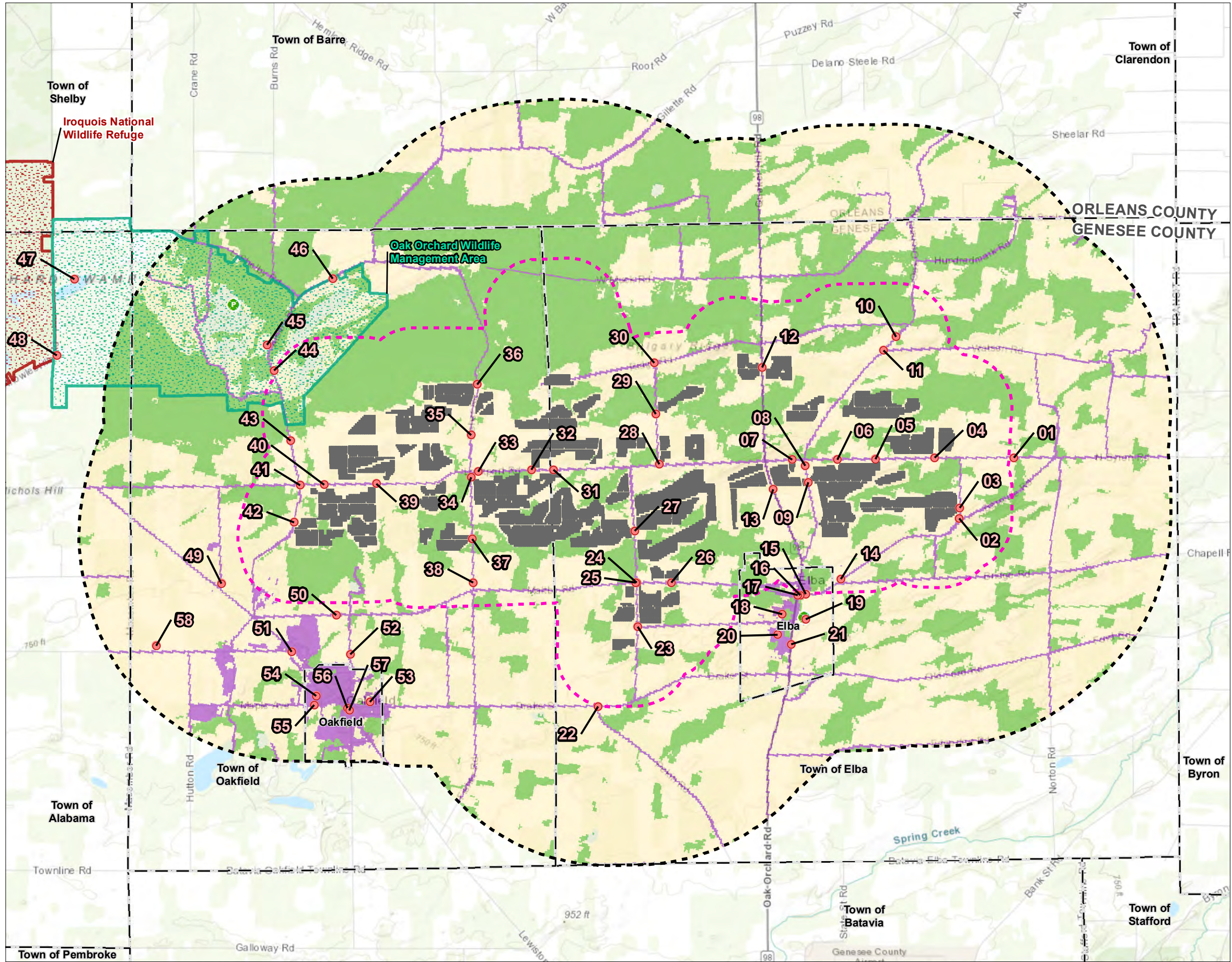
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2. Data Sources: Provided via separate list.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.



Project Location
Orleans and Genesee Counties,
New York
Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm
190502038

Figure No.
3
Title
Visual Study Area

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Revised: 2021-04-26 By: JHeideman



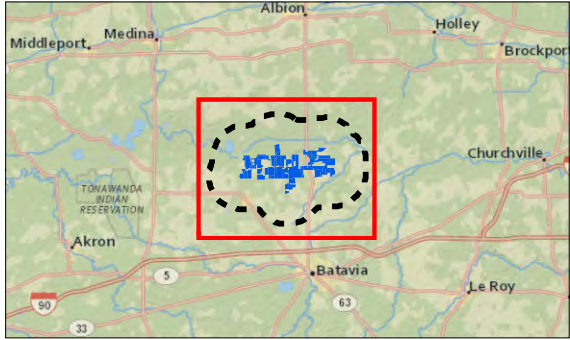
- Viewpoint
- Municipal Boundary
- 2 Mile Study Area
- Foreground View Distance Zone (Within 0.5 Mile of Project Site)
- Solar Panels
- NRHP Listed Site*
- Park
- State Wildlife Management Area
- National Wildlife Refuge
- Landscape Similarity Zone
 - Agriculture
 - Forest
 - Communities/Crossroads

*No features within data frame



0 0.5 1 Miles
(At original document size of 11x17)
1:60,000

Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: Provided via separate list.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.



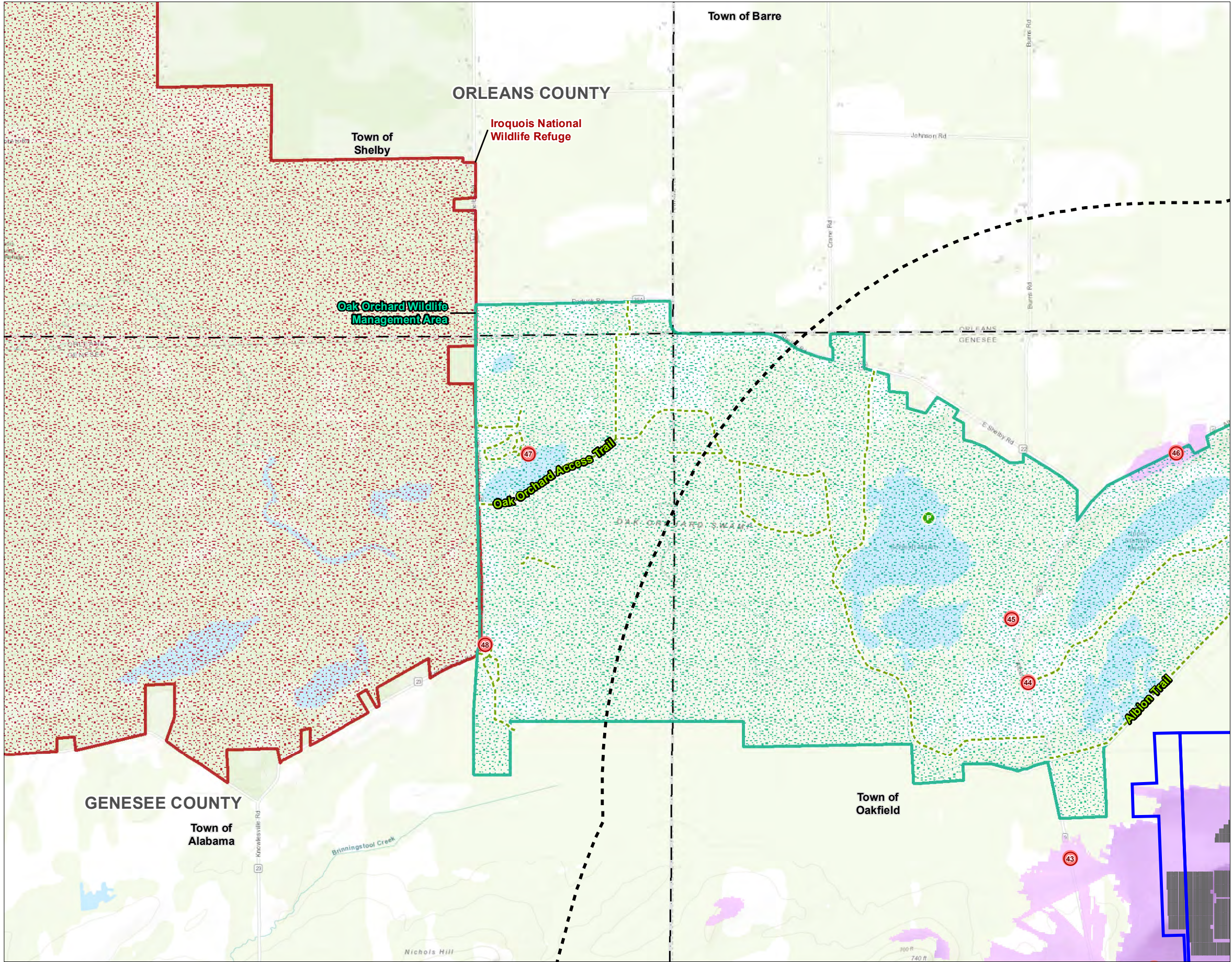
Project Location
Orleans and Genesee Counties,
New York
Prepared by JLH on 2021-04-12
TR by JH on 2021-04-19
IR by BB on 2021-04-23
190502038

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

Figure No.
4

Title
Visual Study Area and
Landscape Similarity Zones

V:\1905\Active\190502038\03_data\figs_cad\figs\visual_assessment_figures\fig5_vsr_vet\fig5_vsr_vet.mxd Revised: 2021-05-05 By: J.Hedeman



- Key Observation Point
- Viewpoint
- Municipal Boundary
- Project Parcel
- 2 Mile Study Area
- Solar Panels
- Visually Sensitive Resource:
- State Wildlife Management Area
- National Wildlife Refuge
- NYSDEC Trail
- Snowmobile Trail
- NRHP Listed Site*
- Park
- City/Town Hall
- Government Building
- Hospital
- Law Enforcement
- Fire Station
- Cemetery
- Place of Worship
- School
- Post Office
- Library
- Museum
- Golf Course/Private Club
- Prison
- Airport/Heliport
- Visibility Assessment⁴
- More Visible
- Less Visible



0 0.25 0.5 Miles
(At original document size of 11x17)
1:24,000

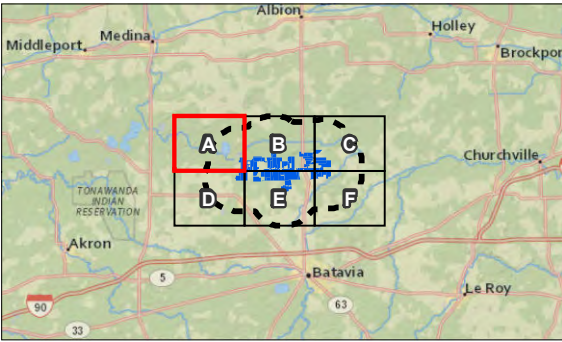
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1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet

2. Data Sources: Provided via separate list.

3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

4. Visibility assessment based on USGS NED and NLCD data. Gridded point representation of the panels used for processing purposes.



Project Location

Orleans and Genesee Counties,
New York

Client/Project

Hecate Energy Cider Solar LLC
Cider Solar Farm

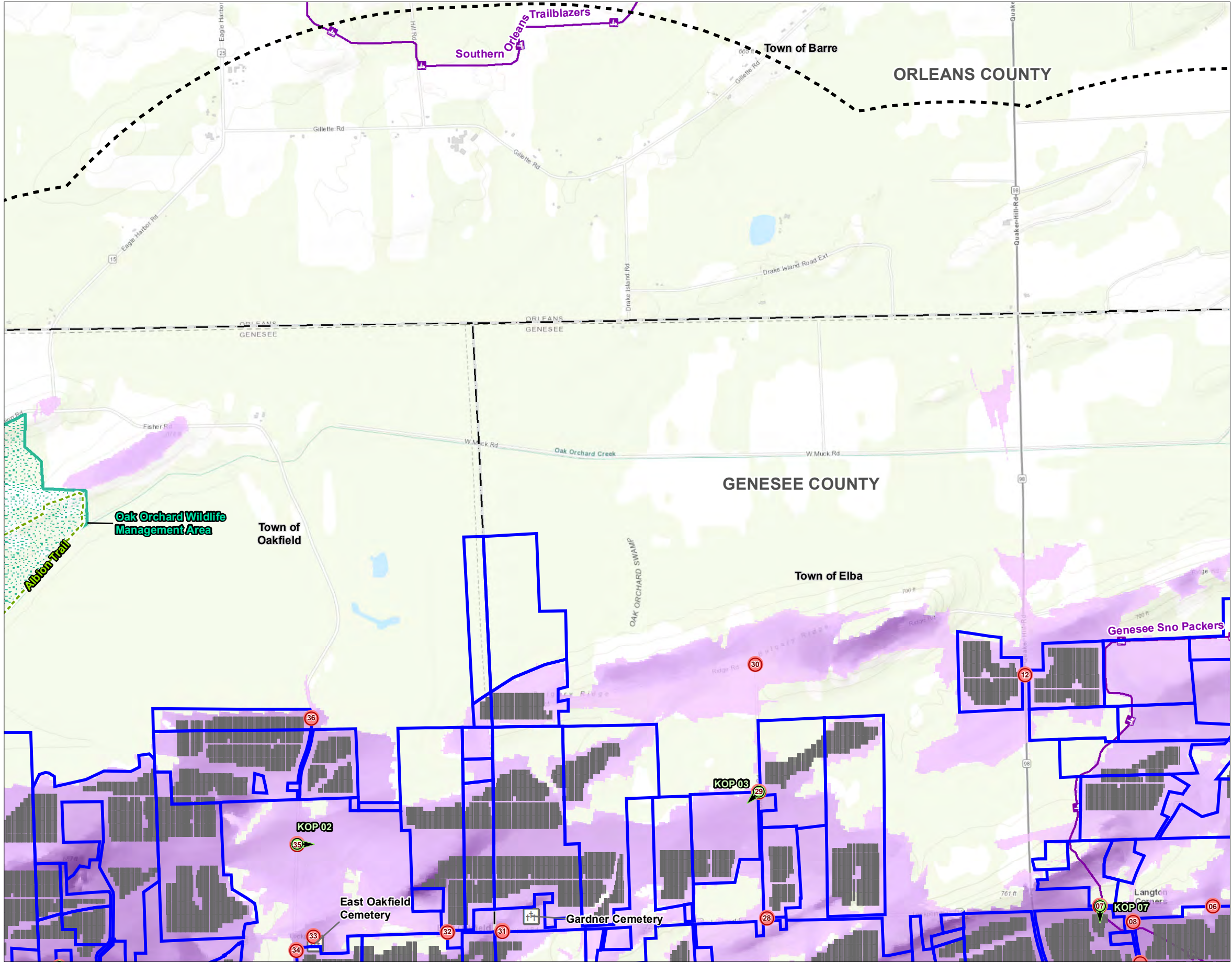
Figure No.



5A


Title


Visibility Assessment, Visually Sensitive
Resources, and Key Observation Points

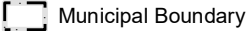
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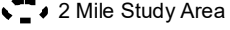


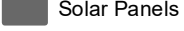
**Key Observation Point**

**Viewpoint**

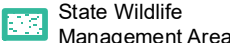
**Municipal Boundary**

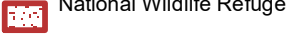
**Project Parcel**


**2 Mile Study Area**


**Solar Panels**


Visually Sensitive Resource:


**State Wildlife Management Area**

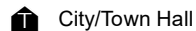
**National Wildlife Refuge**


**NYSDEC Trail**

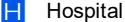
**Snowmobile Trail**

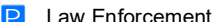
**NRHP Listed Site***


**Park**


**City/Town Hall**

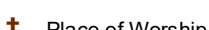
**Government Building**


**Hospital**


**Law Enforcement**

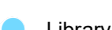
**Fire Station**


**Cemetery**


**Place of Worship**


**School**

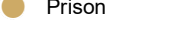
**Post Office**

**Library**


**Museum**

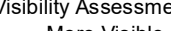
**Golf Course/Private Club**

**Prison**


**Airport/Heliport**

Visibility Assessment⁴

**More Visible**

**Less Visible**

*No features within data frame



00.250.5

Miles

(At original document size of 11x17)

1:24,000

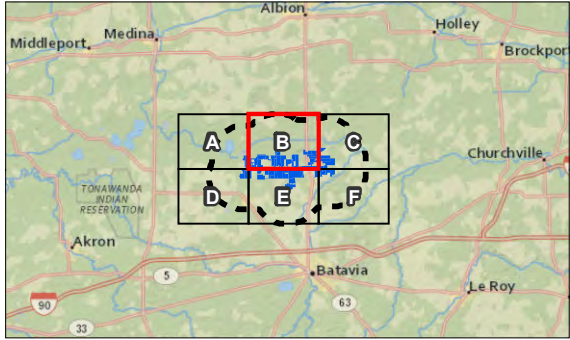
Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet

2. Data Sources: Provided via separate list.

3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

4. Visibility assessment based on USGS NED and NLCD data. Gridded point representation of the panels used for processing purposes.



Project Location

Orleans and Genesee Counties,
New York

Prepared by JLH on 2021-04-12
TR by JH on 2021-04-19
IR by BB on 2021-04-23

190502038

Client/Project

Hecate Energy Cider Solar LLC
Cider Solar Farm

Figure No.

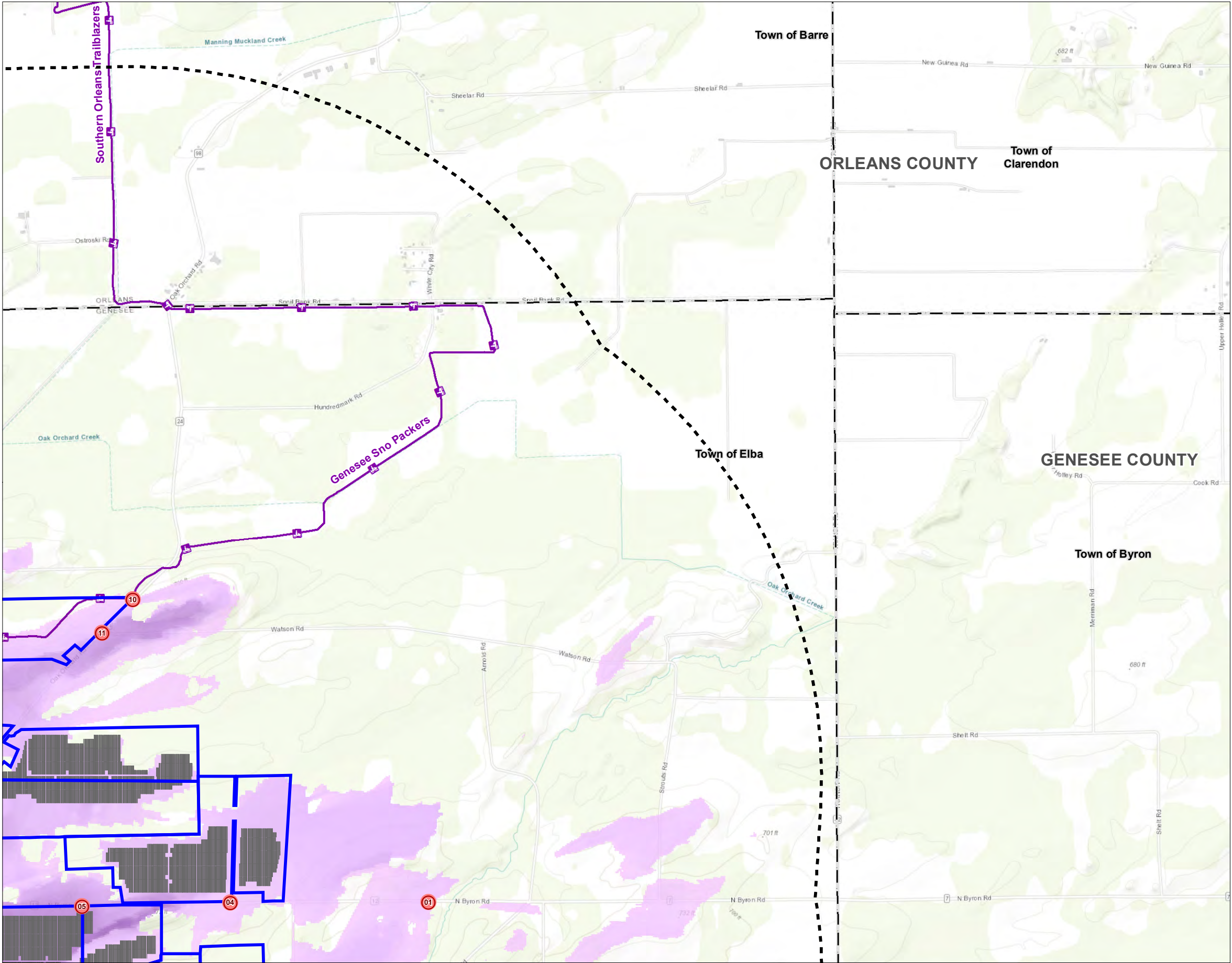
5B



Title


Visibility Assessment, Visually Sensitive Resources, and Key Observation Points

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.


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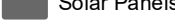
**Key Observation Point**

**Viewpoint**

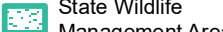
**Municipal Boundary**

**Project Parcel**


**2 Mile Study Area**

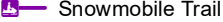
**Solar Panels**


Visually Sensitive Resource:


**State Wildlife Management Area**

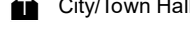
**National Wildlife Refuge**


**NYSDEC Trail**


**Snowmobile Trail**


**NRHP Listed Site***


**Park**


**City/Town Hall**

**Government Building**


**Hospital**


**Law Enforcement**


**Fire Station**


**Cemetery**


**Place of Worship**


**School**


**Post Office**

**Library**


**Museum**

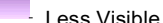
**Golf Course/Private Club**

**Prison**



**Airport/Heliport**

Visibility Assessment⁴

**More Visible**

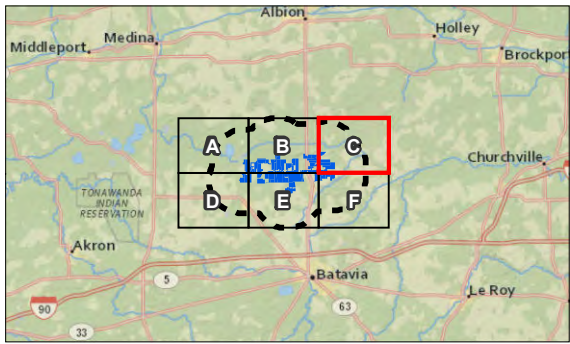
**Less Visible**

***No features within data frame**



(At original document size of 11x17)
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Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: Provided via separate list.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
4. Visibility assessment based on USGS NED and NLCD data. Gridded point representation of the panels used for processing purposes.



Project Location
Orleans and Genesee Counties,
New York

Prepared by J.L.H. on 2021-04-12
TR by J.H. on 2021-04-19
IR by B.B. on 2021-04-23

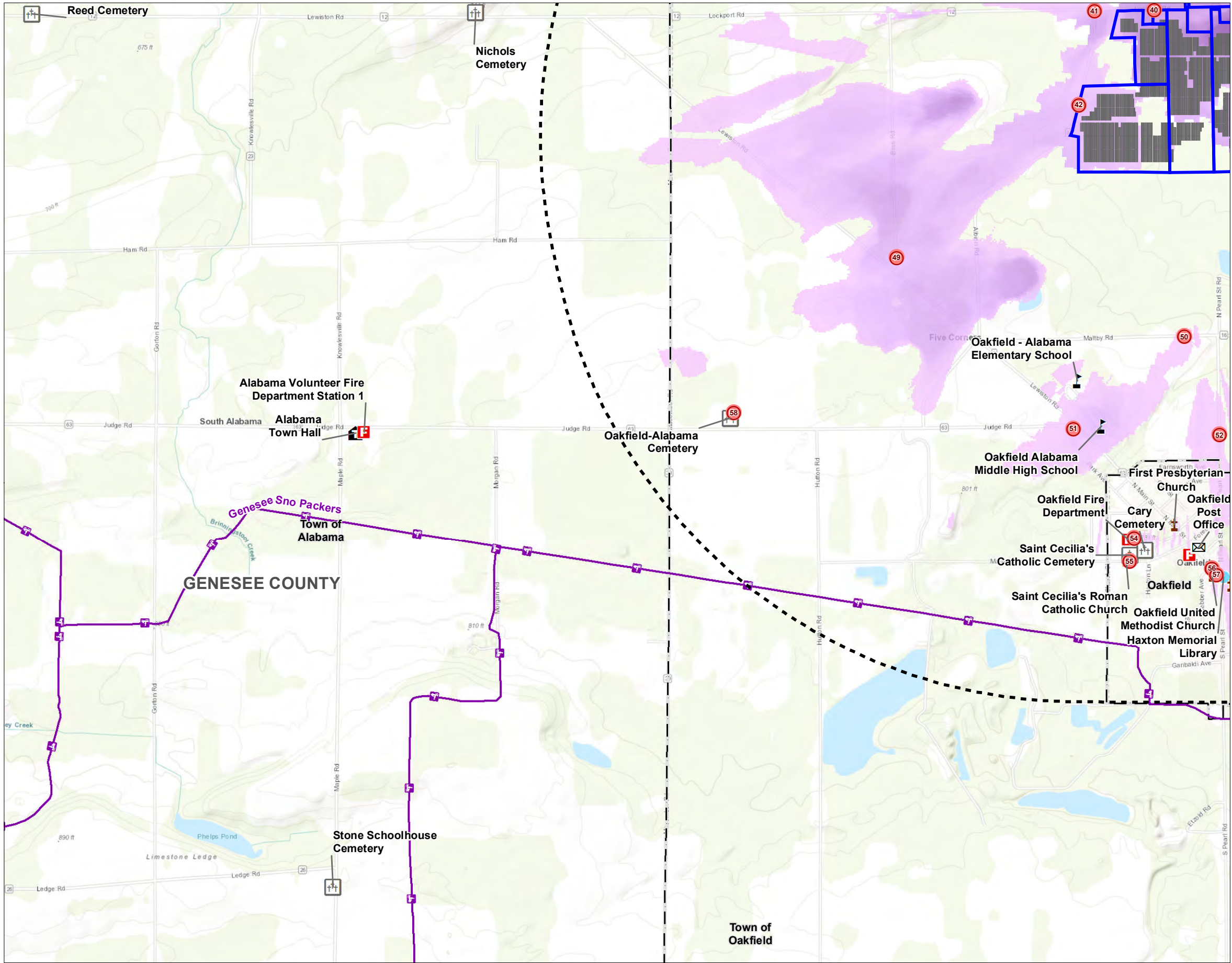
Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038

Figure No.
5C

Title
Visibility Assessment, Visually Sensitive Resources, and Key Observation Points

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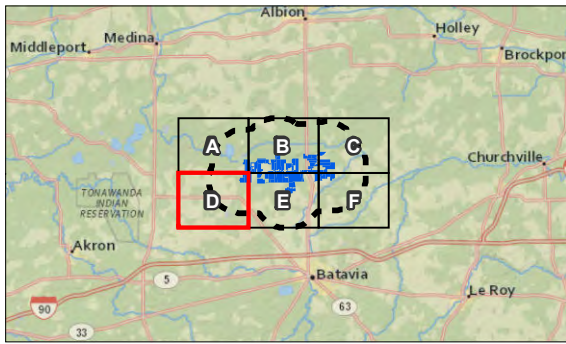
- Key Observation Point
- Viewpoint
- Municipal Boundary
- Project Parcel
- 2 Mile Study Area
- Solar Panels
- Visually Sensitive Resource:
- State Wildlife Management Area
- National Wildlife Refuge
- NYSDEC Trail
- Snowmobile Trail
- NRHP Listed Site*
- Park
- City/Town Hall
- Government Building
- Hospital
- Law Enforcement
- Fire Station
- Cemetery
- Place of Worship
- School
- Post Office
- Library
- Museum
- Golf Course/Private Club
- Prison
- Airport/Heliport
- Visibility Assessment⁴
- More Visible
- Less Visible

*No features within data frame



0 0.25 0.5 Miles
(At original document size of 11x17)
1:24,000

Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: Provided via separate list.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
4. Visibility assessment based on USGS NED and NLCD data. Gridded point representation of the panels used for processing purposes.



Project Location
Orleans and Genesee Counties,
New York

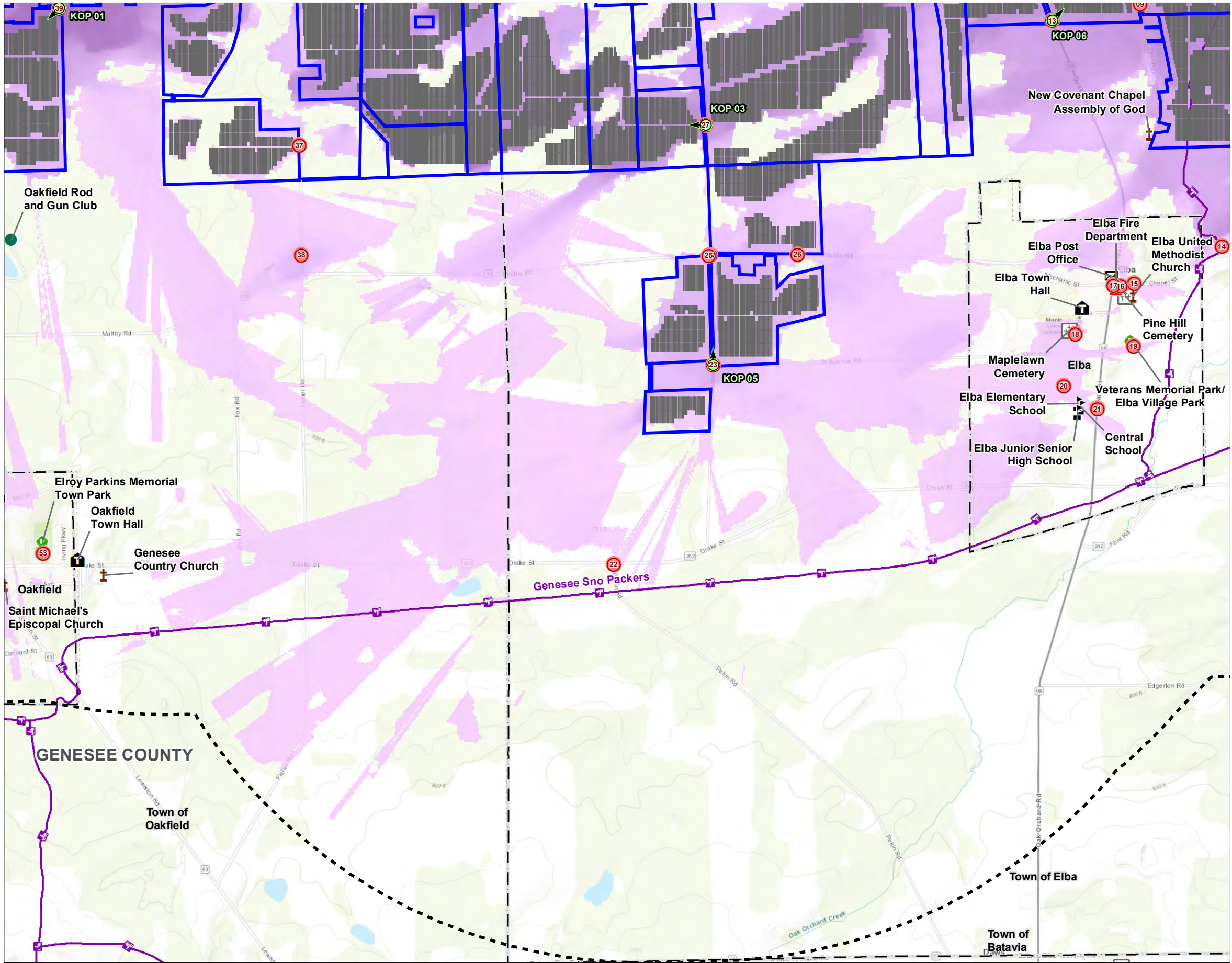
Prepared by J.L.H. on 2021-04-12
TR by J.H. on 2021-04-19
IR by B.B. on 2021-04-23

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

Figure No.
5D

Title
Visibility Assessment, Visually Sensitive
Resources, and Key Observation Points

V:\1905\Active\190502038\03_data\figs_cad\figs\visual_assessment_figures\fig5_vsr_vet\shd_190502038.mxd Revised: 2021-05-05 By: J.Hedeman



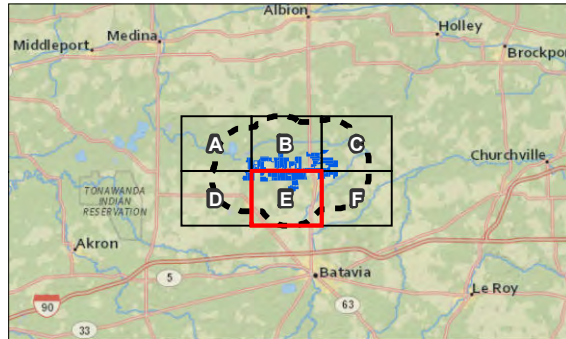
- Key Observation Point
- Viewpoint
- Municipal Boundary
- Project Parcel
- 2 Mile Study Area
- Solar Panels
- Visually Sensitive Resource:
- State Wildlife Management Area
- National Wildlife Refuge
- NYSDEC Trail
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- Place of Worship
- School
- Post Office
- Library
- Museum
- Golf Course/Private Club
- Prison
- Airport/Heliport
- Visibility Assessment⁴
- More Visible
- Less Visible

*No features within data frame



0 0.25 0.5 Miles
(At original document size of 11x17)
1:24,000

Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: Provided via separate list.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
4. Visibility assessment based on USGS NED and NLCD data. Gridded point representation of the panels used for processing purposes.



Project Location
Orleans and Genesee Counties,
New York

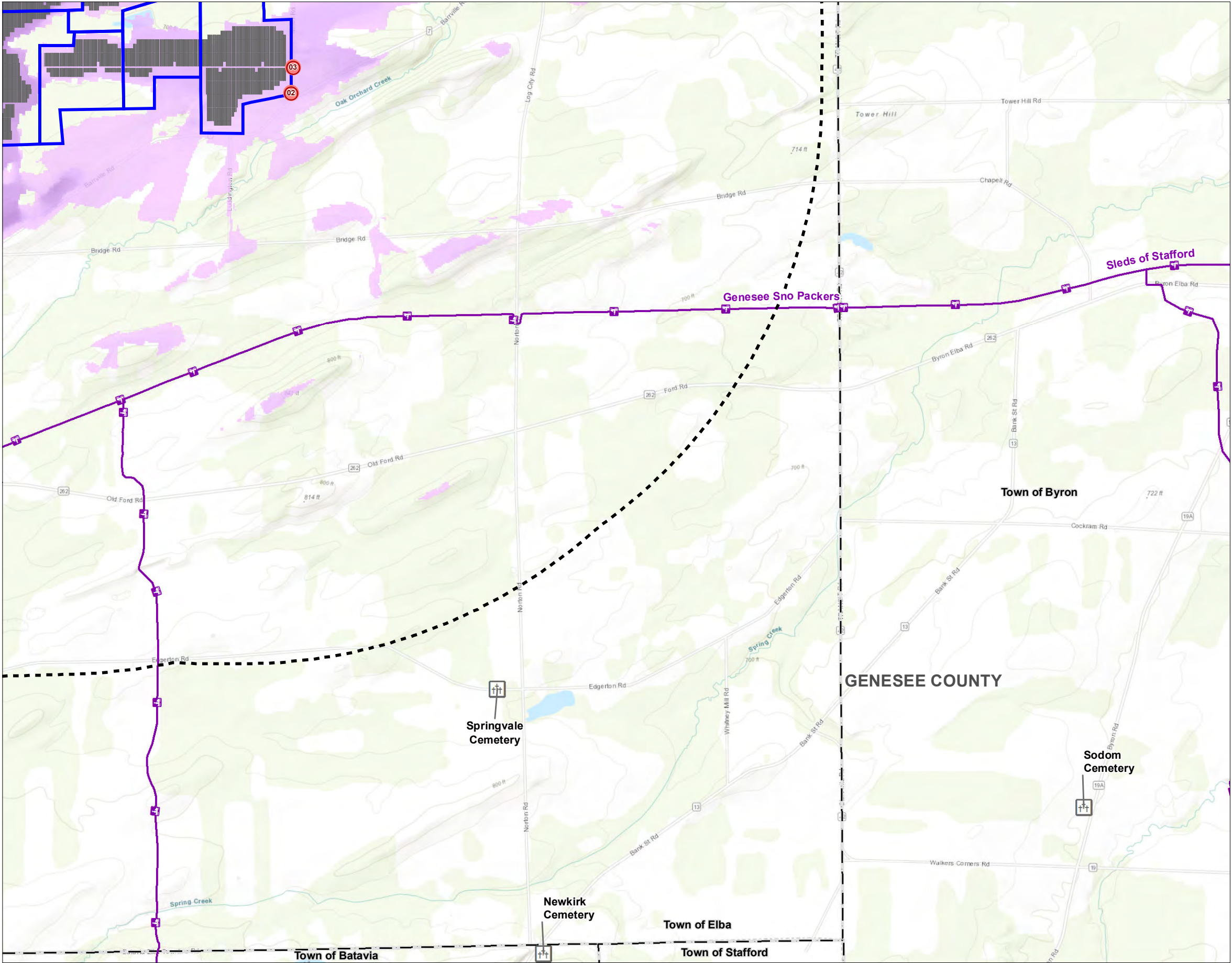
Prepared by J.LH on 2021-04-12
TR by JH on 2021-04-19
IR by BB on 2021-04-23


Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

Figure No.
5E


Title
Visibility Assessment, Visually Sensitive
Resources, and Key Observation Points


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Stantec







Key Observation Point




Viewpoint




Municipal Boundary



Project Parcel




2 Mile Study Area



Solar Panels


Visually Sensitive Resource:




State Wildlife Management Area




National Wildlife Refuge




NYSDEC Trail




Snowmobile Trail




NRHP Listed Site*




Park




City/Town Hall




Government Building




Hospital



Law Enforcement




Fire Station




Cemetery




Place of Worship




School




Post Office




Library




Museum



Golf Course/Private Club




Prison




Airport/Heliport

Visibility Assessment⁴




More Visible



Less Visible

*No features within data frame



0 0.25 0.5 Miles
(At original document size of 11x17)
1:24,000

Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: Provided via separate list.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
4. Visibility assessment based on USGS NED and NLCD data. Gridded point representation of the panels used for processing purposes.

Project Location

Orleans and Genesee Counties,
New York

Prepared by J.L.H. on 2021-04-12
TR by J.H. on 2021-04-19
IR by B.B. on 2021-04-23

Client/Project

Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038

Figure No.

5F

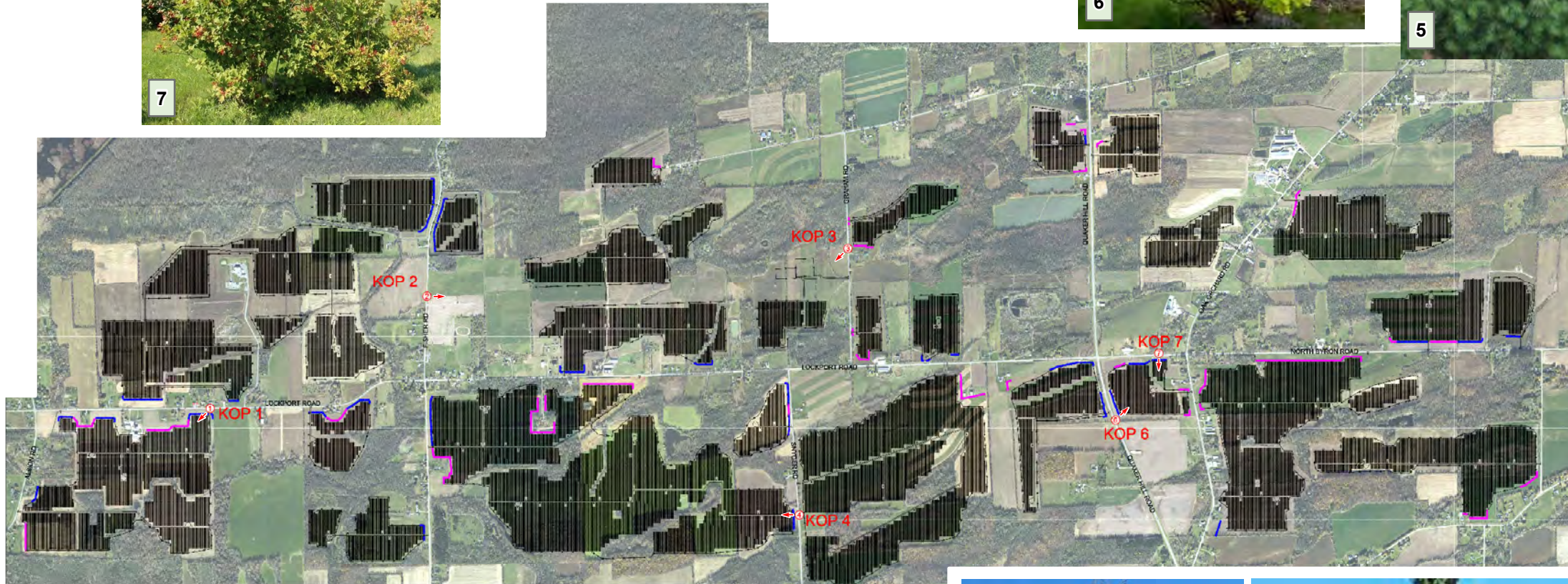
Title

Visibility Assessment, Visually Sensitive
Resources, and Key Observation Points

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IMAGE	Scientific Name	Common Name	Planting Size	Approximate Growth Rate/Year	Approximate 5-Year Size (H)*	Approximate 15-Year Size (H)*	Approximate Mature Size (HxW)	Wildlife Value
1	<i>Amelanchier canadensis</i>	Shadblow Serviceberry	6-7' HT	13-24" / year	17'	27'	25-30' x 15-20'	Butterfly and Bird Habitat
2	<i>Cornus racemosa</i>	Gray Dogwood	3-4' HT	<12" / year	8'	mature size (15' x 15')	10-15' x 10-15'	Forage Plant for Deer, Nesting Habitat
3	<i>Juniperus virginiana</i>	Eastern Red Cedar	6-8' HT	1-1.5' / year	15.5'	23'	40-50' x 8-10'	Butterfly and Bird Habitat
4	<i>Picea glauca</i>	White Spruce	6-8' HT	13-24" / year	18'	28'	40-60' x 10-20'	Forage Plant, Nesting and Habitat
5	<i>Pinus strobus</i>	Eastern White Pine	6-8' HT	16" / year	15'	22'	50-80' x 20-40'	Livestock and Bird Forage Plant, Habitat
6	<i>Physocarpus opulifolius</i>	Common Ninebark	18-24" HT	18-24" / year	mature size (8'ht x6'w)	mature size (8'ht x6'w)	5-8' x 4-6'	Nectar and Seed Forage Plant
7	<i>Viburnum trilobum</i>	American Cranberrybush	6-10' HT	13-24" / year	mature size (12'ht x 12'w)	mature size (12'ht x 12'w)	8-12' x 8-12'	Food and Cover Plant for birds/mammals

* assumes that the width is growing proportionally with the height



Legend

Module A: Solid Landscape Screening

Module B: Intermittent Landscape Screening



0 3,000 6,000 Feet
(At original document size of 11x17)
1:36,000

- Notes
- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 - Data Sources: NYS Office of ITS GPO, NYS Civil Boundaries, 2018
 - Background: WorldView-3 satellite imagery purchased on June 6, 2020.



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-05-24
TR by AS on 2021-05-24
IR by JH on 2021-05-24

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REVA

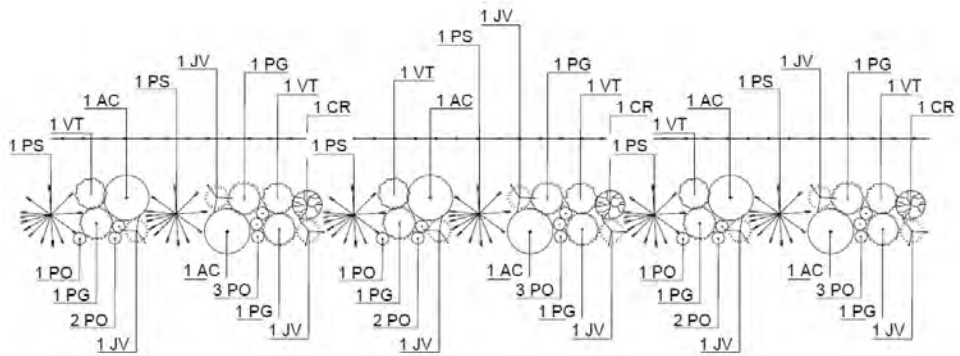
Figure No.
6A

Title
Proposed Landscape Screening

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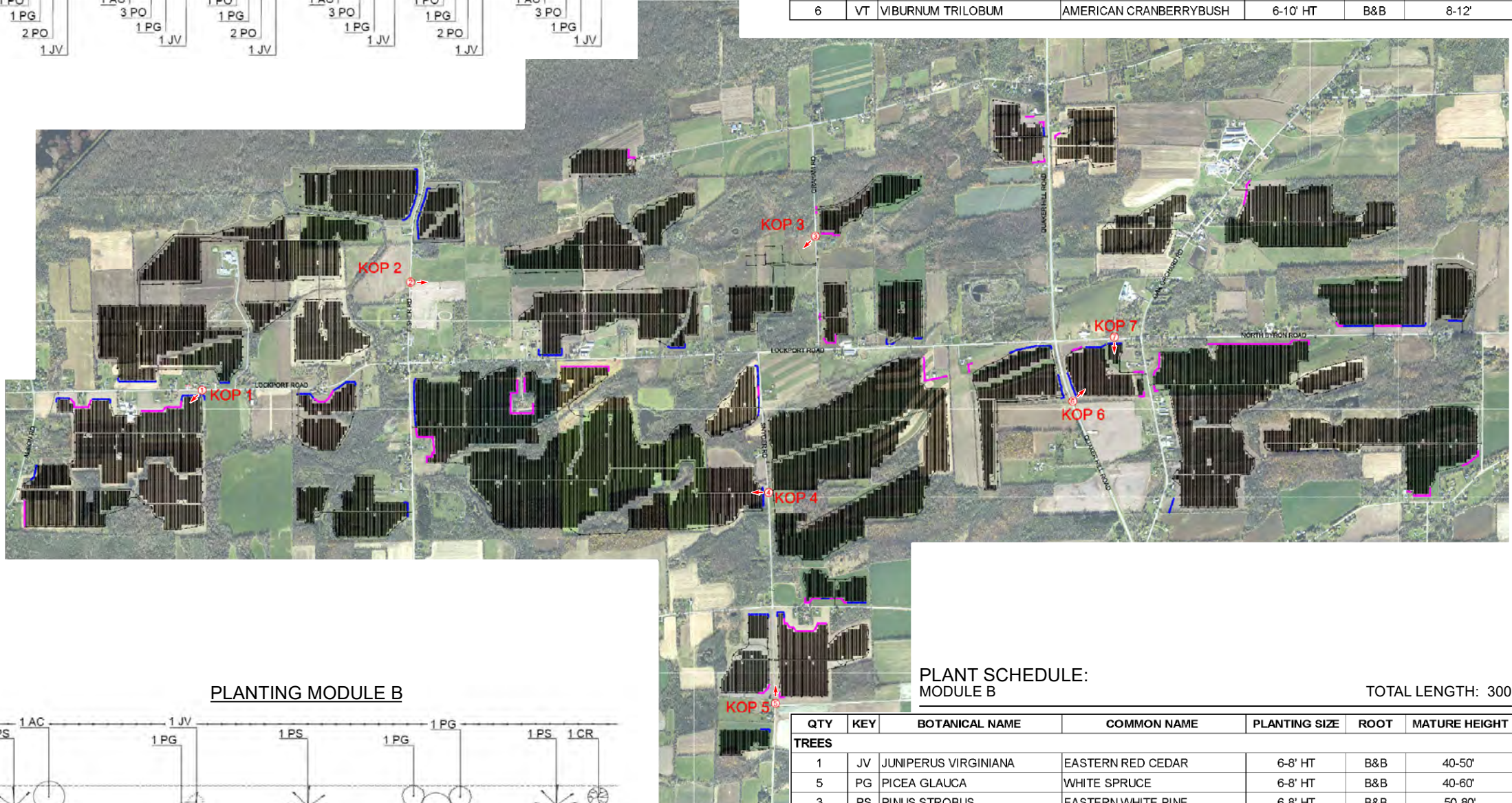
PLANTING MODULE A



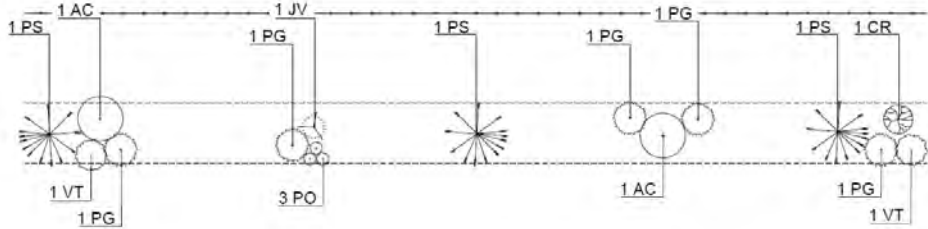
PLANT SCHEDULE:
MODULE A

TOTAL LENGTH: 300

QTY	KEY	BOTANICAL NAME	COMMON NAME	PLANTING SIZE	ROOT	MATURE HEIGHT
TREES						
9	JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6-8' HT	B&B	40-50'
9	PG	PICEA GLAUCA	WHITE SPRUCE	6-8' HT	B&B	40-60'
6	PS	PINUS STROBUS	EASTERN WHITE PINE	6-8' HT	B&B	50-80'
SHRUBS						
6	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	6-7' HT	B&B	25-30'
3	CR	CORNUS RACEMOSA	GRAY DOGWOOD	3-4' HT	B&B	10-15'
18	PO	PHYSOCARPUS OPULIFOLIUS	COMMON NINEBARK	18-24" HT	#5 CONT.	5-8'
6	VT	VIBURNUM TRILOBUM	AMERICAN CRANBERRYBUSH	6-10' HT	B&B	8-12'



PLANTING MODULE B



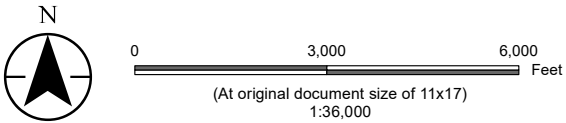
PLANT SCHEDULE:
MODULE B

TOTAL LENGTH: 300

QTY	KEY	BOTANICAL NAME	COMMON NAME	PLANTING SIZE	ROOT	MATURE HEIGHT
TREES						
1	JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6-8' HT	B&B	40-50'
5	PG	PICEA GLAUCA	WHITE SPRUCE	6-8' HT	B&B	40-60'
3	PS	PINUS STROBUS	EASTERN WHITE PINE	6-8' HT	B&B	50-80'
SHRUBS						
2	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	6-7' HT	B&B	25-30'
1	CR	CORNUS RACEMOSA	GRAY DOGWOOD	3-4' HT	B&B	10-15'
3	PO	PHYSOCARPUS OPULIFOLIUS	COMMON NINEBARK	18-24" HT	#5 CONT.	5-8'
2	VT	VIBURNUM TRILOBUM	AMERICAN CRANBERRYBUSH	6-10' HT	B&B	8-12'



- Legend
- Module A: Solid Landscape Screening
 - Module B: Intermittent Landscape Screening



- Notes
- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 - Data Sources: NYS Office of ITS GPO, NYS Civil Boundaries, 2018
 - Background: WorldView-3 satellite imagery purchased on June 6, 2020.



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-05-24
TR by AS on 2021-05-24
IR by JH on 2021-05-24

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REV A

Figure No.
6B

Title
Landscape Plan Excerpt

APPENDICES



ATTACHMENT A SOURCES OF DATA AND APPLICABLE PERMITTING REQUIREMENTS



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**

Data Source	Description	Link to Source
National Park Service		
National Register of Historic Places (Geospatial Dataset Code: 2210280)	The National Register geospatial dataset is intended to be a comprehensive inventory of all cultural resources that are listed on the National Register of Historic Places. However, this dataset excludes all features deemed 'restricted' or 'sensitive', such as sensitive archaeological sites. This dataset provides feature geometry representations (point or polygon) and is intended to be supplemented with descriptive attributes maintained by other external database systems such as the National Register Information System, which is included in this geodatabase.	https://irma.nps.gov/DataStore/Reference/Profile/2210280
Administrative Boundaries of National Park System Units 9/30/2018 - National Geospatial Data Asset National Park Service (NPS) National Parks Dataset	NPS unit boundaries	https://irma.nps.gov/DataStore/Reference/Profile/2224545?Inv=True
Wild and Scenic Rivers Program: Map of NPS Wild and Scenic Rivers	On-line interactive map that provides detailed information about and links for individual wild and scenic rivers	https://www.nps.gov/orgs/1912/plan-your-visit.htm
New York State GIS Clearinghouse GIS Data Sets		
New York State Department of Environmental Conservation (NYSDEC) Lands (revised November 2019)	Lands under the care, custody, and control of NYSDEC, including Wildlife Management Areas, Unique Areas, State Forests, and Forest Preserve	https://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1114
NYS Office of Parks, Recreation & Historic Preservation (revised October 2018)	Data include buildings, structures, objects, historic districts listed in the National Register. Archeological sites and properties determined eligible for listing are not included.	http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=429
NYSDEC Points of Interest (revised November 2019)	Point data locating and differentiating assets on state lands. Assets represented as point features are man-made items that require periodic maintenance or inspection. Examples include custodial, asset, lean-to, parking lot, lean-to, pit privy, campsite, trail structure, parking, primitive site, fire tower, scenic vista, picnic site, and day use area.	https://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1258
NYSDEC Roads and Trails (revised November 2019)	Line data locating and differentiating transportation corridors on NYSDEC lands	https://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1167
NYS Historic Sites and Park Boundary (revised October 2018)	Data include boundaries of state park and historic site facilities. Facility types include state parks, marine parks, boat launch sites, historic sites, historic parks, and park preserves.	http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=430
NYS Schools and School District Boundaries	NYS education related datasets (public schools K–12).	http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1326



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM

NYS Heritage Areas	Data include boundaries of 20 Heritage Areas designated in Parks, Recreation and Historic Preservation law, Section 33.03, from 1977 to the present. Designations include urban cultural parks, heritage areas, and heritage corridors.	http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1188
Public Fishing Stream Parking Areas	This is a shapefile file that can be used with programs like Google Earth, Google Maps, and NYSDEC's State Lands Interactive Mapper. It displays the locations of public fishing stream parking areas in NYS.	http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1193
Scenic Areas of Statewide Importance (revised November 2014)	Statutory boundary describing scenic areas designated by the Department of State. Designations completed for the Hudson River Valley only.	http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=321
U.S. Department of Transportation, Federal Highway Administration		
America Byways: New York	Online map of America's Byways in NYS.	https://www.fhwa.dot.gov/byways/states/NY/maps
USA Parks	This layer presents parks, gardens, and forests within the United States at national, state, and local levels.	https://www.arcgis.com/home/item.html?id=578968f975774d3fab79fe56c8c90941
Town of Elba Solar Energy Law		
Permitting Requirements for Tier 3 Solar Energy Systems		
Underground Requirements	All on-site utility lines shall be placed underground to the extent feasible and as permitted by the serving utility, with the exception of the main service connection at the utility company right-of-way and any new interconnection equipment, including without limitations any poles, with new easements and right-of-way.	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf
Signage	No signage or graphic content shall be displayed on the Solar Energy Systems except the manufacturer's name, equipment specification information, safety information, and 24-hour emergency contact information. Said information shall be depicted within an area no more than 8 square feet.	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf
Glare	All Solar Panels shall have anti-reflective coating(s).	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf
Screening and Visibility	Solar Energy Systems larger than 10 acres shall conduct a visual assessment of the visual impacts of the Solar Energy System on public roadways and adjacent properties. At a minimum, a line-of-sight profile analysis shall be provided. Depending upon the scope and potential significance of the visual impacts, additional impact analyses, including, for example, a digital viewshed report, shall be required to be submitted by the applicant.	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**

Screening and Visibility	Solar Energy Systems larger than 10 acres shall submit a screening and landscaping plan to show adequate measures to screen through landscaping, grading, or other means, so that views of Solar Panels and Solar Energy Equipment shall be minimized as reasonably practicable from public roadways and adjacent properties to the extent feasible.	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf
Screening and Visibility	The screening and landscaping plan shall specify the locations, elevations, height, plant species, and/or materials that will comprise the structures, landscaping, and/or grading used to screen and/or mitigate any adverse aesthetic effects of the system.	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf
Screening and Visibility	The landscaped screening shall be comprised of a minimum of 2 evergreen tree species native to New York, at least 6 feet tall at time of planning, plus 4 supplemental native shrubs species at the reasonable discretion of the Town of Elba Planning Board, all planted within 10 linear feet of the Solar Energy System, or distance deemed practicable by the mature diameter of tree species selected.	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf
Screening and Visibility	Existing vegetation may be used to satisfy all or a portion of the required landscaped screening. Planted tree and shrub survivorship of less than 75% after two growing seasons or visual screening of less than 75% after five growing seasons as viewed from houses on adjacent properties will require additional plantings at the expense of the owner/operator.	https://usesny.org/wp-content/uploads/2020/12/Town-of-Elba-Solar-Energy-Law_Final-02132020.pdf
Town of Oakfield Solar Energy Facilities – Recommended Zoning		
Standards for Minor Solar Collection Systems		
Permitting	Solar energy equipment shall be located in a manner to reasonably minimize view blockage for surrounding properties and shading of property to the north, while still providing adequate solar access for collectors.	https://townofoakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf
Permitting	Freestanding solar energy collectors shall be screened when possible and practicable through the use of architectural features, earth berms, landscaping, or other screening which will harmonize with the character of the property and surrounding area.	https://townofoakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf
Standards for Major Solar Collection Systems		
Applicability	Where applicable, and unless more restrictive regulations apply, the standards for minor systems shall apply to solar collectors and installation for major systems.	https://townofoakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf



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CIDER SOLAR FARM**

Height and Setback Restrictions	Based on site specific conditions, including topography, adjacent structures, and roadways, a landscaped buffer may, at the discretion of the Planning Board and/or Zoning Enforcement Officer, be required around all equipment and solar collectors to provide screening from adjacent residential properties and road but shall not result in shading solar collectors.	https://townof oakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf
Signs	A sign, not to exceed eight square feet, shall be displayed on or near the main access point and shall list the facility name, owner, and phone number. Solar collection systems shall not be used for displaying any advertising except reasonable identification of the manufacturer or operator of the system.	https://townof oakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf
Design Standards	Removal of trees and other existing vegetation shall be minimized and offset with planting elsewhere on the property if the proposed vegetation does not shade solar collectors.	https://townof oakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf
Design Standards	All on-site utility and transmission lines shall, to the extent feasible, be placed underground.	https://townof oakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf
Design Standards	Solar collectors and other facilities shall be designed and located in order to prevent reflective glare toward any inhabited buildings on adjacent properties and roads.	https://townof oakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf
Design Standards	All electrical equipment, including any structure for batteries or storage cells, shall be enclosed by a minimum six-foot-high perimeter fence topped with an additional outward-facing fencing section at the top. Enclosure shall include a self-locking gate and be provided with landscape screening.	https://townof oakfieldny.com/wp-content/uploads/2019/09/Solar-Energy-Facilities-Rev.3-002.pdf



ATTACHMENT B SCENIC RESOURCES WITHIN THE VISUAL STUDY AREA



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**

Scenic Resource	Town(s)	County	Approximate Distance from Project Site (miles)	Distance Zone	Project Visibility	
					Views Possible ○	Not Visible ●
1 - National or State Register of Historic Places						
TBD						
2 - State Parks						
None within 2-mile Study Area						
3 - New York State Heritage Areas (formerly Urban Cultural Parks)						
None within 2-mile Study Area						
4 - State Forest Preserves						
None within 2-mile Study Area						
5 - National Wildlife and State Game Refuges						
Oak Orchard Wildlife Management Area	Alabama, Oakfield	Genesee	0.0	Foreground	○	
6 - National Natural Landmarks						
None within 2-mile Study Area						
7 - National Park Service Lands						
None within 2-mile Study Area						
8 - National/State Wild, Scenic or Recreational Rivers						
None within 2-mile Study Area						
9 - Designated or Eligible Scenic Site, Area, Lake, Reservoir or Highway						
None within 2-mile Study Area						
10 - Scenic Areas of Statewide Significance						
None within 2-mile Study Area						
11 - State or Federally Designated Trails						
Albion Trail	Oakfield	Genesee	0.1	Foreground	●	
Genesee Sno Packers – Snowmobile Trails	Alabama, Batavia, Elba, Oakfield	Genesee	0.0	Foreground	○	
Oak Orchard Access Trail	Alabama, Oakfield	Genesee	0.3	Foreground	●	
Southern Orleans Trailblazers – Snowmobile Trails	Barre	Orleans	1.1	Middleground	●	
Unnamed Oak Orchard WMA Trail(s)	Alabama, Oakfield	Genesee	0.1	Foreground	●	
12 - Adirondack Park Overlooks and Vistas						
None within 2-mile Study Area						
13 - State Nature and Historic Preserve Areas						
None within 2-mile Study Area						



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**

Scenic Resource	Town(s)	County	Approximate Distance from Project Site (miles)	Distance Zone	Project Visibility	
					Views Possible ○	Not Visible ●
14 - Palisades Park						
None within 2-mile Study Area						
15 - Bond Act Properties for Exceptional Scenic Beauty or Open Space						
None within 2-mile Study Area						
16 - National Heritage Areas						
None within 2-mile Study Area						
Aesthetic Resources of Local Interest						
Schools						
Elba Elementary School	Elba	Genesee	1.0	Middleground	○	
Elba Junior-Senior High School	Elba	Genesee	1.0	Middleground	○	
Oakfield-Alabama Elementary School	Oakfield	Genesee	0.9	Middleground	●	
Oakfield-Alabama Middle School High School	Oakfield	Genesee	0.9	Middleground	●	
Local Parks						
Veterans Memorial Park / Elba Village Park	Elba	Genesee	0.7	Middleground	○	
Elroy Parkins Memorial Town Park	Oakfield	Genesee	1.2	Middleground	●	
Churches						
Elba United Methodist Church	Elba (Village of)	Genesee	0.5	Middleground	○	
First Presbyterian Church	Oakfield (Village of)	Genesee	1.3	Middleground	○	
Genesee Country Church	Oakfield	Genesee	1.4	Middleground	●	
New Covenant Chapel Assembly of God	Elba	Genesee	0.1	Foreground	○	
Oakfield United Methodist Church	Oakfield (Village of)	Genesee	1.5	Middleground	○	
Saint Celia's Roman Catholic Church	Oakfield (Village of)	Genesee	1.4	Middleground	○	
Saint Michael's Episcopal Church	Oakfield (Village of)	Genesee	1.5	Middleground	○	
Cemeteries						
Cary Cemetery	Oakfield	Genesee	1.4	Middleground	○	
East Oakfield Cemetery	Oakfield	Genesee	0.0	Foreground	○	
Gardner Cemetery	Elba	Genesee	0.0	Foreground	○	
Maplelawn Cemetery	Elba (Village of)	Genesee	0.6	Middleground	○	
Oakfield-Alabama Cemetery	Oakfield	Genesee	1.5	Middleground	●	
Pine Hill Cemetery	Elba	Genesee	0.5	Middleground	○	
Saint Cecilia's Catholic Cemetery	Oakfield	Genesee	1.4	Middleground	○	



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**

Scenic Resource	Town(s)	County	Approximate Distance from Project Site (miles)	Distance Zone	Project Visibility	
					Views Possible	Not Visible
					○	●
Emergency Services						
Elba Fire Department	Elba	Genesee	0.5	Middleground	●	
Oakfield Fire Department	Oakfield	Genesee	1.3	Middleground	○	
Post Offices						
Elba Post Office	Elba	Genesee	0.4	Foreground	○	
Oakfield Post Office	Oakfield	Genesee	1.4	Middleground	●	
Town Halls/County Offices						
Elba Town Hall	Elba	Genesee	0.5	Middleground	●	
Oakfield Town Hall	Oakfield	Genesee	1.4	Middleground	●	
Other						
Haxton Memorial Library	Oakfield	Genesee	1.5	Middleground	○	
Oakfield Rod and Gun Club	Oakfield	Genesee	0.2	Foreground	●	

Note: A distance of 0 miles indicates that the resource falls within the Project Site boundary.



ATTACHMENT C PHOTOGRAPH LOG



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM



Viewpoint 1. View to the southwest from North Byron Road, about 0.4 miles west of Barrville Road. The Project Site would be over 0.6 miles away from this location.



Viewpoint 2. View to the northwest from Miller Road, just north of Barrville Road. The Project Site would be within 250 feet of this location.



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM



Viewpoint 3. View to the west from Miller Road, approximately 0.1 miles north of Barrville Road. The Project Site would be 0.6 miles away from this location.



Viewpoint 4. View to the north from Byron Road, 0.25 miles west of Miller Road. The Project Site would be within 250 feet of this location.



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CIDER SOLAR FARM



Viewpoint 5. View to the southwest from North Byron Road, 0.7 miles east of Oak Orchard Road. The Project Site would be just over 100 feet away from this location.



Viewpoint 6. View to the southeast of North Byron Road, 0.3 miles east of Oak Orchard Road. The Project Site would be around 200 feet away from this location.



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Viewpoint 7. View to the south from Lockport Road, 0.1 miles west of Oak Orchard Road. The Project Site would be within 175 feet of this location.



Viewpoint 8. View to the southeast from Oak Orchard Road, less than 0.1 miles south of North Byron Road. The Project Site would be within 400 feet of this location.



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Viewpoint 9. View to the west from Oak Orchard Road, 0.2 miles from North Byron Road. The Project Site would be within 175 feet of this location.



Viewpoint 9. View to the east from Oak Orchard Road, 0.2 miles from North Byron Road. The Project Site would be within 150 feet of this location.



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Viewpoint 10. View to the south-southwest from Oak Orchard Road, 0.2 miles northeast of Watson Road. The Project Site would be nearly 1 mile away from this location.



Viewpoint 11. View to the west from the intersection of Oak Orchard Road and Watson Road. The Project Site would be about 0.9 miles away from this location.



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Viewpoint 12. View to the east from Quaker Hill Road, 0.2 miles south of Ridge Road. The Project Site would be just over 200 feet away from this location.



Viewpoint 13. View to the northeast from Quaker Hill Road, about 0.3 miles south of Lockport Road. The Project Site would be within 200 feet of this location.



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM



Viewpoint 13. View to the north-northwest from Quaker Hill Road, about 0.3 miles south of Lockport Road. The Project Site would appear on both sides of the roadway in this view, as near as 300 feet from the viewpoint.



Viewpoint 14. The view to the north-northwest from Barrville Road, northwest of Bridge Road. The Project Site would be as close as 0.4 miles from this location, which is a snowmobile trail segment.



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**



Viewpoint 15. The view to the west from Chapel Street, about 0.1 miles east of North Main Street in Elba. The Project Site would be over 0.5 miles north of this location.



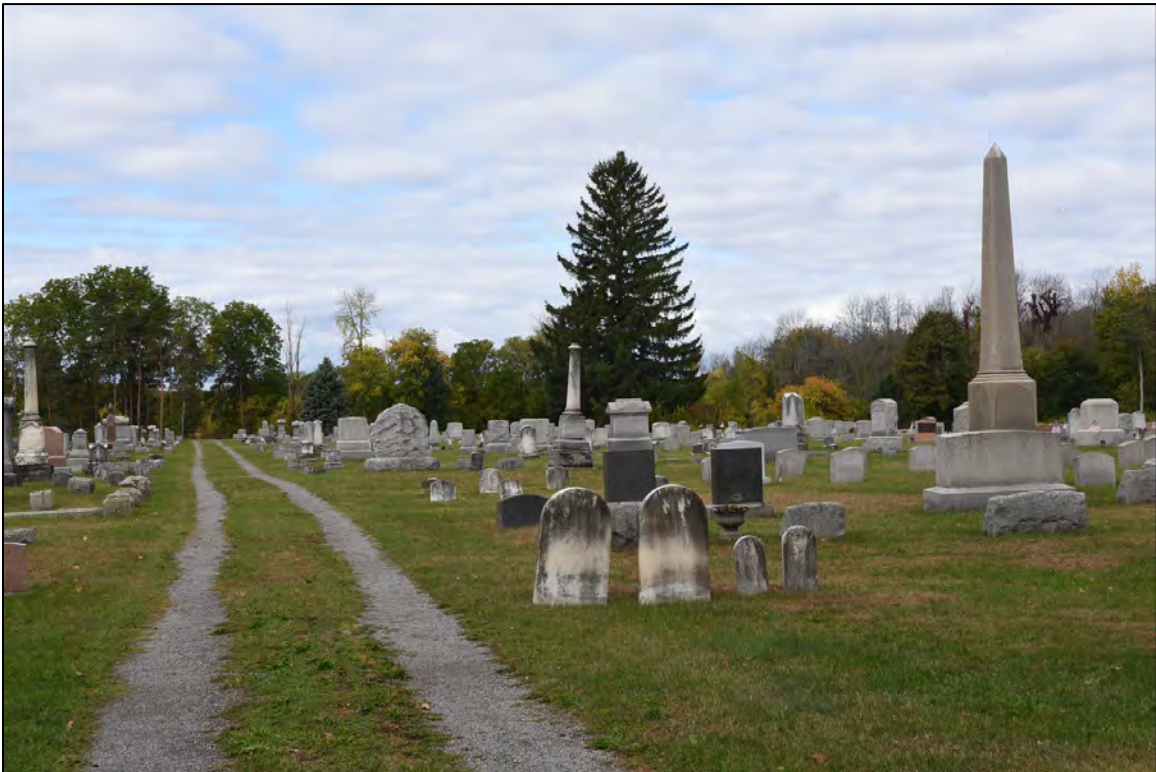
Viewpoint 16. The view to the south from Chapel Street toward Pine Hill Cemetery, just west of South Main Street in Elba. The Project Site would be 0.6 miles northeast of this location.



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CIDER SOLAR FARM



Viewpoint 17. The view to the north from the southwestern corner of North Main Street and Chapel Street in Elba. The Project Site would be 0.6 miles northeast of this location.



Viewpoint 18. The view to the west-northwest toward Maplelawn Cemetery from Maple Avenue, north of West Avenue in Elba. The Project Site would be 1 mile away to the west from this location.



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CIDER SOLAR FARM



Viewpoint 19. The view to the west from Veteran's Memorial Park in Elba. The nearest portion of the Project Site would be 0.8 miles to the north from this location.



Viewpoint 20. The view to the west-northwest from the Elba Central School parking area, west of South Main Street in Elba. The Project Site would be 1 mile away to the northwest from this location.



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CIDER SOLAR FARM**



Viewpoint 21. The view to the northwest from South Main Street, directly west of Elba Central School. The Project Site would be over 1 mile away to the northwest from this location.



Viewpoint 22. The view to the north from Drake Street Road at Perkin Road, between the villages of Elba and Oakfield. The Project Site would be over 0.5 miles away from this location.



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Viewpoint 23. The view to the north from Weatherwax Road, 0.4 miles south of Maltby Road. The Project Site would be within 200 feet of this location, visible 0.1 miles away in this view.



Viewpoint 24. The view to the southeast from Maltby Road at Weatherwax Road. The Project Site would be within 200 feet of this location.



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Viewpoint 25. The view to the south-southwest from Maltby Road at Weatherwax Road. The Project Site would be just over 200 feet from this location.



Viewpoint 26. The view to the west along Maltby Road, 0.3 miles east of Snyder Road. The Project Site would be set back 100 feet from the roadway here.



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Viewpoint 27. The view to the east from Snyder Road, 0.5 miles north of Maltby Road. The Project Site would be within 150 feet of this location.



Viewpoint 27 West. The view to the west from Snyder Road, 0.5 miles north of Maltby Road. The Project Site would be within 175 feet of this location.



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CIDER SOLAR FARM**



Viewpoint 28. The view to the north-northeast from the eastern corner of Graham Road and Lockport Road. The Project Site would be within 200 feet of this location.



Viewpoint 29. The view to the southwest from Graham Road, 0.5 miles north of Lockport Road. The Project substation would be about 0.2 miles away and the nearest solar arrays 0.25 miles away.



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CIDER SOLAR FARM**



Viewpoint 30. The view to the west-southwest from Ridge Road at Graham Road. The Project Site would be over 0.5 miles from this location.



Viewpoint 31. The view to the south from Lockport Road, 0.7 miles west of Snyder Road. The Project Site would be about 200 feet away from this location.



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CIDER SOLAR FARM



Viewpoint 32. The view to the north from Lockport Road, 0.6 miles east of Fisher Road. The Project Site would be just over 150 feet away from this location.



Viewpoint 33. The view to the south from Lockport Road, east of Fisher Road, into East Oakfield Cemetery. The Project Site would be nearly 400 feet away from this location, beyond the vegetation at the edge of the cemetery.



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CIDER SOLAR FARM



Viewpoint 34. The view to the southeast from Fisher Road, south of Lockport Road. The Project Site would be within 200 feet of this location.



Viewpoint 35. The view to the east from Fisher Road, about 0.3 miles north of Lockport Road. The Project Site would be about 0.4 miles from this location.



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**



Viewpoint 36. The view to the south from Fisher Road, about 0.8 miles north of Lockport Road. The Project Site would be within 200 feet of this viewpoint (and as near as 300 to 400 feet in this view).



Viewpoint 37. The view to the northwest from Fisher Road, 0.5 miles north of Maltby Road. The Project Site would be within 200 feet of this location.



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Viewpoint 38. The view to the north from Fisher Road, north of Maltby Road. The Project Site would be about 0.3 miles away from this location, beyond the vegetation on the far side of the fields west of Fisher Road.



Viewpoint 39. The view to the southwest from Lockport Road, 0.7 miles east of Albion Road / Highway 9. The Project Site would be within 200 feet of this location.



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Viewpoint 40. The view to the southeast from Lockport Road, about 0.25 miles east of Albion Road / Highway 9. The Project Site would be within 250 feet of this location.



Viewpoint 41. The view to the southeast from the southeastern corner of Lockport Road and Albion Road / Highway 9. The Project Site would be about 0.1 miles away from this location.



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Viewpoint 42. The view to the southeast from Albion Road / Highway 9, 0.4 miles south of Lockport Road. The Project Site would be about 250 feet away from this location.



Viewpoint 43. The view to the east from Albion Road / Highway 9, about 0.4 miles north of Lockport Road. The Project Site would be just under 0.4 miles away from this location.



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Viewpoint 44. The view to the southeast from an Oak Orchard Wildlife Management Area trail just east of Albion Road / Highway 9, just over 1 mile north of Lockport Road. The Project Site would be just under 1 mile away from this location.



Viewpoint 45. The view to the southeast from an elevated observation deck within the Oak Orchard Wildlife Management Area east of Albion Road / Highway 9. The Project Site would be 1.1 miles away from this location.



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Viewpoint 46. The view to the south southeast from Albion Road / Highway 9, 0.4 miles north of South Shelby Road. The Project Site would be about 1.3 miles away from this location.



Viewpoint 47. The view to the east from a boardwalk observation deck within Oak Orchard Wildlife Management Area, east of Knowlesville Road. The Project Site would be just under 3 miles from this location.



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Viewpoint 48. The view to the southeast from an Oak Orchard Wildlife Management Area trail just east of Knowlesville Road. The Project Site would be 2.7 miles away from this location.



Viewpoint 49. The view to the northeast from Bliss Road, less than 0.1 miles north of Lewiston Road. The Project Site would be about 0.8 miles away from this location.



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM



Viewpoint 50. The view to the north from Maltby Road, just over 0.1 miles west of North Pearl Road. The Project Site would be just under 0.7 miles away from this location.



Viewpoint 51. The view to the north from Lewiston Road at Park Avenue in Oakfield. The Project Site would be 1 mile north of this location, beyond Oakfield Alabama Central School.



**VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM**



Viewpoint 52. The view to the north northeast from North Pearl Road, north of an Oakfield residential neighborhood along Farnsworth Avenue. The Project Site would be just over 1 miles north of this location.



Viewpoint 53. The view to the north from Elroy Parkins Memorial Town Park in Oakfield. The Project Site would be about 1.5 miles north of this location.



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CIDER SOLAR FARM



Viewpoint 54. The view to the northeast from Cary Cemetery in Oakfield. The Project Site would be just over 1.4 miles north of this location.



Viewpoint 55. The view to the north from the southern edge of Saint Cecilia's Catholic Cemetery in Oakfield. The Project Site would be about 1.5 miles north of this location.



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM



Viewpoint 56. The view to the north-northwest from South Main Street at Drake Street Road, in central Oakfield. The Project Site would be just over 1.5 miles north of this location.



Viewpoint 57. The view to the northwest from South Main Street, between Drake Street Road and South Pearl Street, in central Oakfield. The Project Site would be about 1.6 miles north of this location.



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM



Viewpoint 58. The view to the northeast from within the Oakfield-Alabama Cemetery, northeast of Oakfield. The Project Site would be just over 1.6 miles from this location.



Viewpoint 59. The view to the east-southeast from the parking area of the Iroquois National Wildlife Refuge, along Casey Road. The Project Site would be nearly 6.5 miles away from this location.



VISUAL IMPACT ASSESSMENT
CIDER SOLAR FARM



Viewpoint 60. The view to the east-northeast from Alleghany Road, over 0.1 miles north of Judge Road, near the John White Wildlife Management Area. The Project Site would be about 5.7 miles away from this location.



ATTACHMENT D STAKEHOLDER CORRESPONDENCE





Stantec Consulting Services Inc.
61 Commercial Street Suite 100, Rochester NY 14614-1009

November 12, 2020
File: 190502038

Attention: Houtan Moaveni
Deputy Executive Director
New York State Office of Renewable Energy Siting
99 Washington Avenue
Albany, New York 12231

Dear Mr. Moaveni,

Reference: Hecate Energy Cider Solar, LLC; Cider Solar Farm, Towns of Elba and Oakfield, Genesee County, New York

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On behalf of Hecate, Stantec Consulting Services, Inc. ("Stantec") visual resources staff identified aesthetic resources and visually sensitive receptors of statewide importance ("receptors") within a 5-mile radius of the project site in June 2020 in accordance with the proposed 19 NYCRR Section 900-2.9. This area includes the project's "study area," which is the area within a 2-mile radius of the project site, as well as "specific significant visual resources beyond the specified study area." Viewpoint selection was based upon the criteria specified in the proposed 19 NYCRR Section 2.9(b)(4). Desktop research identified the following: sites listed or eligible for listing on the National or State Register of Historic Places; State Parks; New York State Heritage Areas (formerly Urban Cultural Parks); State Forest Preserves; National Wildlife and State Game Refuges or Wildlife Management Areas; National natural landmarks; National Park Service lands; designated National / State Wild, Scenic, or Recreational Rivers; formally designated (or eligible to be formally designated) scenic sites, areas, lakes, reservoirs, or highways; scenic areas of statewide significance; State or Federally designated trails; State nature and historic preserve areas; Palisades Park; National heritage areas; and aesthetic resources of local interest. Populated areas – namely cities, towns, villages, and hamlets – were also mapped.

On one day in June 2020, and again on two days in October 2020, Stantec visited the project area and collected photographs of resources and of the views from each resource location toward the project site where available. Viewpoints and photographs were cataloged. In all, Stantec identified, visited, and photographed views from 60 individual viewpoints as a means of documenting project visibility and capturing images of existing community and aesthetic character in the publicly accessible areas up to 5 miles of the project site. This collection of images serves as the pool of photographs from which specific views will be selected for use in the VIA as Key Observation Points (KOPs). Comparison of views from KOPs showing existing visual conditions with those showing simulations of the proposed project will serve as the basis for evaluation of potential visual effects. Based upon the composition of the study area, the

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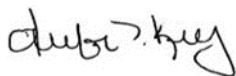
potential visual effects from the project can be adequately evaluated based on simulated views from 6 KOPs. The proposed viewpoints are listed in the attached table and correspond with the attached map and photographs. These viewpoints show foreground views toward the project (within 0.5 mile of the nearest portion of the proposed project). They represent a range of viewer types and include at least one view from each of the Landscape Similarity Zones (LSZ) Stantec has identified in the project vicinity: Agriculture (A); Community Village or Crossroads (C); and Forest (F). Selected potential KOPs also reflect the results of a terrain- and vegetation-based viewshed analysis study, a GIS-based exercise which indicated areas where the project would not be visible based on topographical line-of-sight and areas of land categorized as "Forested" in the National Land Cover Database. Review of aerial maps and observations made during site photography further eliminated from consideration as KOPs locations where smaller stands of trees, other vegetation, or structures would obstruct views of the project. Note that among these sites eliminated for consideration as KOPs are views that will still be included in the VIA as documentation of existing community and aesthetic character. These include views from nearby communities and more distant National Wildlife Refuges and Wildlife Management Areas.

We submit this set of selected views to document the important aesthetic resources and /or representative viewpoints in the vicinity of the project, as required by the proposed 19 NYCRR Section 900-2.9 regulations. We will also confer with respect to these matters with municipal planning representatives prior to developing simulations of representative viewpoints for purposes of the forthcoming 94-c Permit Application.

We look forward to working with you and other project stakeholders as the data collection and impact assessment for this project moves forward. Please do not hesitate to reach out to us with feedback on this or any other part of this ongoing process.

Regards,

Stantec Consulting Services Inc.



Jen Kelly
Environmental Project Manager
Phone: 716.807.2523
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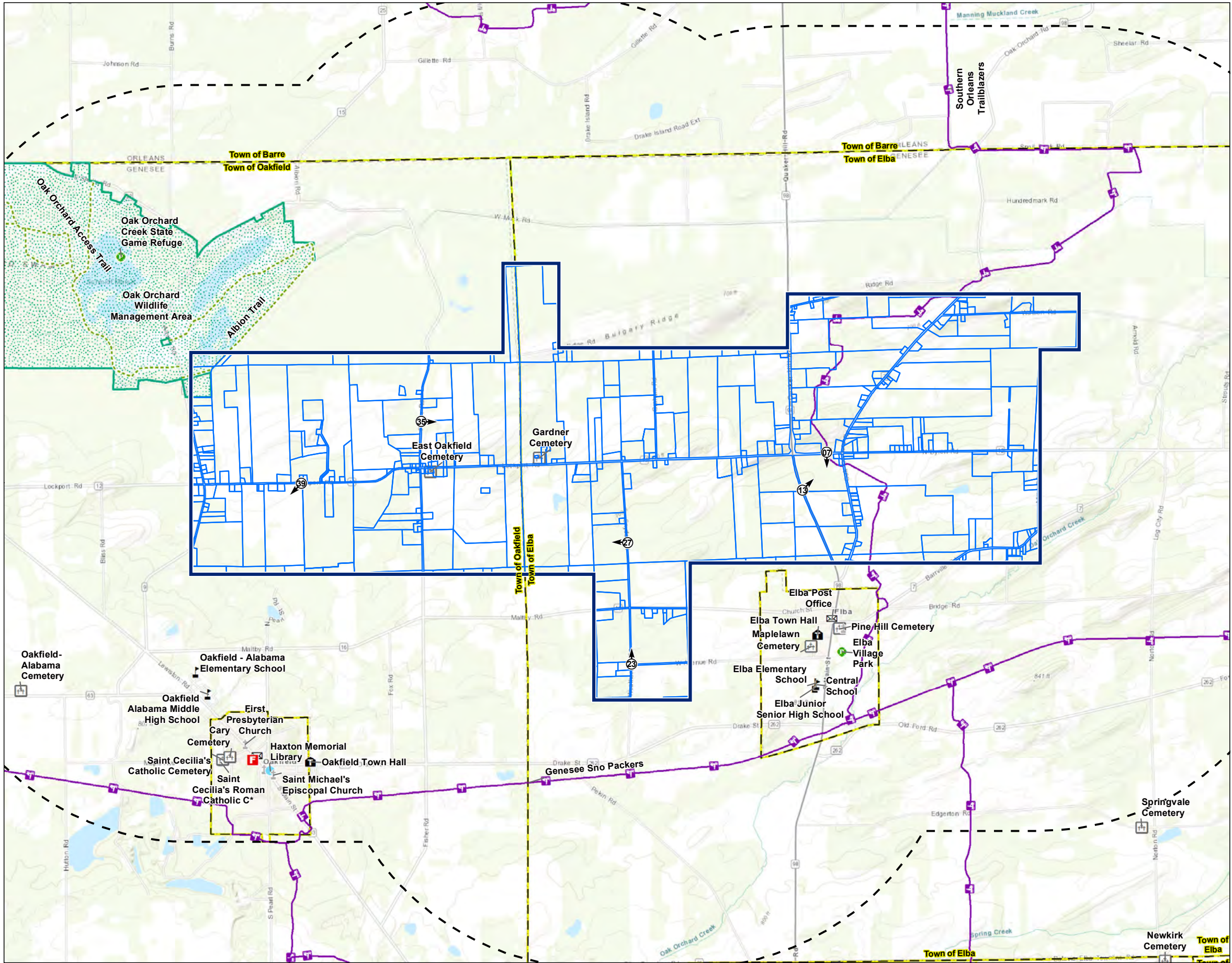
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PROPOSED KEY OBSERVATION POINTS

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Viewpoint Number and Location	View Orientation	Miles to Nearest Structure	LSZ	Rationale for Selection – Scenic Resources and / or View(s) Represented
<i>Proposed KOPs</i>				
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November 12, 2020
Houtan Moaveni
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VP 39 – Lockport Road, view to southwest. **Proposed KOP 1.** View from residential cluster along the north side of Lockport Road. This view would be demonstrative of Project visibility where placed directly across roads from homes.

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Stantec Consulting Services Inc.
61 Commercial Street Suite 100, Rochester NY 14614-1009

November 13, 2020
File: 190502038

Attention: Donna Hynes
Town Supervisor
Town of Elba
7 Maple Avenue
Elba, New York 14058
supervisor@elbanewyork.com

Dear Ms. Hynes,

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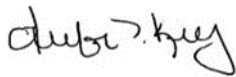
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Jen Kelly
Environmental Project Manager
Phone: 716.807.2523
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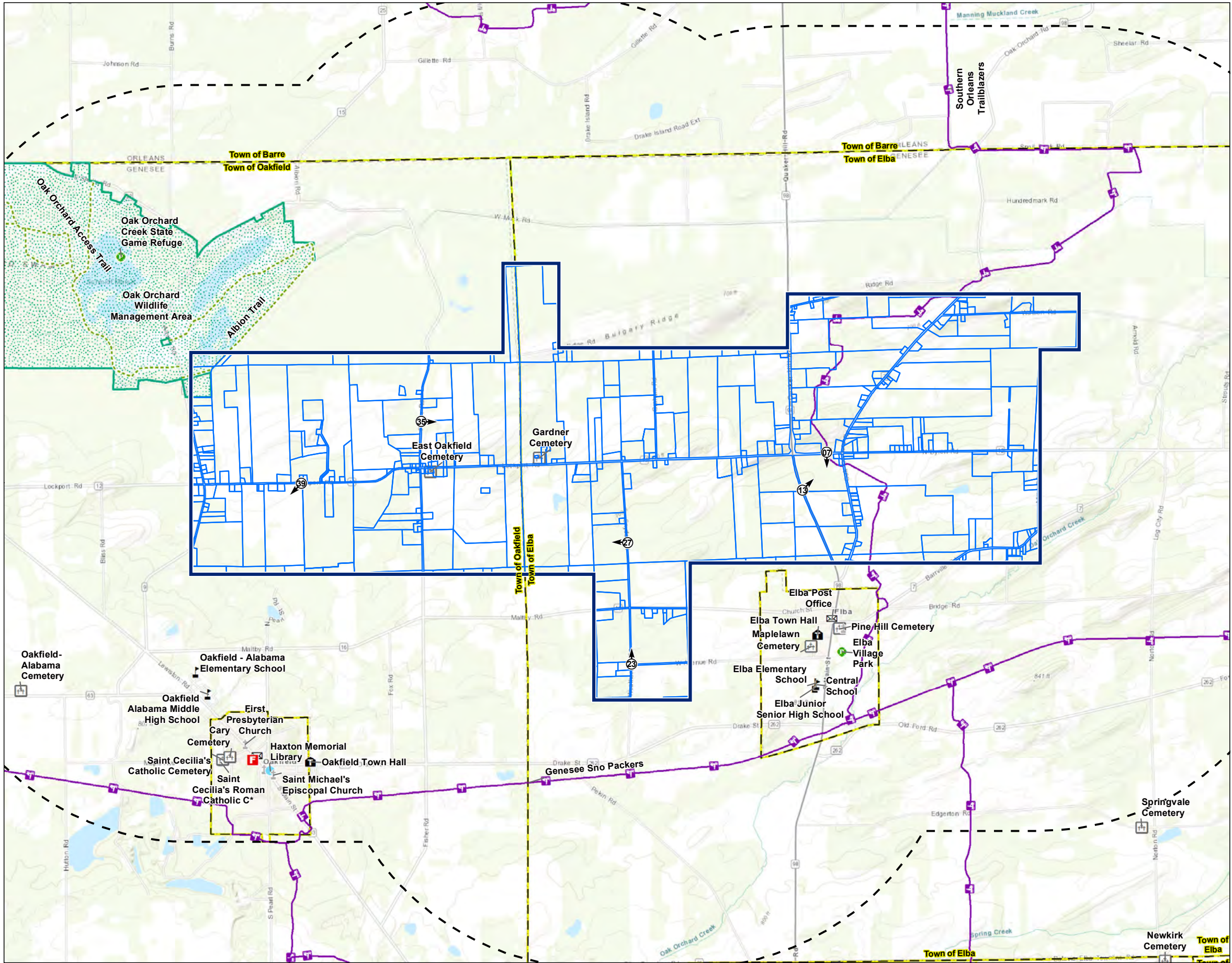
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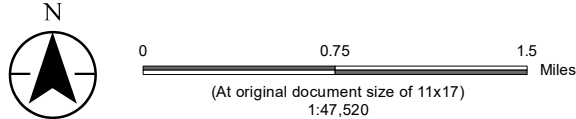
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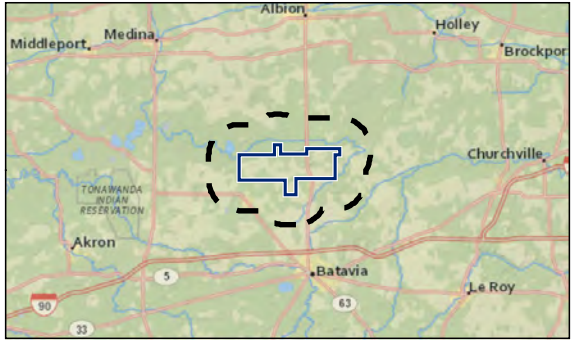
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- Parcels (within Project Site)
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 - Museum
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 - Fire Station
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Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: Provided via separate list.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.



Project Location
Genesee County

Client/Project
Hecate Energy
Cider Solar

Figure No.
1

Title
Proposed Key Observation Points

November 13, 2020

Donna Hynes

Attachments

Reference: Hecate Energy Cider Solar, LLC; Cider Solar Farm, Towns of Elba and Oakfield, Genesee County, New York



VP 39 – Lockport Road, view to southwest. **Proposed KOP 1.** View from residential cluster along the north side of Lockport Road. This view would be demonstrative of Project visibility where placed directly across roads from homes.

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Design with community in mind



Stantec Consulting Services Inc.
61 Commercial Street Suite 100, Rochester NY 14614-1009

November 13, 2020
File: 190502038

Attention: Matthew Martin
Town Supervisor
Town of Oakfield
3219 Drake Street
Oakfield, New York 14125
mmartin@townofOakfieldny.com

Dear Mr. Martin,

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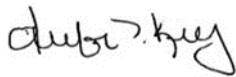
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Environmental Project Manager

Phone: 716.807.2523

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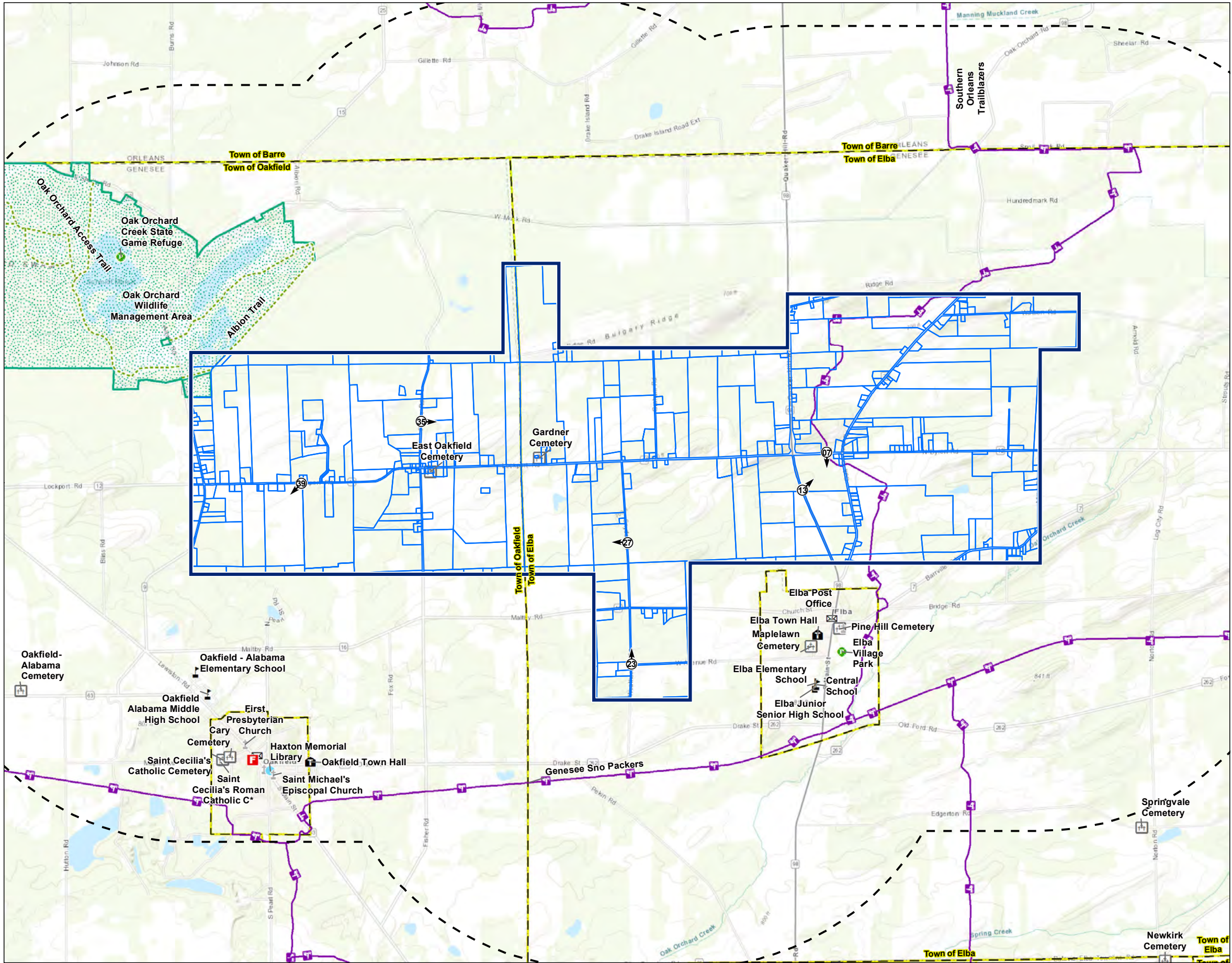
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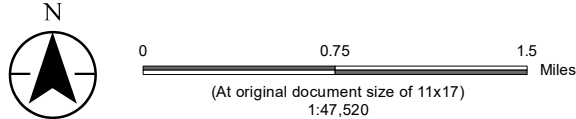
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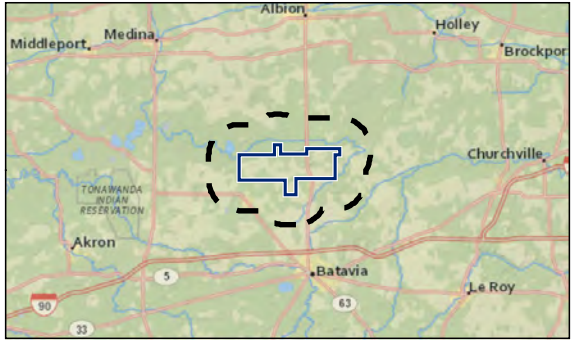
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Revised: 2020-11-12 By: ntaust



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- Project Site
- Parcels (within Project Site)
- 2 Miles from Project Site
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 - Library
 - Museum
 - Prison
 - Fire Station
 - Government Building
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Project Location
Genesee County

Prepared by EMP/INF on 2020-11-12
TR by JH on 2020-11-12
IR Review by JH on 2020-11-12
190502038

Client/Project
Hecate Energy
Cider Solar

Figure No.
1

Title
Proposed Key Observation Points

November 13, 2020

Matthew Martin

Attachments

Reference: Hecate Energy Cider Solar, LLC; Cider Solar Farm, Towns of Elba and Oakfield, Genesee County, New York



VP 39 – Lockport Road, view to southwest. **Proposed KOP 1.** View from residential cluster along the north side of Lockport Road. This view would be demonstrative of Project visibility where placed directly across roads from homes.

November 13, 2020

Matthew Martin

Attachments

Reference: Hecate Energy Cider Solar, LLC; Cider Solar Farm, Towns of Elba and Oakfield, Genesee County, New York



VP 35 – Fisher Road, north of Lockport Road, view to east. **Proposed KOP 2.** This view helps viewers understand visibility from slightly longer distances than in other KOPs. The Project would be around 0.5 mile from this viewpoint, appearing near and to either side of the third set of transmission towers visible. *Note that this view was shot with a wide-angle lens and will need to be re-sized for internal consistency.*

November 13, 2020

Matthew Martin

Attachments

Reference: Hecate Energy Cider Solar, LLC; Cider Solar Farm, Towns of Elba and Oakfield, Genesee County, New York



VP 13 – Highway 98, about 1/3-mile south of Lockport Road, view to northeast. **Proposed KOP 3.** This view, in which the project would be visible in the immediate foreground and extend toward the back of the view, would support the discussion of visual character contrast in the impact assessment.

November 13, 2020

Matthew Martin

Attachments

Reference: Hecate Energy Cider Solar, LLC; Cider Solar Farm, Towns of Elba and Oakfield, Genesee County, New York



VP 27 – Snyder Road, north of Maltby Road, view to west. **Proposed KOP 4.** This simulation would show removal of the first two rows of vegetation visible to the west. Elimination of rows of trees / shrubs is a visual effect common to several locations throughout the Project site.

November 13, 2020

Matthew Martin

Attachments

Reference: Hecate Energy Cider Solar, LLC; Cider Solar Farm, Towns of Elba and Oakfield, Genesee County, New York



VP 23 – Weatherwax Road, north of West Avenue, view to north. **Proposed KOP 5.** In this view, solar arrays would be visible on both sides of the road, an effect that would be visible in a few locations throughout the Project.

ATTACHMENT E VISUAL SIMULATIONS

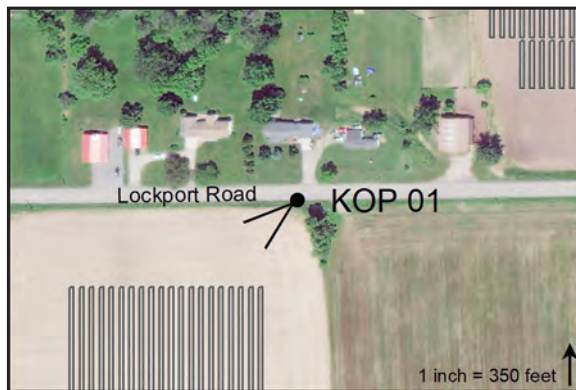




a) View to the southwest from Lockport Road, about just over two-thirds of a mile east of Albion Road / Highway 9.



b) View from KOP 1 with the Project simulated. The Project would be within 200 feet of this location.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 1 (outlined in orange) within broader context.

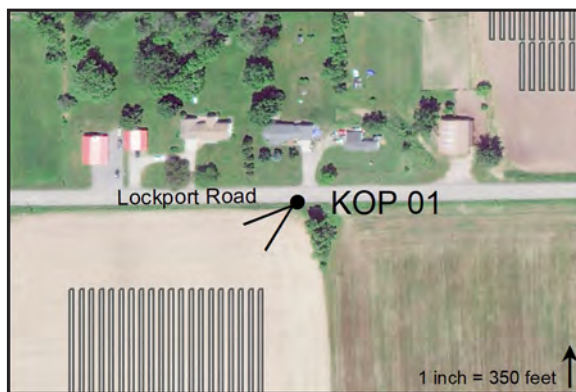
Latitude / Longitude:	43° 5'47.55"N, 78°15'53.78"W
Approximate Distance from Nearest Panels:	170 feet
Photography Date / Time:	9 October 2020, 9:51 a.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



c) Simulated view with vegetative screening shown 5 years after planting.



d) Simulated view with vegetative screening shown 15 years after planting.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 1 (outlined in orange) within broader context.

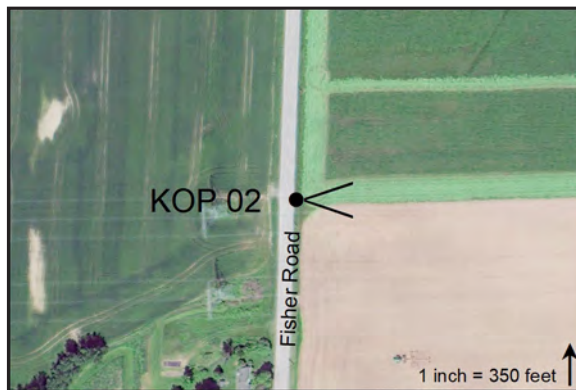
Latitude / Longitude:	43° 5'47.55"N, 78°15'53.78"W
Approximate Distance from Nearest Panels:	170 feet
Photography Date / Time:	9 October 2020, 9:51 a.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



a) View to the east from Fisher Road, one-third of a mile north of Lockport Road.



b) View from KOP 2 with the Project simulated. The Project would appear under a half-mile away.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 2 (outlined in orange) within broader context.

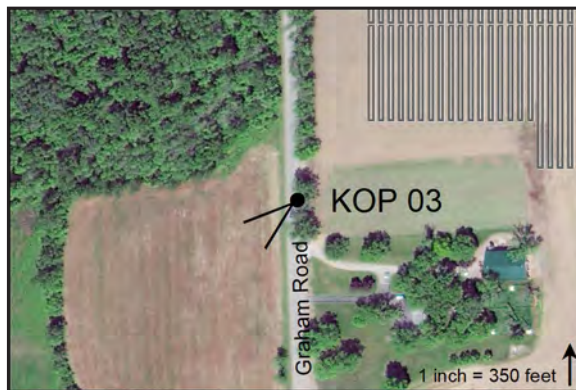
Latitude / Longitude:	43° 6'11.48"N, 78°14'49.85"W
Approximate Distance from Nearest Panels:	0.4 mile
Photography Date / Time:	17 June 2020, 10:43 a.m.
Camera Make / Model:	Canon EOS 7D Mark II
Focal Length:	50mm cropped from 24mm
Photographer:	Stantec



a) View to the southwest from Graham Road, about a half-mile south of Ridge Road.



b) View from KOP 3 with the Project simulated. Project panels would be a quarter-mile to the south-southwest and the Project



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 3 (outlined in orange) within broader context.

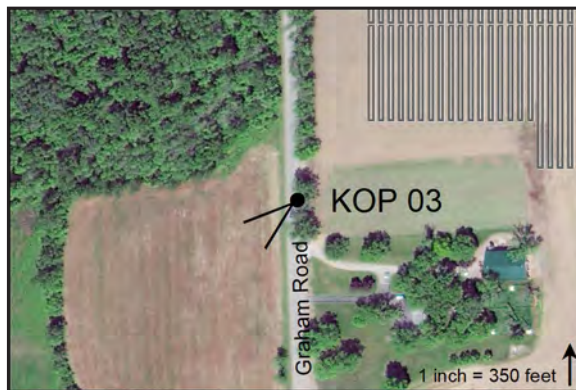
Latitude / Longitude:	43° 6'21.51"N, 78° 12'45.83"W
Approximate Distance from Nearest Panels:	Less than 0.2 mile away.
Photography Date / Time:	3 December 2020, 1:05 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



c) Simulated view with visible changes highlighted in red.



d) Wireframe graphic demonstrating degree to which proposed substation and panels would be screened by existing vegetation.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 3 (outlined in orange) within broader context.

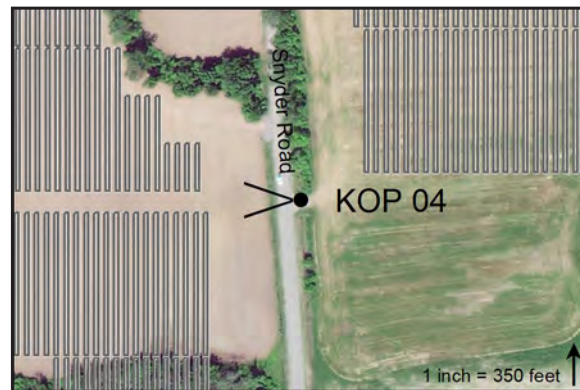
Latitude / Longitude:	43° 6'21.51"N, 78° 12'45.83"W
Approximate Distance from Nearest Panels:	Less than 0.2 mile away.
Photography Date / Time:	3 December 2020, 1:05 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



a) View to the west from Snyder Road, a half-mile north of Maltby Road.



b) View from KOP 4 with the Project simulated. The Project would be within 175 feet of this location.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 4 (outlined in orange) within broader context.

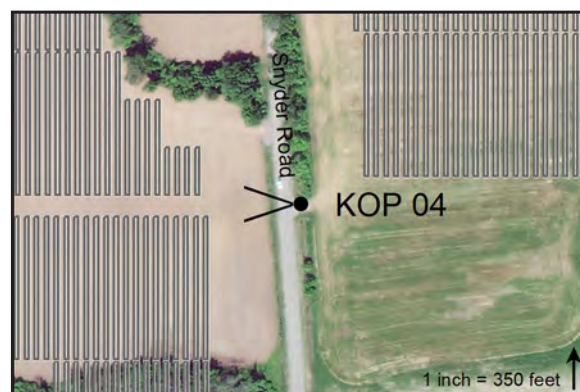
Latitude / Longitude:	43° 5'24.04"N, 78°13'0.49"W
Approximate Distance from Nearest Panels:	170 feet
Photography Date / Time:	9 October 2020, 10:40 a.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



c) Simulated view with vegetative screening shown 5 years after planting.



d) Simulated view with vegetative screening shown 15 years after planting.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 4 (outlined in orange) within broader context.

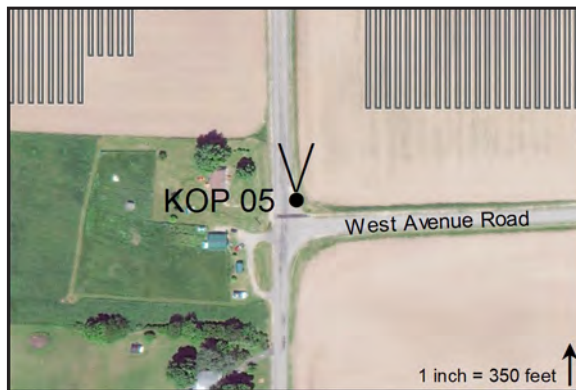
Latitude / Longitude:	43° 5'24.04"N, 78°13'0.49"W
Approximate Distance from Nearest Panels:	170 feet
Photography Date / Time:	9 October 2020, 10:40 a.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



a) View to the north from Weatherwax Road, less than a half-mile south of Maltby Road.



b) View from KOP 5 with the Project simulated. The Project would appear as close as a tenth of a mile away.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 5 (outlined in orange) within broader context.

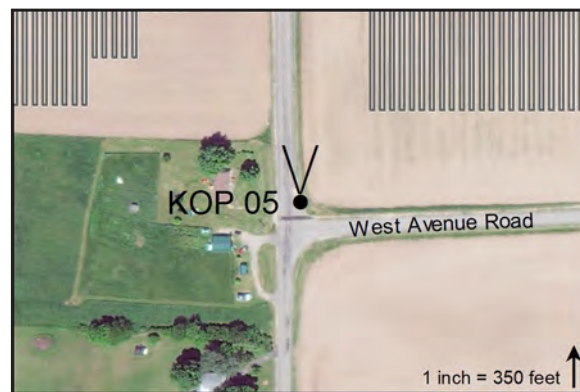
Latitude / Longitude:	43° 4'36.81"N, 78° 12'58.72"W
Approximate Distance from Nearest Panels:	As close as 0.1 mile away.
Photography Date / Time:	8 October 2020, 1:10 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



c) Simulated view with vegetative screening shown 5 years after planting.



d) Simulated view with vegetative screening shown 15 years after planting.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 5 (outlined in orange) within broader context.

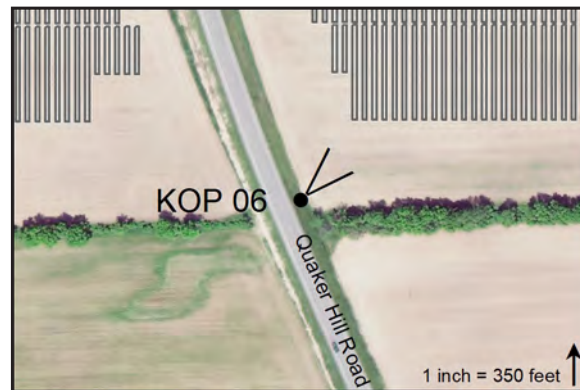
Latitude / Longitude:	43° 4'36.81"N, 78°12'58.72"W
Approximate Distance from Nearest Panels:	As close as 0.1 mile away.
Photography Date / Time:	8 October 2020, 1:10 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



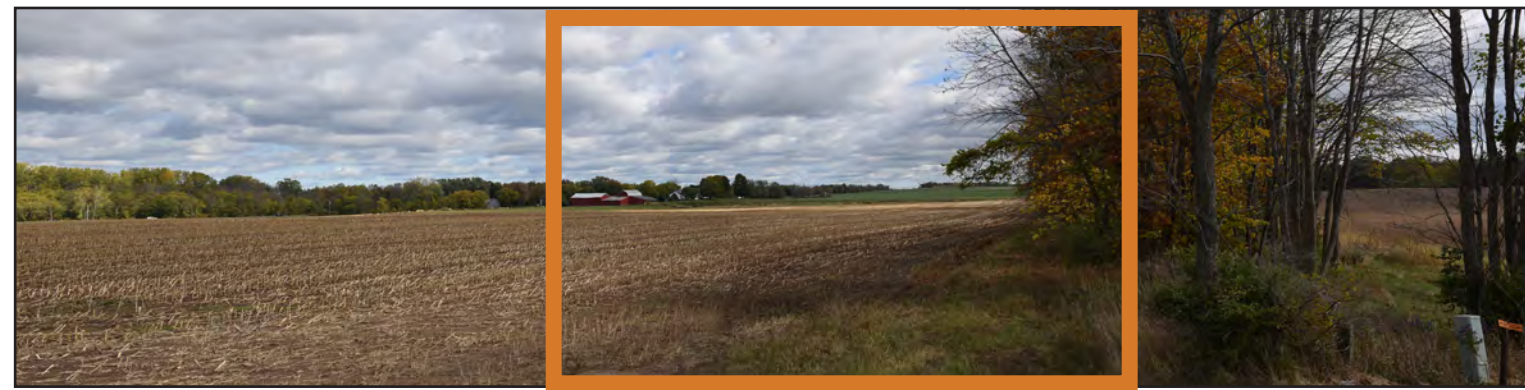
a) View to the northeast from Quaker Hill Road, about a quarter mile south of Lockport Road.



b) View from KOP 6 with the Project simulated. The Project would be as close as 175 feet to this location.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 6 (outlined in orange) within broader context.

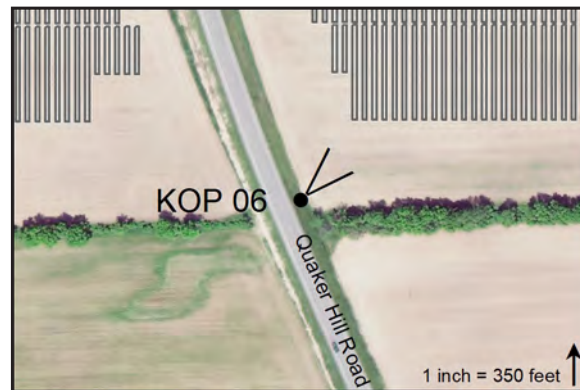
Latitude / Longitude:	43° 5'44.25"N, 78° 11'27.27"W
Approximate Distance from Nearest Panels:	175 feet
Photography Date / Time:	8 October 2020, 12:51 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



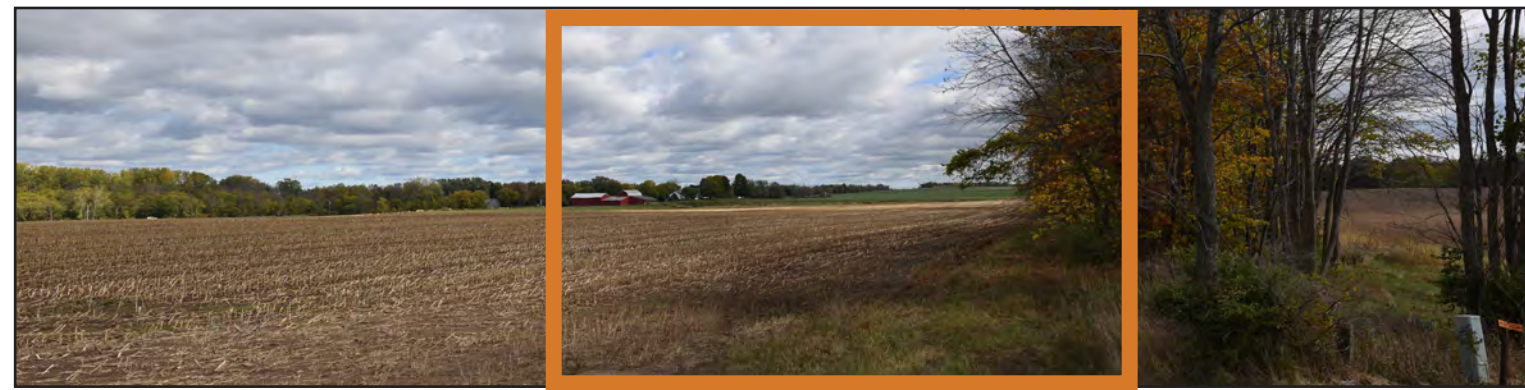
c) Simulated view with vegetative screening shown 5 years after planting.



d) Simulated view with vegetative screening shown 15 years after planting.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 6 (outlined in orange) within broader context.

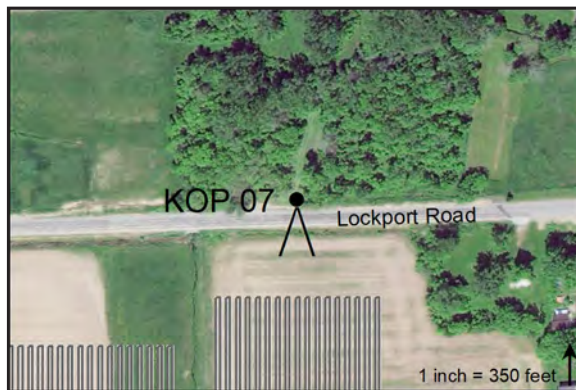
Latitude / Longitude:	43° 5'44.25"N, 78°11'27.27"W
Approximate Distance from Nearest Panels:	175 feet
Photography Date / Time:	8 October 2020, 12:51 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



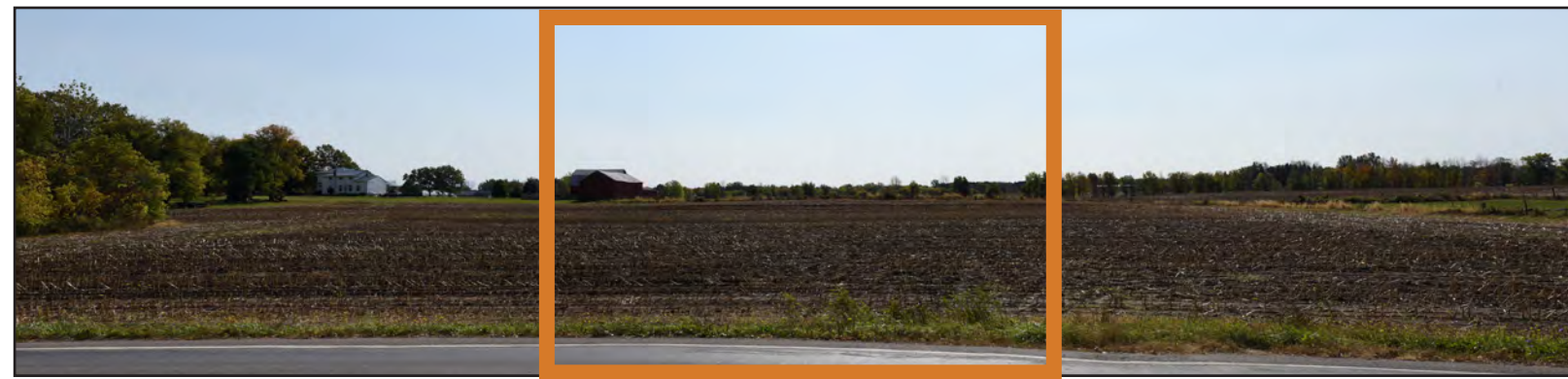
a) View to the south from Lockport Road, about one-tenth of a mile west of Oak Orchard Road.



b) View from KOP 7 with the Project simulated. The Project would be as close as 175 feet to this location.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 7 (outlined in orange) within broader context.

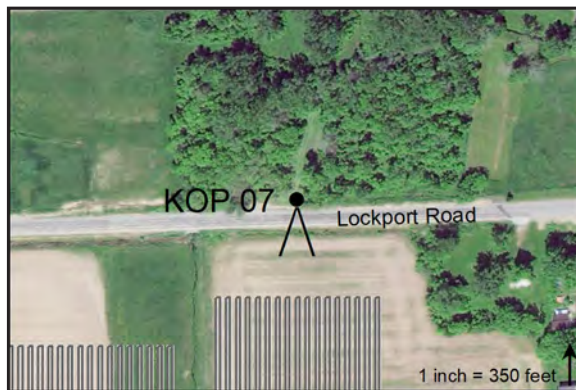
Latitude / Longitude:	43° 5'58.68"N, 78° 11'14.45"W
Approximate Distance from Nearest Panels:	175 feet
Photography Date / Time:	9 October 2020, 1:02 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec



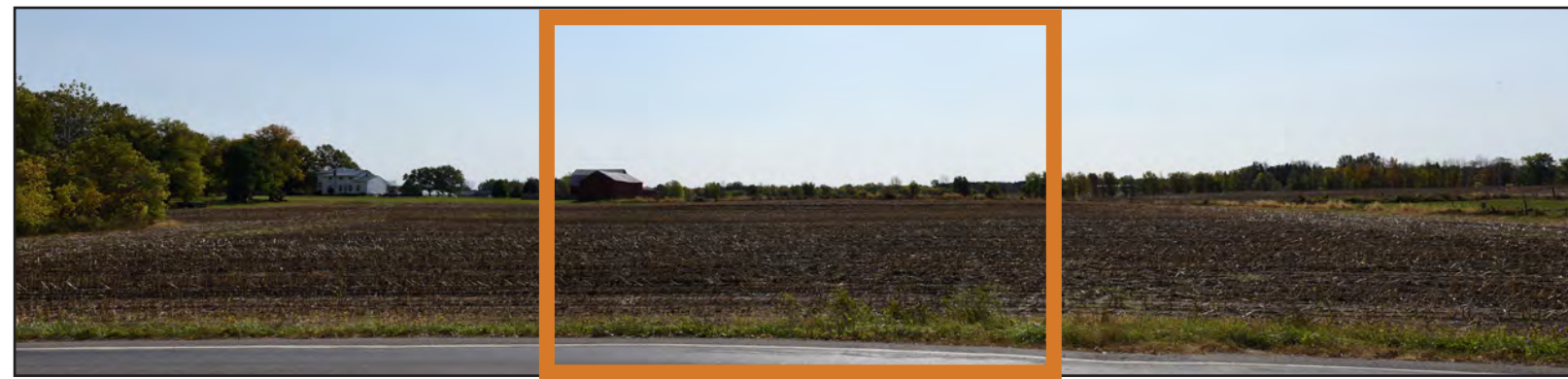
c) Simulated view with vegetative screening shown 5 years after planting.



d) Simulated view with vegetative screening shown 15 years after planting.



KOP view orientation, location, and proximity to Project panels.



Existing view from KOP 7 (outlined in orange) within broader context.

Latitude / Longitude:	43° 5'58.68"N, 78°11'14.45"W
Approximate Distance from Nearest Panels:	175 feet
Photography Date / Time:	9 October 2020, 1:02 p.m.
Camera Make / Model:	Nikon D750
Focal Length:	50mm
Photographer:	Stantec

ATTACHMENT F REVIEW PANEL EVALUATION FORMS



VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

INSTRUCTIONS

Please complete the attached contrast rating form for each view by reviewing the images and information provided and adding evaluative text to each cell in the Visual Character and Visual Quality tables for each of the “existing” and “with project” view.

Please keep notes for both existing and with project conditions brief and to the point. They will be used in the Visual Impact Analysis to explain overall contrast related to visual character and quality.

GLOSSARY

The following terms are incorporated in our contrast rating form as defined in the Federal Highway Administration’s 2015 guidelines for visual impact assessments¹. They are listed in the order introduced in the Contrast Rating Form:

View Information

Distance Zones: Distance zones are based on the position of the viewer in relationship to the landscape. They are measured from one static point, such as the location of a key view. There are three defined distance zones:

- **Foreground:** 0.25–0.5 mile from the viewer
- **Middleground:** Extends from the foreground zone to 3–5 miles from the viewer
- **Background:** Extends from the middleground zone to infinity (Litton 1968).

Visual Character

Visual Character: The description of the visible attributes of a scene or object typically using artistic terms such as form, line, color, and texture.

Form: The unified mass or shape of an object that often has an edge or outline and can be defined by surrounding space. For example, a high-rise building would have a highly regular, rectangular form whereas a hill would have an organic, mounded form. (U.S. Bureau of Land Management 1980:15; Federal Highway Administration 1988:40).

Color: The light reflecting off of an object at a particular wavelength that creates hue (green, indigo, purple, red, etc.) and value (light to dark hues). (U.S. Bureau of Land Management 1980:15; Federal Highway Administration 1988:40).

Line: Perceived when there is a change in form, color, or texture and where the eye generally follows this pathway because of the visual contrast. For example, a city’s high-rises can be seen silhouetted against the blue sky and be seen as a skyline, a river can have a curvilinear line as it passes through a landscape, or a hedgerow can create a line where it is seen rising up against a flat agricultural field. (U.S. Bureau of Land Management 1980:15; Federal Highway Administration 1988:40)

Texture: The perceived coarseness of a surface that is created by the light and shadow relationship over the surface of an object. For example, a rough surface texture (e.g., a rocky mountainside) would have many facets resulting in a number of areas in light and shadow and, often, with distinct separations between areas of light and shadow. Conversely, a smooth surface texture (e.g., a beach) would have fewer facets, larger surface areas in light or shadow, and gradual gradations between light and shadow. (U.S. Bureau of Land Management 1980:15; Federal Highway Administration 1988:40).

¹ U.S. Department of Transportation Federal Highway Administration (FHWA). 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*. FHWA-HEP-15-029.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Natural Visual Resources: The land, water, vegetation, and animals which compose the natural environment. Although natural resources may have been altered or imported by people, resources which are primarily geological or biological in origin are considered natural. A grassy pasture with rolling terrain, scattered trees, and grazing cows, for example, is considered to be composed of natural visual resources, even though it is a landscape created by people.

Specifically:

- **Land:** The attributes of visual character associated with land include the landscape's physiography, particularly its morphology (landform) and the composition of its exposed surface (land cover that is not water or vegetation). Describe the landscape's form, its spatial qualities, and the nature of its materials.
- **Water:** To describe the attributes of visual character associated with water, you should identify whether each water body appears to be flowing or an impoundment (e.g., natural or constructed lake or pond). If water is flowing through the landscape, describe the width, gradient, velocity, turbulence, and turbidity of the stream. Describe its alignment and cross-section including the form, spatial qualities, and materials of its embankments. Add any other distinguishing visual attributes. If the water is an impoundment, describe its visual attributes such as the size of the water body, the shape and spatial qualities of its perimeter, turbidity, the nature of its littoral or intertidal zones, and any other distinguishing visual attributes.
- **Vegetation:** The description of the visual character of vegetation is most critical for defining the visual character of any landscape, and how it affects spatial quality. You should describe the presence or absence of vegetation; whether it is native, naturalized, or cultivated; its height and density; its artistic description, including its form, shading, color, and texture; and any other distinguishing visual attributes. In particular, it is important to note seasonal changes, such as the presence of flowers, fruit, and seasonal color.
- **Animals:** Animals, wild or domesticated, can be an essential part of a landscape. Domesticated farm animals are a readily identified attribute of rural agricultural landscapes. Wildlife can be critical to the visual character of a landscape. In particular, mammals and birds, even if only occasionally visible, contribute to the visual character of a landscape. Often, the presence of certain animal species is a visual indicator of a landscape's vitality and is intertwined with a landscape's unique identity. Note the wildlife species likely to be observed, particularly those species that may attract viewers or hunters, such as whale or bird migrations, herds of large mammals, or seasonal flocks of waterfowl that will contribute to the visual character of the corridor.
- **Atmospheric Conditions:** Atmospheric conditions, although passing, contribute to the visual character of a particular landscape. The typical presence or absence of humidity, fog, and dust can reduce or alter visibility. Predictable amounts of precipitation, either as rain or snow, can change the visibility of the landscape. Rain with its darkened sky and snow covering the ground may change a landscape's luminosity (i.e., level of brightness) and, key views and distance zones (as discussed later in this section). Noting the frequency, even periodicity, of such obscuring or altering phenomena adds a caveat to description of a landscape's visual character. For instance, the visual quality of the enclosing foggiest of the darker Olympic Peninsula is quite different than the open starkness of the very bright Four Corners of the desert southwest.

Cultural Visual Resources: The buildings, structures, and artifacts which compose the cultural environment. These are resources which were constructed by people.

Specifically:

- **Buildings:** Buildings are enclosed structures that are or have been used or occupied by people. Buildings are often the dominant human-constructed objects in a landscape. Focus on describing the attributes that compose a building's visual character and avoid evaluating the building's value to society or potential viewers (this will come later in the VIA process). To describe visual character, focus on the building form, scale, massing, materials, and architectural style and detailing. Discuss the building's orientation; the patterns of light and shadows it creates; its artistic attributes like color, pattern, and texture; and its site-

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

specific setting, particularly if it obstructs views. The building's historic status may also be critical. Its current and past occupants, the architect that designed the building, the client for whom it was built, or the contractor who constructed it may all become significant pieces of information that later affect the perception of visual quality. Finally, identify the views that the building would afford of the proposed project. A good source for understanding buildings and how to inventory them is described on a web site (<http://www.nps.gov/tps/education/walkthrough>) sponsored by the National Park Service.

- **Infrastructure:** In addition to buildings, the country's infrastructure systems add to visual character of the cultural environment. Railroads, airports, harbors, roads, canals, dams, electrical and telecommunication utilities, pipelines, sewer and water systems, solar arrays, wind turbines, and other infrastructure provide a special set of buildings, structures, and associated artifacts that, as part of an intermodal system of moving people, goods, and services, can affect the visual character of an adjacent highway project. A major visual attribute of infrastructure is its linearity. Infrastructure systems can stretch for miles, across whole States, between termini. Since these extended lines can substantially alter the character of the natural and cultural landscapes, be sure to identify them in this inventory phase of the VIA process.
- **Structures:** Structures are engineered elements that provide a necessary social function but are not buildings or part of a larger infrastructure system. For a VIA, these may be walls, towers, and other constructed items erected to serve a single utilitarian function. Although some structures have architectural treatments, most do not, allowing form and materials to be dictated by functional requirements. Like the inventory of buildings, concentrate on describing the structure's visual character—its form, scale, massing, materials, construction method, and engineering detailing. Also, discuss orientation and the patterns of light and shadow created by structures, and the site-specific setting for each structure, particularly if it obstructs views. An understanding of the historical context and purpose of a structure, including an overview of the personalities and organizations involved in its construction, is essential for later determining its contribution to the visual quality of the project area.
- **Artifacts and Art:** Some cultural visual resources, although not buildings, infrastructure, or structures, still can contribute to the visual character of the project area. Many of these items, classified by the VIA process as artifacts, are those items that do not fit neatly into any other category. In particular, public art can be a defining element of a landscape's visual character. Catalogue artifacts and art in a manner similar to that recommended for buildings. Again, refrain from assigning a value to these artifacts but focus instead on describing their visual attributes and visual character.

Visual Quality

Visual Quality: What viewers like and dislike about visual resources that compose the visual character of a particular scene. Different viewers may evaluate specific visual resources differently based on their interests in natural harmony, cultural order, and project coherence. Neighbors and travelers may, in particular, have different opinions on what they like and dislike about a scene.

Natural Harmony: What viewer likes and dislikes about the natural environment. The viewer labels the visual resources of the natural environment as being either harmonious or inharmonious. Harmony is considered desirable; disharmony is undesirable.

Cultural Order: What a viewer likes and dislikes about the cultural environment. The viewer labels the visual resources of the cultural environment as being either orderly or disorderly. Orderly is considered desirable; disorderly is undesirable.

Coherence: What the viewer likes and dislikes about the project environment. The viewer labels the visual resources of the project environment as being either coherent or incoherent. Coherent is considered desirable; incoherent is undesirable.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 1 - EXISTING



Location: Lockport Road, around 1 mile west of East Oakfield	View Orientation: Southwest
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Community Crossroads / Corridor
	Distance Zone: Foreground (0.05 mi away)
Typical Viewers: Local residents and workers, travelers	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Flat, cultivated field in foreground, coarse texture; brown, tan, yellow; dark green treeline in background ½± mile from viewer; relatively straight horizon line between field and trees, irregular line between treeline and blue sky	Buildings	Two farm buildings in middle ground; simple box structures, one rusty red, one white; one-story, just below treeline on horizon
Water	N/A	Infrastructure	N/A
Vegetation	Stubble of cultivated crop in field less than 1 ft in height, lines of parallel plow rows seen across the view; small clump of dark green trees in right foreground in front of farm buildings; irregular natural treeline in background on horizon	Structures	N/A
Animals	One might expect to see wild birds and mammals	Artifacts & Art	N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Field, farm buildings, and treeline in harmony creating typical rural farm scene	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately high	
Cultural Environment: Simple, orderly cultural environment of rural farm buildings in their environment	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	
Overall Coherence of View: View consists of three basic elements – field, farm buildings, treeline – very coherent for this kind of setting	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately high	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 1 – WITH PROJECT



Location: Lockport Road, around 1 mile west of East Oakfield	View Orientation: Southwest
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Community Crossroads / Corridor
Typical Viewers: Local residents and workers, travelers	Distance Zone: Foreground (0.05 mi away)
	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Wavy grassland in foreground, soft texture; green, brown, yellow colors; repeating vertical lines of solar supports against horizontal grass, jagged straight lines of solar panels create horizon against the sky	Score 2	Buildings	Two farm buildings in middle ground slightly obscured by solar arrays	Score 0
Water	N/A	Score	Infrastructure	N/A	Score
Vegetation	Grasses 1-2 ft in height in foreground; trees in foreground in front of farm buildings and barely visible at horizon behind solar arrays	Score 1	Structures	Array of solar panels across entire middle foreground; dark blue rectangular panels on metal poles 8-10 ft in height	Score 3
Animals	Unchanged	Score 0	Artifacts & Art	N/A	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Grass and farm buildings are harmonious in this rural setting; metal and glass solar arrays are not in harmony	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately low	
Cultural Environment: The solar panels are out of character with the existing rural culture, but are not so large or obtrusive as to be obnoxious	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	
Overall Coherence of View: The view consists of three basic elements – grass, solar arrays, and farm buildings; they create a reasonably coherent view, even if different from the existing rural landscape	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP

Project Name: Cider Solar Project

Date of Review: 4/8/21

Key Observation Point #: 1 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Landscape elements add natural form, texture and color to the view, hiding portions of the metal and glass solar arrays, plus added height, taking the viewer’s eyes above the low arrays. The landscaping is dark green with a rough, pointy texture in generally oval shapes. Moderate screening achieved.	Landscape elements add a softer, more natural, more pleasing appearance, partially obscuring the straight lines and hard edges of the solar arrays. Moderate improvement to visual quality.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 2 - EXISTING



Location: Fisher Road, 1/3-mile north of East Oakfield	View Orientation: East
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Middleground (0.5 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Relatively flat, slightly undulating pasture on left, cultivated field on the right; horizon created by several individual trees and treeline in middle ground and background on left side; pasture to the horizon on the right side, blue sky above	Buildings	N/A
Water	N/A	Infrastructure	Overhead power lines and large gray metal supporting structures 100 ft+ high in middle foreground continuing to background, each structure a complex geometric lattice of pieces silhouetted against the blue sky
Vegetation	Foreground is flat pasture on the left, cultivated field on the right; pasture is smooth, green grass 1 ft± in height; field is flat, light brown soil, slightly wavy lines of cultivation rows seen in soil converging on the horizon; several individual trees and treeline in middle ground and background on left side; green pasture to the horizon on the right side	Structures	N/A
Animals	One might expect to see birds and some wild mammals	Artifacts & Art	N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Typical rural landscape is interrupted by power lines and tall supporting structures	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Cultural Environment: Power lines and large supporting structures interrupt the natural environment	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Overall Coherence of View: Power lines and large supporting structures are incoherent with this natural environment	
Degree of Existing View's Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 2 – WITH PROJECT



Location: Fisher Road, 1/3-mile north of East Oakfield	View Orientation: East
Visually Sensitive Resource(s) Represented by Viewpoint: Nearby residences	Landscape Similarity Zone: Agriculture
Typical Viewers: Local residents and workers, travelers	Distance Zone: Middleground (0.5 mi away)
	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Left side of middle ground view interspersed with light blue geometric shapes of solar array structures	Score 1	Buildings	N/A	Score
Water	N/A	Score	Infrastructure	Same as existing	Score 0
Vegetation	Same as existing except pasture in left middle ground interrupted by solar arrays	Score 1	Structures	Solar arrays visible in middle ground between trees, blue rectangular structures 8-10 ft off the ground	Score 1
Animals	Unchanged	Score 0	Artifacts & Art	N/A	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Typical rural landscape is interrupted by power lines and large supporting structures; solar arrays do impose much on the view	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Cultural Environment: Power lines and large supporting structures interrupt the natural environment; solar arrays do impose much on the view	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Overall Coherence of View: Power lines and large supporting structures are incoherent with the rural natural environment; solar arrays impose very little on the view	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 4 - EXISTING



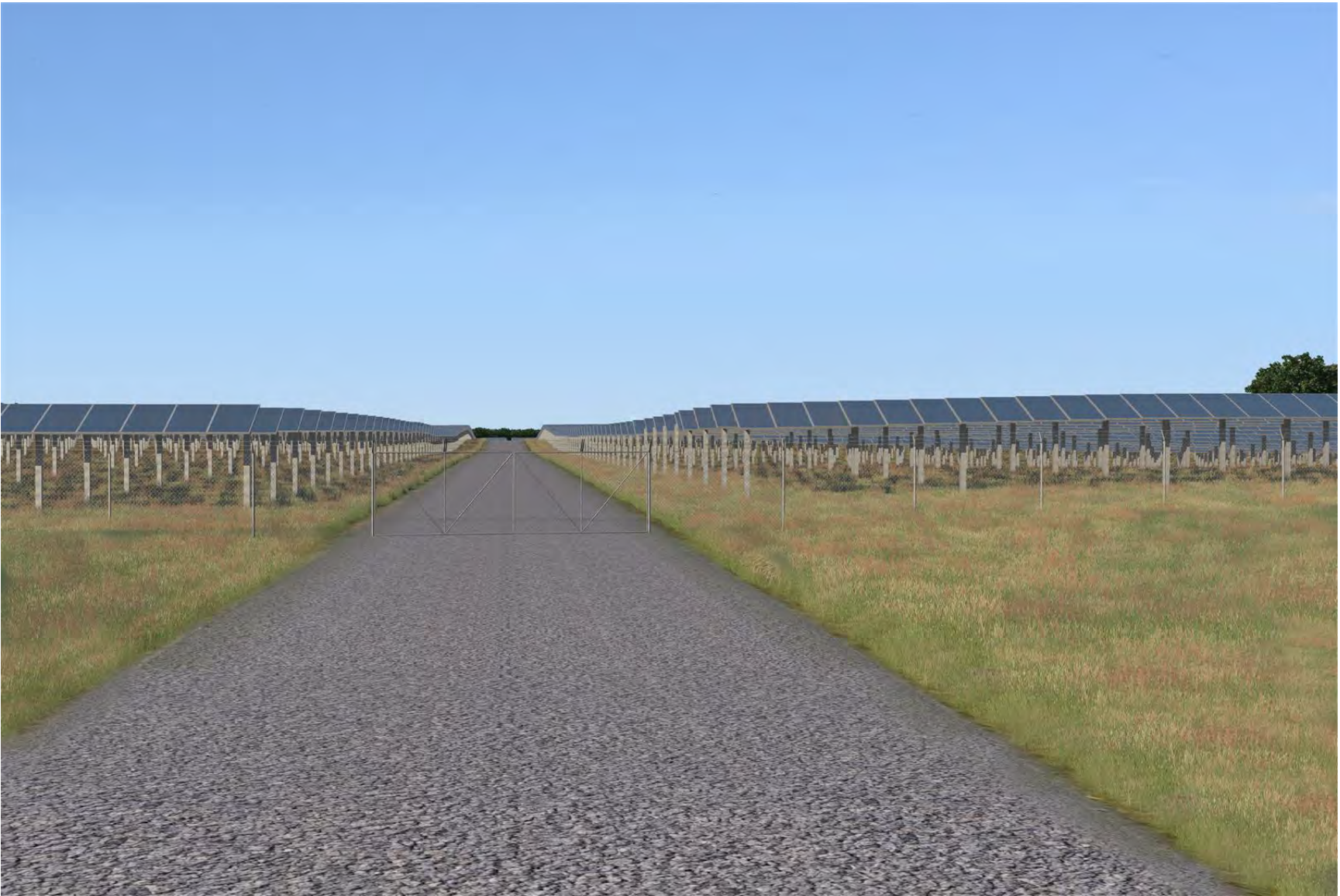
Location: Snyder Road, ½-mile north of Maltby Road	View Orientation: West
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.05 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Flat, cultivated field in foreground, coarse texture; brown, tan, yellow crop stubble; dark green, brown and red treeline in near middle ground 500 ft± from viewer; horizon lines between field and trees and between treeline and blue sky	Buildings	N/A
Water	N/A	Infrastructure	N/A
Vegetation	Scrub grassland in close foreground 1-2 ft high; crop stubble in fireground 1 ft ± high; dark green, brown and red irregular treeline in near middle ground	Structures	N/A
Animals	One might expect to see wild birds and mammals	Artifacts & Art	N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Three elements in harmony – field, trees, sky	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately high	
Cultural Environment: Minimal cultural features – only the plowed field is directly human made	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately high	
Overall Coherence of View: Three elements are coherent for a typical rural farm setting– field, trees, sky	
Degree of Existing View's Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately high	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 4 – WITH PROJECT



Location: Snyder Road, ½-mile north of Maltby Road	View Orientation: West
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.05 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Landform is relatively unchanged, but gravel road and blue-gray solar panels and supports 8-10 ft high in middle to background, jagged straight lines of solar panels create horizon against the blue sky	Score 2	Buildings	N/A	Score
Water	N/A	Score	Infrastructure	Gravel road in foreground extending to horizon	Score 3
Vegetation	Wavy grassland 1 ft± in height in foreground either side of gravel road; dark green trees barely visible at horizon beyond solar panels	Score 2	Structures	Gray metal fence and fence posts in foreground; solar arrays in middle ground across entire view – blue-gray rectangular structures composed of straight lines, 8-10 ft ht	Score 2
Animals	One might expect to see fewer birds and mammals than in existing condition	Score 1	Artifacts & Art	N/A	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Gravel road, fence and solar arrays not in harmony with rural environment	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Cultural Environment: Gravel road, fence and solar arrays not in harmony with rural environment	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately low	
Overall Coherence of View: Incoherent	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP

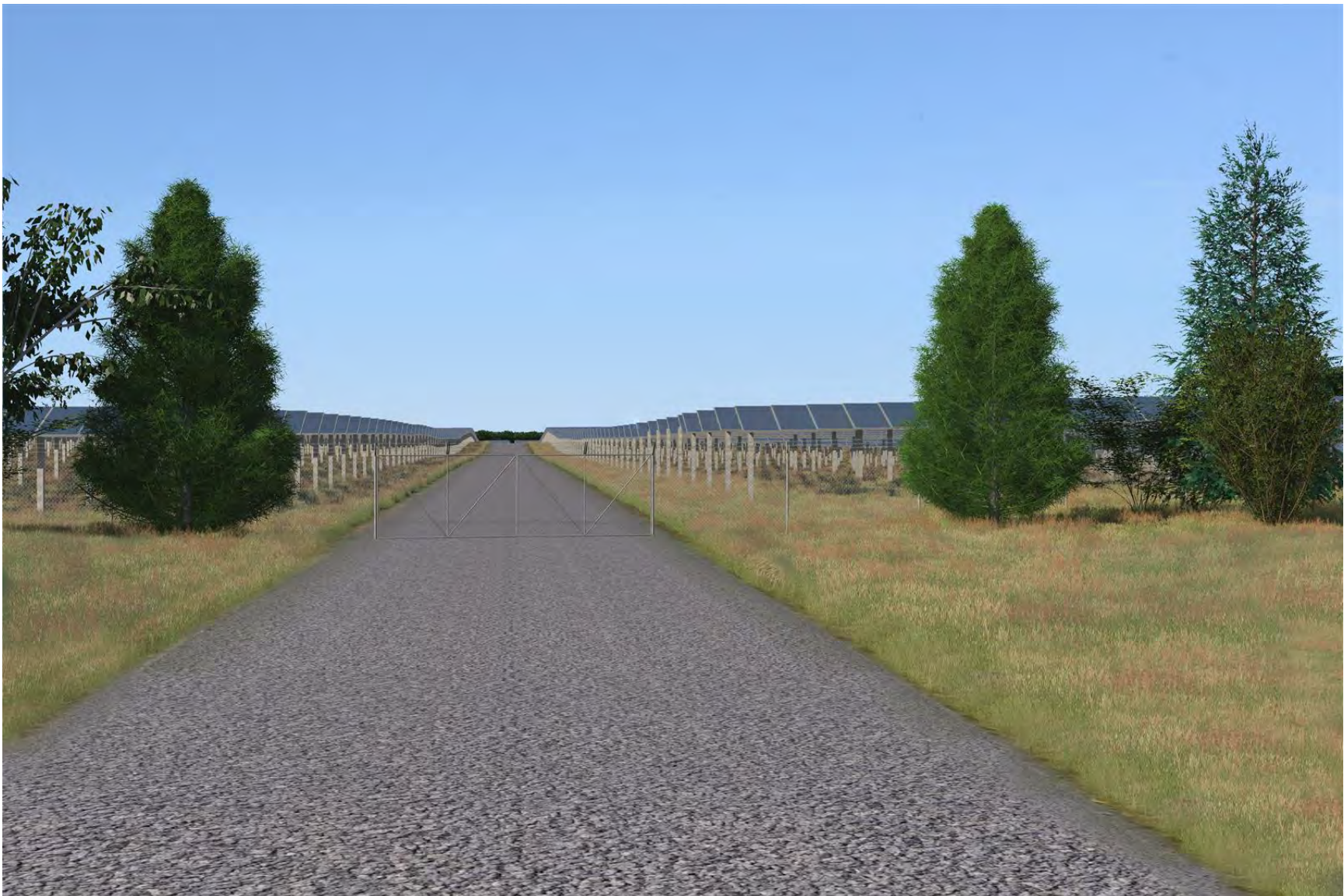
Project Name: Cider Solar Project

Date of Review: 4/8/21

Key Observation Point #: 4 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Landscaping (trees) adds a handful of elements with natural form, texture and color to the view, hiding very little of the metal and glass solar arrays. The landscape elements also add height, taking the viewer’s eyes above the low arrays, but only slightly since there are so few trees. The landscaping is dark green with a rough, pointy texture in generally oval shapes. Very little screening achieved.	Landscape elements (trees) add a softer, more natural, more pleasing appearance, obscuring only slightly the straight lines and hard edges of the solar arrays, since there are so few trees. Very little improvement to visual quality.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 5 - EXISTING



Location: Weatherwax Road, north of West Road	View Orientation: North
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.07 mi away)
	Viewer Position: Superior
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Mostly sunny

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Relatively flat, slightly undulating landform of pasture and farm field in foreground to middle ground; straight horizon line of field against tree line; irregular tree line horizon against blue and white cloudy sky	Buildings	Several small light-colored houses seen in background partly obscured within treeline at middle ground horizon
Water	N/A	Infrastructure	Dark gray asphalt road in middle of view extending from foreground to horizon
Vegetation	Soft gray-green pasture in the left foreground 1 ft ± ht; prickly yellow-tan stalks of corn field in right foreground 6-8 ft ht; dark gray asphalt road in middle of view extending from foreground to horizon; dark green irregular tree line at horizon with blue and white cloudy sky	Structures	N/A
Animals	One might expect to see wild birds and some wild mammals	Artifacts & Art	N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Rural landscape of farm field and trees is interrupted by asphalt road	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	
Cultural Environment: Asphalt country road draws viewer to the treeline at horizon, but appears old with uneven wear	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	
Overall Coherence of View: Asphalt road is somewhat incoherent with rural landscape of farm field and trees	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 5 – WITH PROJECT



Location: Weatherwax Road, north of West Road	View Orientation: North
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
Typical Viewers: Local residents and workers, travelers	Distance Zone: Foreground (0.07 mi away)
	Viewer Position: Superior
	Atmospheric Conditions: Mostly sunny

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Landform is mostly unchanged, except solar panels in middle ground replace part of pasture and corn field	Score 1	Buildings	Homes still seen at horizon	Score 0
Water	N/A	Score	Infrastructure	Unchanged	Score 0
Vegetation	Light blue-gray solar panels in middle ground replace part of pasture and corn field	Score 1	Structures	Solar panels 8-10 ft high in neat rows are a contrast to existing pasture and farm field	Score 1
Animals	Unchanged	Score 0	Artifacts & Art	N/A	Score

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: Solar panels are clearly human made but not dramatically out of character with existing conditions considering the asphalt road
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate
Cultural Environment: Human made solar panels are a contrast to rural farm setting but not out of character with existing conditions considering the asphalt road
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate
Overall Coherence of View: Relatively coherent – part natural rural setting, part human made road and solar panels
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately low

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP

Project Name: Cider Solar Project

Date of Review: 4/8/21

Key Observation Point #: 5 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
No noticeable change to visual character.	No noticeable change to visual quality.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 6 - EXISTING



Location: Highway 98, ¼-mile south of Lockport Road	View Orientation: Northeast
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Mostly cloudy

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Relatively flat, gently rising landform, cultivated farm field in foreground to background; intermediate horizon line between plowed field in foreground and pasture in middle ground; irregular tree line at horizon with mostly cloudy blue and white sky	Buildings	Four farm buildings in left middle ground, tightly joined simple geometric solids, rusty red sides, light gray roofs; several smaller buildings nestled in treeline further back
Water	N/A	Infrastructure	N/A
Vegetation	Green and brown trees in right foreground; coarse, light brown crop stubble in foreground to middle ground; green pasture in middle ground to background; tree line in middle ground on left, background on right	Structures	N/A
Animals	One might expect to see wild birds and wild mammals	Artifacts & Art	N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Field, farm buildings, and treeline in harmony creating typical rural farm scene	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately high	
Cultural Environment: Simple, orderly cultural environment of rural farm buildings in their environment – rusty red color of buildings is particularly evocative of typical North American rural culture	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Overall Coherence of View: View consists of three basic elements – field, farm buildings, treeline – very coherent for this kind of setting	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 6 – WITH PROJECT



Location: Highway 98, ¼-mile south of Lockport Road	View Orientation: Northeast
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Mostly cloudy

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Landform is relatively unchanged, except for introduction of blue and silver solar panel arrays and supporting poles 8-10 ft high in middle fore ground	Score 2	Buildings	Buildings are obscured by solar panels	Score 3
Water	N/A	Score	Infrastructure	N/A	Score
Vegetation	Wavy green and rose colored grasses 1 ft± high replace cultivated field in foreground; solar panels obscure view of pasture in middle ground	Score 2	Structures	Solar panels and supporting metal poles in a narrow band 8-10 ft high in the middle ground	Score 2
Animals	Unchanged	Score 0	Artifacts & Art	N/A	Score

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: Natural environment is disrupted to some extent by solar panels and supporting poles
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate
Cultural Environment: Obscuring view of red farm buildings eliminates this element from the view
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately low
Overall Coherence of View: The solar panels are not objectionable in themselves, but obscuring the view of the red farm buildings eliminates an important element in the view
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP

Project Name: Cider Solar Project

Date of Review: 4/8/21

Key Observation Point #: 6 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Very minimal change to visual character.	Very minimal change to visual quality.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/2020	Key Observation Point #: 7 - EXISTING



Location: Lockport Road, west of Oak Orchard Road	View Orientation: South
Visually Sensitive Resource(s) Represented by Viewpoint: Genesee SnoPackers Trail	Landscape Similarity Zone: Forest
	Distance Zone: Foreground (0.03 mi away)
Typical Viewers: Local residents and workers, travelers, recreationists	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Paved road in close foreground, flat farm field in foreground to middle ground; irregular green treeline at horizon; horizontal lines between road and field, between field and treeline, undulating horizon between trees and blue sky	Buildings	Two barns in middle ground left side; simple box structures, rusty red, one with pitched roof, one with gambrel roof
Water	N/A	Infrastructure	Gray asphalt road across view in near foreground
Vegetation	Scrub grasses 1-2 ft high in near foreground between road and field; crop stubble 1 ft± high in field; mix of trees at horizon	Structures	N/A
Animals	One might expect to see birds and some wild mammals	Artifacts & Art	N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Field, farm buildings, and treeline in harmony creating typical rural farm scene	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	
Cultural Environment: Red barns are a pleasing typical part of typical rural farm scene; asphalt road is not as pleasing	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	
Overall Coherence of View: Scene is simple and typical of rural farm – reasonably coherent with road, field, barns, treeline	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP	Project Name: Cider Solar Project
Date of Review: 12/14/20	Key Observation Point #: 7 – WITH PROJECT



Location: Lockport Road, west of Oak Orchard Road	View Orientation: South
	Landscape Similarity Zone: Forest
Visually Sensitive Resource(s) Represented by Viewpoint: Genesee SnoPackers Trail	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers, recreationists	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Landform is relatively unchanged, except for addition of solar panel arrays in foreground	Score 0	Buildings	Solar panels partially obscure view of barns	Score 2
Water	N/A	Score	Infrastructure	Unchanged	Score
Vegetation	Wavy green and rose colored grasses 1 ft± high replace cultivated field in foreground; solar panels partially obscure view of treeline in the background	Score 1	Structures	Gray metal solar arrays and supporting poles 8-10 ft high in middle foreground across entire view	Score 2
Animals	One might expect to see fewer birds and mammals than in existing condition	Score 1	Artifacts & Art	N/A	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Solar arrays are out of character with typical rural farm scene; added grasses are more attractive than previous farm field stubble	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately low	
Cultural Environment: Solar panels intrude on view of barns and treeline	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately low	
Overall Coherence of View: Solar panels are moderately incoherent with view of barns and treeline	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately low	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Phil Carlson AICP

Project Name: Cider Solar Project

Date of Review: 4/8/21

Key Observation Point #: 7 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Landscaping (trees) adds a handful of elements with natural form, texture and color to the view, hiding some of the metal and glass solar arrays. The landscape elements also add height, taking the viewer's eyes above the low arrays, but only modestly since there are so few trees. The landscaping is dark green with a rough, pointy texture in generally oval shapes. Little screening achieved.	Landscape elements (trees) add a softer, more natural, more pleasing appearance, obscuring somewhat the straight lines and hard edges of the solar arrays. Little improvement to visual quality.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA ¹	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 1 - EXISTING



Location: Lockport Road, around 1 mile west of East Oakfield	View Orientation: Southwest
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.05 mi away)
	Viewer Position: Level
Typical Viewers: Local residents, agricultural and other workers, travelers, visitors, and occasional tourists.	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color, and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Fully vegetated landscape with several farm buildings. Predominantly a farmed, agrarian parcel with crops harvested seasonally. Flat in character.	Buildings	Existing farm buildings setback from road, vernacular agricultural/utilitarian in character, no taller than the existing treeline at the horizon.
Water	None visible.	Infrastructure	None visible.
Vegetation	The primary vegetation is planted crops with hedgerows and naturalized trees defining the edges of the farmed fields.	Structures	Cell tower faintly visible in the far background above the treeline.
Animals	None currently visible but could include animals if cropland were changed to grazing pasture use.	Artifacts & Art	None visible.

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The view typifies the simple, rural, flat agrarian landscapes typical of the area.	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Cultural Environment: Agrarian landscapes are part of the historic context of this area and the views are a typical example of that.	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Overall Coherence of View: The overall appearance is one of a unified and coherent agrarian landscape typical of this area.	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	

¹ Mr. Grob replaced Anthony Bellomo, RLA ASLA, as a panelist when Mr. Bellomo became unavailable to complete this review. Mr. Grob reviewed Mr. Bellomo’s comments, revising where he felt appropriate. Assessments here and elsewhere reflect Mr. Grob’s opinions but incorporate some of Mr. Bellomo’s original evaluation.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 1 – WITH PROJECT



Location: Lockport Road, around 1 mile west of East Oakfield	View Orientation: Southwest
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Community Crossroads / Corridor
	Distance Zone: Foreground (0.05 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and agricultural, and other workers, travelers, visitors and occasional tourists.	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	The agrarian character of the land is eliminated, and the introduction of non-natural structures truncates the view.	Score 3	Buildings	The farm buildings are still visible, although no longer in context with surrounding hedgerows or fields.	Score 2
Water	None visible.	Score N/A	Infrastructure	N/A	Score N/A
Vegetation	The actively farmed agrarian field now is comprised of mead-like grass and the distant hedgerows and trees are no longer visible	Score 3	Structures	The addition of the solar arrays introduces structures where none were previously.	Score 3
Animals	Solar arrays eliminate any possibility for animal grazing in the future.	Score N/A	Artifacts & Art	N/A	Score N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The addition of the project substantially disrupts the natural harmony of the landscape by introducing a large quantity of foreign structures not seen previously in the area.	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Cultural Environment: The addition of the project disrupts the cultural aspect of the landscape be eliminating the traditional farming functions and introducing a non-traditional, man-made component in a large quantity.	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Overall Coherence of View: The view is no longer coherent. The hedgerows are hidden, and the field is dramatically altered and dominated with non-farming structures.	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA

Project Name: Cider Solar Project

Date of Review: April 1, 2021

Key Observation Point #: 1 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
The stark contrast between the existing natural visual character and the visual character of the imposed technology begins to be ameliorated with the planting of a variety of evergreen trees. While not totally screening the panels, the continuous line of the panels is now broken up by the proposed vegetation.	The proposed landscape plantings begin to restore the existing rural visual quality by diverting the eye from the panels to the vegetation. While the natural farm field quality will not be returned, the plantings begin to make this view less of an abrupt contrast between the natural and the man-made and more like the surrounding area.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 2 - EXISTING



Location: Fisher Road, 1/3-mile north of East Oakfield	View Orientation: East
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Middleground (0.5 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Farmed, agrarian parcels, rolling in character.	Buildings	N/A
Water	N/A	Infrastructure	N/A
Vegetation	Mostly farmed landscape with parcels edges defined by hedgerows and trees.	Structures	The view is dominated by high voltage overhead transmission lines.
Animals	N/A	Artifacts & Art	N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The agrarian and natural landscape components feel harmonious, but the harmony is disrupted by the overhead power lines and towers.	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately High	
Cultural Environment: Agrarian landscapes are part of the historic context of this area and the views seems to be an example of that.	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately High	
Overall Coherence of View: The overall appearance is one of a unified and coherent agrarian landscape typical of this area but is blighted by the power lines and towers.	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderately High	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 2 – WITH PROJECT



Location: Fisher Road, 1/3-mile north of East Oakfield	View Orientation: East
Visually Sensitive Resource(s) Represented by Viewpoint: Nearby residences	Landscape Similarity Zone: Agriculture
	Distance Zone: Middleground (0.5 mi away)
Typical Viewers: Local residents and workers, travelers	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Existing sweep of land unchanged.	<u>Score</u> 1	Buildings	N/A	<u>Score</u> N/A
Water	N/A	<u>Score</u> N/A	Infrastructure	N/A	<u>Score</u> N/A
Vegetation	Existing vegetation unchanged except for rear field.	<u>Score</u> 1	Structures	The addition of the solar arrays placed in rear of view among existing hedgerows.	<u>Score</u> 2
Animals	N/A	<u>Score</u> N/A	Artifacts & Art	N/A	<u>Score</u> N/A

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: The natural harmony is maintained, as the fields, hedgerows, and landform appear to have little change.
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate
Cultural Environment: The cultural environment appears to have little impact as the solar array are tucked away into the rear field.
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate
Overall Coherence of View: The overall coherence of the landscape appears to be maintained as the solar arrays do not break the lines of the hedgerows.
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Moderate

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 4 - EXISTING



Location: Snyder Road, ½-mile north of Maltby Road	View Orientation: West
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.05 mi away)
	Viewer Position: Level
Typical Viewers: Local residents, agricultural and other workers, travelers, visitors and occasional tourists.	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	The character of the land is a flat agrarian and fully vegetated landscape, predominantly farmed with crops harvested seasonally. The parcel is edged by hedgerows	Buildings	None visible.
Water	Non visible.	Infrastructure	None visible.
Vegetation	The field contains the remains of harvested agricultural crops and the rear of the view includes naturally growing hedgerows and trees.	Structures	None visible.
Animals	None currently visible but could include animals if cropland were changed to grazing pasture use.	Artifacts & Art	None visible.

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The natural harmony is balanced between agricultural fields and a framework of hedgerows.	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Cultural Environment: The cultural environment is in keeping with agrarian landscapes typical of the area.	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Overall Coherence of View: The coherence is consistent and very intact as there is no evidence of non-natural objects in the natural landscape other than the fields that are farmed and the native woodlands.	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	

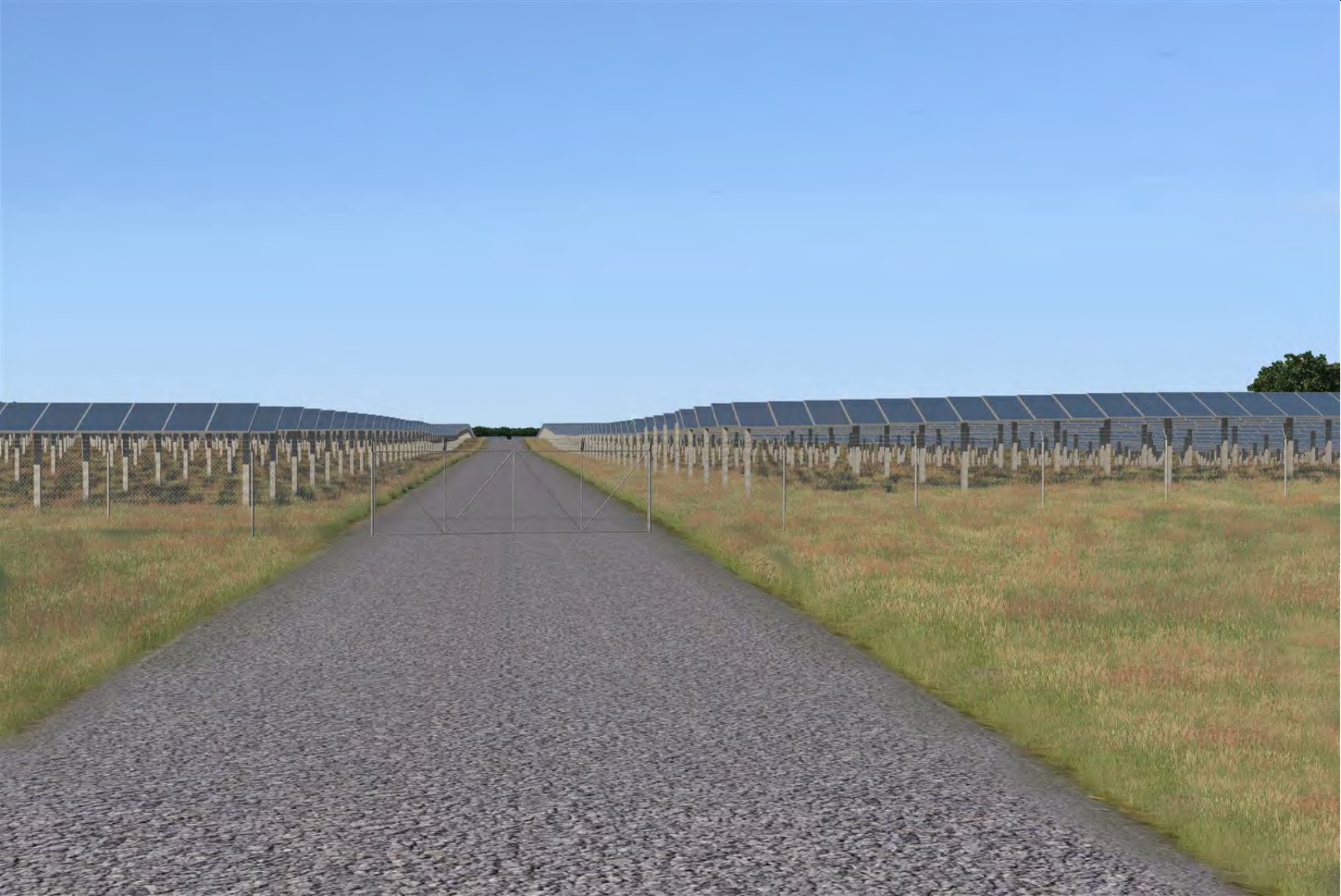
VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA

Project Name: Cider Solar Project

Date of Review: December 18, 2020; April 1, 2021

Key Observation Point #: 4 – WITH PROJECT



Location: Snyder Road, ½-mile north of Maltby Road	View Orientation: West
	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.05 mi away)
Visually Sensitive Resource(s) Represented by Viewpoint: None	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear
Typical Viewers: Local residents, agricultural and other workers, travelers, visitors and occasional tourists.	

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	The natural environment of the land is altered to the point that it appears to be a completely different view.	Score 3	Buildings	N/A	Score N/A
Water	N/A	Score N/A	Infrastructure	The addition of a road through the middle of the view changes the agrarian context and drastically alters the existing condition.	Score 3
Vegetation	Nearly all of the existing vegetation in the foreground would be removed and the farmed field is altered to one of maintained grass with no crops.	Score 3	Structures	The panel structures are highly visible and dramatically alter the rural character and the view.	Score 3
Animals	Solar arrays eliminate any possibility for animal grazing in the future.	Score 3	Artifacts & Art	N/A	Score N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The natural harmony of the view is completely disrupted. No harmony between the existing and the proposed is possible.	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Very Low	
Cultural Environment: Cultural use change from an agrarian landscape to industrial-looking facility significantly changes the cultural environment.	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Very Low	
Overall Coherence of View: The coherence of the view is completely disrupted. The proposed view would be a visual anomaly in the area.	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Very Low	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA

Project Name: Cider Solar Project

Date of Review: April 1, 2021

Key Observation Point #: 4 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
The proposed mitigation does little to mitigate the wholesale change to the visual character of the area. The new road into the site can never be screened and remain operative so it will always be a visual pathway into the changed landscape.	The proposed landscaping does little to visually return the site to its former visual quality.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 5 - EXISTING



Location: Weatherwax Road, north of West Road	View Orientation: North
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.07 mi away)
	Viewer Position: Superior
Typical Viewers: Local residents, agricultural and other workers, travelers, visitors, and occasional tourists.	Atmospheric Conditions: Mostly sunny with high clouds.

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	The landform is mostly flat with a slightly rolling character.	Buildings	Several homes are seen the rear of the view in front of the mature trees in the windbreak.
Water	None visible.	Infrastructure	An existing two-lane rural road runs through the middle of the view into the distance.
Vegetation	Both sides of the roadway are farmed for agricultural crops with mature trees dominating the view in the distance.	Structures	Existing utility poles are visible in the background.
Animals	None currently visible but could include animals if cropland were changed to grazing pasture use.	Artifacts & Art	None visible.

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The view is harmonious as a typical rural, agrarian-type landscape with a rural, two-lane road heading into the distance.	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Cultural Environment: The cultural environment is typical of the area, gently rolling countryside of farmed fields and low-density housing.	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Overall Coherence of View: The view is coherent and balanced.	
Degree of Existing View's Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 5 – WITH PROJECT



Location: Weatherwax Road, north of West Road	View Orientation: North
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.07 mi away)
	Viewer Position: Superior
Typical Viewers: Local residents, agricultural and other workers, travelers, visitors, and occasional tourists.	Atmospheric Conditions: Mostly sunny with high clouds

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	The landform is unaltered, and the overall profile remains the same. Possibility for agricultural is eliminated.	Score 1	Buildings	The existing homes are still visible and unaltered.	Score 0
Water	N/A	Score N/A	Infrastructure	The roadway remains the same.	Score 0
Vegetation	Large portions of the existing farmed fields are altered to include the addition of solar arrays.	Score 3	Structures	The addition of many solar arrays structures substantially alters the view.	Score 3
Animals	Solar arrays eliminate any possibility for animal grazing in the future.	Score 3	Artifacts & Art	N/A	Score N/A

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The natural harmony is disrupted through the inclusion of a great many non-natural structures that are low in profile but dominate the view of the land and ground plane.	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Cultural Environment: The cultural landscape shifts from one of rural countryside to one that is technological/ industrial in character.	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	
Overall Coherence of View: The coherence of the view is substantially disrupted through the alteration of the fields from the existing natural cultural environment to one that is dominated with man-made technology structures.	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA

Project Name: Cider Solar Project

Date of Review: April 1, 2021

Key Observation Point #: 5 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
The mitigation performs no screening function from this point-of-view. The impact to the visual character of the view by the project remains unchanged with the mitigation illustrated. Some mitigation is provided at the rear of the view between the residential properties and the solar array.	The visual quality of the area remains substantially deteriorated with the addition of the industrial/technological elements not typically found elsewhere in the area.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 6 - EXISTING



Location: Highway 98, ¼-mile south of Lockport Road	View Orientation: Northeast
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents, agricultural and other workers, travelers, visitors, and occasional tourists.	Atmospheric Conditions: Mostly cloudy with some sun.

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	The land is relatively flat, but gently rises to the rear of the view.	Buildings	Existing farm buildings typical of the area are seen in the back of the view.
Water	None visible.	Infrastructure	None visible.
Vegetation	The fields are primarily planted with farmed crops and are bordered by hedgerows of trees and shrub material.	Structures	None visible.
Animals	None currently visible but could include animals if cropland were changed to grazing pasture use.	Artifacts & Art	None visible.

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The view appears harmonious as a typical, rolling, rural farmed landscape.	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Cultural Environment: The cultural environment is a good example of a traditional working agrarian landscape.	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Overall Coherence of View: The overall view is very coherent and appears as an intact tract of rural farmland.	
Degree of Existing View's Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 6 – WITH PROJECT



Location: Highway 98, ¼-mile south of Lockport Road	View Orientation: Northeast
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents, agricultural and other workers, travelers, visitors, and occasional tourists.	Atmospheric Conditions: Mostly cloudy with some sun.

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	The landform itself remains unchanged, but what was the sweeping view of the land is disrupted by the addition of the solar array structures and the vegetation at the rear is partially blocked.	Score 2	Buildings	The existing farm building are now completed obscured from view.	Score 3
Water	N/A	Score N/A	Infrastructure	N/A	Score N/A
Vegetation	The field vegetation is altered from planted crops to maintained grass.	Score 3	Structures	The addition of solar arrays now dominates the mid and rear portions of the view.	Score 3
Animals	Solar arrays eliminate any possibility for animal grazing in the future.	Score 3	Artifacts & Art	N/A	Score N/A

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: The natural harmony is completely disrupted by what now is a large block of structures that impact the existing natural, rural quality.
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Very Low
Cultural Environment: The cultural landscape shifts from one of rural countryside to one that is industrial in character.
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Very Low
Overall Coherence of View: The coherence of the view is very disrupted by the inclusion of the solar array panels across the land.
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Very Low

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA

Project Name: Cider Solar Project

Date of Review: April 1, 2021

Key Observation Point #: 6 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 year

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Minimal change to the visual impact caused by the project from this point-of-view is seen with the plantings included. The landscaping could possibly provide some visual mitigation, but it is not evident in this view.	The visual quality remains deteriorated even with the inclusion of the landscape planting in the distance.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 7 - EXISTING



Location: Lockport Road, west of Oak Orchard Road	View Orientation: South
Visually Sensitive Resource(s) Represented by Viewpoint: Genesee SnoPackers Trail	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents, agricultural and other workers, travelers, recreationists and occasional tourists.	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color, and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	The landform is very flat and mostly farmed.	Buildings	A pair of existing farm barns are visible to one side in the rear of the view.
Water	None visible.	Infrastructure	The edge of an existing road is seen in the foreground of the view.
Vegetation	Existing vegetation is predominantly planted crops with a hedgerow of trees and shrub material defining the horizon line in the rear of view,	Structures	None visible.
Animals	None currently visible but could include animals if cropland were changed to grazing pasture use.	Artifacts & Art	None visible.

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: The natural harmony is balanced between agricultural field in the foreground and a rear line of hedgerows, accented by typical farm buildings.	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Cultural Environment: The cultural environment is in keeping with agrarian landscapes typical to the area.	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	
Overall Coherence of View: The view is coherent and the view is intact representing a typical farm landscape common in this rural area.	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): High	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020; April 1, 2021	Key Observation Point #: 7 – WITH PROJECT



Location: Lockport Road, west of Oak Orchard Road	View Orientation: South
Visually Sensitive Resource(s) Represented by Viewpoint: Genesee SnoPackers Trail	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents, agricultural and other workers, travelers, recreationists, and occasional tourists.	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	The landform is unchanged and the vegetation in the rear remains, but the character is significantly altered.	Score 3	Buildings	The existing barns are still visible, but their context has been dramatically altered.	Score 3
Water	N/A	Score N/A	Infrastructure	The existing road is not impacted or altered.	Score 0
Vegetation	The vegetation of the existing fields is altered from farmed land to maintained grass.	Score 3	Structures	Rows of solar arrays now dominate the view.	Score 3
Animals	Solar arrays eliminate any possibility for animal grazing in the future.	Score 3	Artifacts & Art	N/A	Score N/A

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: The natural harmony is disrupted by what now is a large block of solar array structures that are completely foreign to the area's context and impact the natural, rural visual quality.
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low
Cultural Environment: The cultural landscape shifts from one of a typical rural countryside seen throughout the region to one that is industrial in character.
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low
Overall Coherence of View: The coherence of the view is completely disrupted by the inclusion of the solar array panels. There is no continuity with the surroundings or adjacent parcels.
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High): Low

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Jeffrey Grob, RLA

Project Name: Cider Solar Project

Date of Review: April 1, 2021

Key Observation Point #: 7 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
The contrast between the existing natural visual character and the visual character of the panels begins to be mitigated with the planting of a variety of evergreen and deciduous trees along the edge between the viewer on the road and the panels. While not completely screening the panels, the continuous uninterrupted view of the panels is now broken up by the newly introduced vegetation.	The proposed landscape plantings begin to restore the existing rural visual quality by diverting the eye from the panels to the vegetation. While the natural farm field quality will not be returned, the plantings begin to make this view less of an abrupt contrast between the man-made and the more natural surrounding area.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 1 - EXISTING



Location: Lockport Road, around 1 mile west of East Oakfield	View Orientation: Southwest
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Community Crossroads / Corridor
	Distance Zone: Foreground (0.05 mi away)
Typical Viewers: Local residents and workers, travelers	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Fore- and mid-ground dominated by flat farm field with barren brownish gray soil exposed, field edged with naturalized grasses/perennials; line of trees forms on the horizon	Buildings	2 simple, rectangular, one story buildings with gable roofs in the background, long side oriented approximately along N-S axis. One building red, one white.
Water	n/a	Infrastructure	n/a
Vegetation	Freshly plowed agricultural field with brownish gray soil exposed in fore- and mid-ground; flat texture; dark green tree line on the horizon with varied texture and height; narrow band of mixed yellow-blooming perennials and naturalized grasses in the foreground	Structures	n/a
Animals	Expected mammals and birds	Artifacts & Art	n/a

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: Agricultural field dominates fore- and mid-ground; balanced by forested background; Moderate
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):
Cultural Environment: Agricultural use adjacent to forested area; Moderately High
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):
Overall Coherence of View: Dominant agricultural field detracts from coherence of view; Moderate
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 1 – WITH PROJECT



Location: Lockport Road, around 1 mile west of East Oakfield	View Orientation: Southwest
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Community Crossroads / Corridor
	Distance Zone: Foreground (0.05 mi away)
Typical Viewers: Local residents and workers, travelers	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Project in mid-ground not in scale with flat landforms	Score 3	Buildings	Buildings flanked by the project and partially obscured by it.	Score 2
Water	N/A	Score	Infrastructure	N/A	Score
Vegetation	Project massing and verticality in sharp contrast to vegetation. Obstructs view of the forest in the background.	Score 3	Structures	N/A	Score
Animals	N/A	Score	Artifacts & Art	N/A	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Mass and vertical scale of project incongruous to scene; Very Low	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Project mass and scale may have less impact to cultural order when the fields are utilized during the growing season; Low	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Project mass and vertical scale incongruous to scene; Very Low	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA

Project Name: Cider Solar Project

Date of Review: April 12, 2021

Key Observation Point #: 1 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Project massing and verticality in contrast to vegetation. Proposed vegetation varies in form and consistency. Buildings not visible.	Mass and vertical scale of project incongruous to scene. Varied landscape screening breaks up the monotony of the project and adds interest. VQ Low to Moderately Low with time as proposed landscape screening matures.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 2 - EXISTING



Location: Fisher Road, 1/3-mile north of East Oakfield	View Orientation: East
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Middleground (0.5 mi away)
Typical Viewers: Local residents and workers, travelers	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Lightly undulating farm fields with green turf and hay bales or barren soil exposed; in the background line of trees forms on the horizon and few hedgerows divide fields; mostly greens with dry straw in grassy areas	Buildings	n/a
Water	n/a	Infrastructure	Two rows of high voltage power line transmission towers in the scene
Vegetation	Green turf and hay bales or barren brownish gray soil exposed in the fore- and mid-ground, flat texture; in the background line of dark green trees and scattered hedgerows adds vertical element to the view.	Structures	n/a
Animals	Expected mammals and birds	Artifacts & Art	n/a

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Agricultural fields at various stages of use cycle in fore-and mid-ground; balanced by forested background and occasional hedgerows; Moderate	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Agricultural use adjacent to forested area and intersected by electrical infrastructure; Moderately Low	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Power line transmission towers have imposing presence and detract from coherence of view; Moderately Low	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 2 – WITH PROJECT



Location: Fisher Road, 1/3-mile north of East Oakfield	View Orientation: East
Visually Sensitive Resource(s) Represented by Viewpoint: Nearby residences	Landscape Similarity Zone: Agriculture
Typical Viewers: Local residents and workers, travelers	Distance Zone: Middleground (0.5 mi away)
	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Project set against low horizon line	Score 2	Buildings	n/a	Score
Water	n/a	Score	Infrastructure	Power line transmission towers and project are generally cohesive	Score 1
Vegetation	Project has similar vertical scale as surrounding vegetation on the horizon	Score 2	Structures	n/a	Score
Animals	n/a	Score	Artifacts & Art	n/a	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Hedgerows and forested land with low horizon interrupted by project, somewhat in harmony with the scene; Moderately Low	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Project use appears as a natural extension of existing agricultural and infrastructural uses; Moderately Low	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Project complements existing infrastructural use and does not significantly take away from existing natural character; Moderate	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 4 - EXISTING



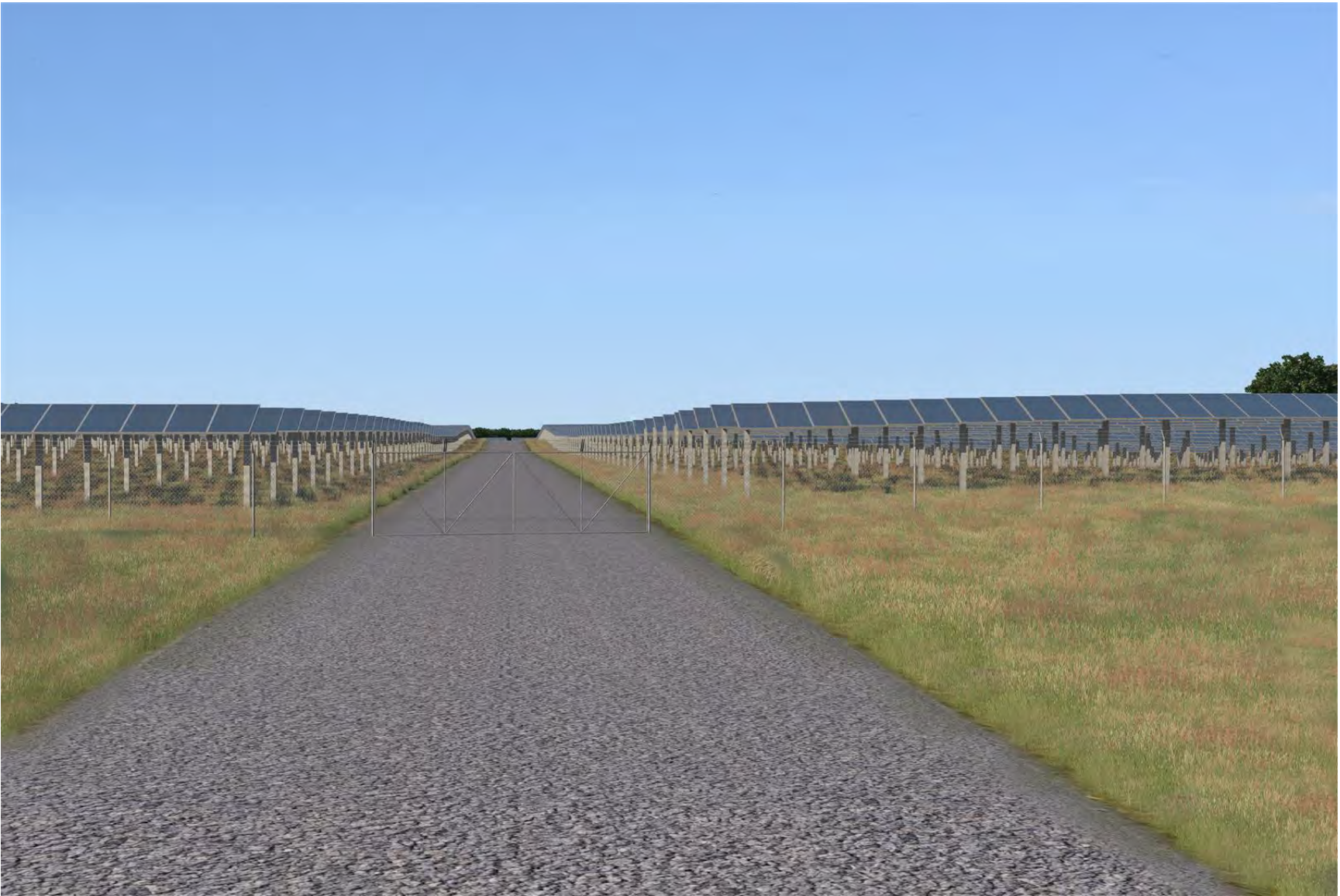
Location: Snyder Road, ½-mile north of Maltby Road	View Orientation: West
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.05 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Fore- and mid-ground dominated by flat farm field, edged with hedgerows which provide vertical element	Buildings	n/a
Water	n/a	Infrastructure	n/a
Vegetation	Freshly plowed agricultural field with brownish gray soil exposed in fore- and mid-ground; flat texture; hedgerows with varied hues and textures related to tree-type (season/species); narrow band of mixed blue-blooming perennials and naturalized grasses in the foreground	Structures	n/a
Animals	Expected mammals and birds	Artifacts & Art	n/a

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Balanced agricultural land and hedgerows; Moderately High	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Agricultural use co-mingled with naturalized landscape; High	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Low horizon dominated by sky; Moderate	
Degree of Existing View's Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 4 – WITH PROJECT



Location: Snyder Road, ½-mile north of Maltby Road	View Orientation: West
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.05 mi away)
Typical Viewers: Local residents and workers, travelers	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Low horizon filled by the project	Score 3	Buildings	n/a	Score
Water	n/a	Score	Infrastructure	n/a	Score
Vegetation	Project dominates and blocks vegetation; very limited vegetation visible in the background;	Score 3	Structures	n/a	Score
Animals	n/a	Score	Artifacts & Art	n/a	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Agricultural land dominated by the project; Very Low	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Project use appears in contrast with existing use; Low	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Project dominates the landscape; Low	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA

Project Name: Cider Solar Project

Date of Review: April 12, 2021

Key Observation Point #: 4 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Project dominates and blocks very limited vegetation visible in the background; Project massing dominates the view. Proposed vegetation is limited and varies in form and consistency – interrupted by the project access gate.	Project dominates the landscape; VQ Low and is not affected with time as proposed landscape screening matures.

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 5 - EXISTING



Location: Weatherwax Road, north of West Road	View Orientation: North
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.07 mi away)
	Viewer Position: Superior
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Mostly sunny

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Lightly undulating farm fields with mature crops in fore- and mid-ground; in the background level line of trees forms on the horizon	Buildings	4 residential, single-story, white buildings in the background break up the tree line; appear to have S-N or E-W orientation, gable roofs.
Water	n/a	Infrastructure	Roadway with soft shoulder through the center of the view; heading N towards horizon; small, single roadway sign in mid-ground
Vegetation	Green and brown naturalized grass along roadway, farm fields with mature crops in fore- and mid-ground, varied texture; in the background, line of dark green trees of various hues and textures related to tree-type (season/species adds vertical element to the view.	Structures	n/a
Animals	Expected mammals and birds	Artifacts & Art	n/a

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Agricultural land dominates fore-and mid-ground; balanced by naturalized area and forested background; Moderate	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Roadway dissects the agricultural land and heads towards horizon; Moderate	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Dominant agricultural land and roadway detracts from coherence of view; Moderate	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 5 – WITH PROJECT



Location: Weatherwax Road, north of West Road	View Orientation: North
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.07 mi away)
	Viewer Position: Superior
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Mostly sunny

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Project in mid-ground seems in scale with flat landforms	<u>Score</u> 1	Buildings	Project partially obscures view of two buildings	<u>Score</u> 1
Water	n/a	<u>Score</u>	Infrastructure	Vehicular traffic on the roadway/farming activities and project are generally cohesive	<u>Score</u> 1
Vegetation	Project massing and verticality in moderate to low contrast with vegetation	<u>Score</u> 2	Structures	n/a	<u>Score</u>
Animals	n/a	<u>Score</u>	Artifacts & Art	n/a	<u>Score</u>

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Mass and vertical scale of project does not disturb natural harmony of the view; Moderate	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Project mass and scale may have less impact to cultural order when all the fields are actively farmed; Moderately Low	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Mass and vertical scale of project fits comfortably in the scene; Moderate	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA

Project Name: Cider Solar Project

Date of Review: April 12, 2021

Key Observation Point #: 5 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.	
Visual Character	Visual Quality
Project in mid-ground seems in scale with flat landform. Project massing and verticality in moderate to low contrast with vegetation. Proposed landscape screening is minimal and negligibly affects the view.	Mass and vertical scale of project fits comfortably in the scene; VQ Moderate and is not affected with time as proposed landscape screening matures

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 6 - EXISTING



Location: Highway 98, ¼-mile south of Lockport Road	View Orientation: Northeast
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
Typical Viewers: Local residents and workers, travelers	Viewer Position: Level
	Atmospheric Conditions: Mostly cloudy

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Fore- and mid-ground dominated by flat farm field with barren brownish gray soil exposed, line of trees forms on the horizon	Buildings	Two agricultural buildings in the mid-ground; one red one white; various types of rooflines including gable, shed, and gambrel.
Water	n/a	Infrastructure	Power line posts in the background
Vegetation	Agricultural field with brownish gray soil exposed in fore- and mid-ground; flat texture; edge of forest in the foreground framing the field; in the background green fields and varied height tree line with varied hues and textures related to tree-type;	Structures	n/a
Animals	Expected mammals and birds	Artifacts & Art	n/a

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Agricultural land dominates scene; Some balancing by forested background; Moderately Low	
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Agricultural use adjacent to forested area; Moderately High	
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Dominant barren brownish grey soil texture detracts from coherence of view; Moderate	
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 6 – WITH PROJECT



Location: Highway 98, ¼-mile south of Lockport Road	View Orientation: Northeast
Visually Sensitive Resource(s) Represented by Viewpoint: None	Landscape Similarity Zone: Agriculture
	Distance Zone: Foreground (0.03 mi away)
	Viewer Position: Level
Typical Viewers: Local residents and workers, travelers	Atmospheric Conditions: Mostly cloudy

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Low horizon filled by the project	Score 3	Buildings	Project completely obstructs view of buildings	Score 3
Water	n/a	Score	Infrastructure	Project mostly obstructs view of power line posts	Score 1
Vegetation	Project massing and verticality in moderate to high contrast with vegetation;	Score 3	Structures	n/a	Score
Animals	n/a	Score	Artifacts & Art	n/a	Score

VISUAL QUALITY	
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.	
Natural Harmony: Agricultural land mostly dominated by the project, Moderately Low	
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Cultural Environment: Project use appears in contrast with existing use; Low	
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	
Overall Coherence of View: Project dominates the landscape; Low	
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):	

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA

Project Name: Cider Solar Project

Date of Review: April 12, 2021

Key Observation Point #: 6 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Project massing and verticality in moderate to high contrast with vegetation; Project obstructs view of existing buildings. Proposed landscape screening is placed internal to the project massing and negligibly affects the view.	Project use appears in contrast with existing use and dominates the landscape; VQ Low and is not affected with time as proposed landscape screening matures

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 7 - EXISTING



Location: Lockport Road, west of Oak Orchard Road	View Orientation: South
Visually Sensitive Resource(s) Represented by Viewpoint: Genesee SnoPackers Trail	Landscape Similarity Zone: Forest
	Distance Zone: Foreground (0.03 mi away)
Typical Viewers: Local residents and workers, travelers, recreationists	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER			
Directions: Please briefly describe visual character for each landscape element, emphasizing form, line, color and texture where applicable. Please refer to attached instructions / glossary for definitions of the landscape elements.			
Natural Environment		Cultural Environment	
Land	Fore- and mid-ground dominated by flat farm field with barren brownish gray soil exposed, line of trees forms on the horizon	Buildings	On the horizon two agricultural barn-like red buildings with a small addition in the back; various types of rooflines including gable, shed, and gambrel.
Water	n/a	Infrastructure	Edge of roadway in the foreground.
Vegetation	Agricultural field with brownish gray soil exposed in fore- and mid-ground; flat texture; in the background varied height tree line with varied hues and textures related to tree-type;	Structures	n/a
Animals	Expected mammals and birds	Artifacts & Art	n/a

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: Agricultural land dominates scene; Some balancing by forested background; Moderately Low
Rate Existing Natural Harmony (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):
Cultural Environment: Agricultural use adjacent to forested area; Moderately High
Rate Cultural Environment (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):
Overall Coherence of View: Dominant barren brownish grey soil texture detracts from coherence of view; Moderate
Degree of Existing View’s Coherence (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA	Project Name: Cider Solar Project
Date of Review: December 18, 2020	Key Observation Point #: 7 – WITH PROJECT



Location: Lockport Road, west of Oak Orchard Road	View Orientation: South
Visually Sensitive Resource(s) Represented by Viewpoint: Genesee SnoPackers Trail	Landscape Similarity Zone: Forest
	Distance Zone: Foreground (0.03 mi away)
Typical Viewers: Local residents and workers, travelers, recreationists	Viewer Position: Level
	Atmospheric Conditions: Sunny, clear

VISUAL CHARACTER					
Directions: Please describe contrast to each landscape element resulting from the project, where applicable, and assign a score for degree of contrast: strong (3), moderate (2), weak (1), none (0), or N/A.					
Natural Environment			Cultural Environment		
Land	Project in mid- and background not in scale with flat landforms	<u>Score</u> 3	Buildings	Buildings flanked by the project and partially obscured by it.	<u>Score</u> 2
Water	N/A	<u>Score</u>	Infrastructure	Project does not affect roadway	<u>Score</u> 0
Vegetation	Project massing and verticality in sharp contrast to vegetation; mostly obstructs view of the trees in the background.	<u>Score</u> 3	Structures	N/A	<u>Score</u>
Animals	N/A	<u>Score</u>	Artifacts & Art	N/A	<u>Score</u>

VISUAL QUALITY
Directions: Please describe conditions for each of the following types of visual resources and assign a quality rating for each.
Natural Harmony: Mass and vertical scale of project incongruous to scene; Low
Natural Harmony with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):
Cultural Environment: Project use appears in contrast with existing use; Low
Cultural Environment with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):
Overall Coherence of View: Project dominates the landscape; Moderately Low
Coherence of View with Project (Very Low, Low, Moderately Low, Moderate, Moderately High, High, Very High):

VISUAL IMPACT ANALYSIS – CONTRAST RATING FORM

Reviewer Name: Barbara Nazarewicz, RLA

Project Name: Cider Solar Project

Date of Review: April 12, 2021

Key Observation Point #: 7 – WITH PROJECT AND MITIGATION



Planting at 5 years



Planting at 15 years

QUALITATIVE CHANGES TO ASSESSMENT OF EFFECTS TO VISUAL CHARACTER AND VISUAL QUALITY WITH LANDSCAPING	
<i>Directions: Please revisit your assessment of contrast to landscape elements and effects to visual quality given proposed landscaping. Discuss the extent to which proposed landscape screening effectively minimizes identified contrast / effects.</i>	
Visual Character	Visual Quality
Project in mid- and background not in scale with flat landforms; Project massing and verticality obstructs existing vegetation; Proposed vegetation varies in form and consistency. Buildings not visible.	Mass and vertical scale of project incongruous to scene. Varied landscape screening breaks up the monotony of the project and adds interest. VQ Low to Moderately Low with time as proposed landscape screening matures.

ATTACHMENT G REVIEW PANEL RESUMES



Mr. Carlson has been with the firm since 1976 and is involved in a wide variety of planning and design projects, including comprehensive plans, zoning studies, master plans, redevelopment projects, environmental reviews, and the design of residential, retail, office, mixed use and industrial projects. He is frequently called as an expert witness in land use and zoning cases.

EDUCATION

Bachelor of Architecture, University of Minnesota,
Minneapolis, Minnesota, 1986

REGISTRATIONS

Certified Planner #05800, American Institute of
Certified Planners

MEMBERSHIPS

Member, Sensible Land Use Coalition

Member, American Planning Association

PROJECT EXPERIENCE

Planning

Comprehensive Plan Update - St. Cloud,
Minnesota

Mr. Carlson was responsible for helping the City update their plan, which included summaries of numerous previous infrastructure studies, including water, sewer, transportation, and natural resources. His responsibilities included supervising and conducting all research, planning, report writing, map preparation and facilitating key community meetings and presentations to the task force, Planning Commission, and City Council.

The plan targeted areas of the city facing development and redevelopment pressure. Key issues were expansion of the employment base, housing for an aging population, and new development. The project included working with a city task force and facilitating community meetings with citizens and merchants.

Minot Brownfields Redevelopment Plan, Minot, North Dakota

Minot received three EPA brownfield grants in 2013 for assessment and planning, totaling \$600,000. Mr. Carlson is the lead planner for the area wide planning (AWP) grant work now underway. The project involves working with a local advisory board and the community to identify brownfield sites, analyze planning issues, formulate strategies, and create redevelopment plans for a 200-acre corridor east of downtown Minot. The goals of the project are to promote economic development and healthy living, protect the environment, enhance parks and trail connections, and provide affordable housing.

Green Bay University Avenue Brownfields Redevelopment Plan, Green Bay, Wisconsin

Green Bay's University Avenue corridor was the focus of assessment and planning work under EPA grants to the city. Mr. Carlson was project manager for the study, completed in 2014, which identified five brownfield catalyst sites and numerous other planning and redevelopment opportunities along the four-mile University Avenue corridor between downtown Green Bay and the University of Wisconsin-Green Bay. The project involved working with city staff and a local advisory committee to decide the best strategies and redevelopment plans for the corridor, which includes several former packing plant sites. The plan envisions new housing, office, and mixed use development at key nodes along University Avenue, tied together with gateway and streetscape elements.

Riverfront and Center Downtown and Neighborhood Plans, Minot, North Dakota

Mr. Carlson was one of four co-project managers for the Riverfront and Center Plans in Minot, focused on downtown Minot and the six neighborhoods along the Mouse River that were devastated by flooding in 2011. The neighborhood plans have emphasized listening sessions with the neighborhoods, identifying key issues and concerns, but also strengths to build on as the community recovers. Key issues identified in the process are potential commercial redevelopment in targeted areas, sidewalk and trail connections, park improvements, street lighting, renovating damaged properties, on-street parking regulations, and other quality of life issue.

Land Use and Transportation Plan Update, Minot, North Dakota

Mr. Carlson was project manager the first update of Minot's comprehensive plan in 15 years. The project involved reviewing previous studies, providing projections of population, housing, and economic indicators. The process involved a local steering committee who reviewed ideas and information at key points in the process. The project also included facilitating community wide meetings with citizens and the local business community. The plan emphasized a revitalized downtown, enhancing greenway corridors, compact development, transportation improvements and expanded housing opportunities.

Land Use and Transportation Plan, Mandan, North Dakota

Mr. Carlson was project manager for the Mandan Plan, helping the city of 18,000 deal with growth pressures. The project involved gathering and analyzing previous studies and reaching out to the community for ideas and input. Working with a Planning Advisory Committee local residents and businesspeople, the Plan makes recommendations on growth areas, key transportation improvements and park/trail expansion.

Comprehensive Planning

Mr. Carlson has managed numerous comprehensive plans throughout the Upper Midwest in his 40-year career. Among the communities he has helped plan in Minnesota are St. Cloud, Burnsville, Roseville, Blaine, Ramsey, Alexandria, Little Falls, Sauk Rapids, and many others.

Planning Experience, Minnesota

Mr. Carlson has served as the primary planning consultant for several Minnesota communities, including Vadnais Heights, Roseville, Burnsville, Newport, and Minnetonka Beach. In this capacity, he has been responsible for reviewing development proposals and zoning applications; comprehensive planning; and zoning amendments.

Solar Project Development Approval

Mr. Carlson has assisted private solar garden developer clients with the zoning and site plan approval process. He has managed the approval process for over twenty projects 1 MW to 5 MW in size in Minnesota and Illinois through city, county, and township boards, as well as public outreach.

Philip J. Carlson AICP

Senior Planner

Solar Project Development Approval

Mr. Carlson has assisted private solar garden developer clients with the zoning and site plan approval process. He has managed the approval process for over twenty projects 1 MW to 5 MW in size in Minnesota and Illinois through city, county, and township boards, as well as public outreach.

Community Engagement

In many communities on numerous projects Mr. Carlson has developed communications and outreach plans to engage stakeholders. This includes meeting facilitation using standard techniques such as SWOT exercises, visioning exercises, visual preference surveys, and prioritization techniques. For the Marshalltown Plan he used his fluency in Spanish to work with a focus group from the large Hispanic community. He has done targeted business community forums, as well as meetings with classes of school children. He has facilitated numerous design charrettes and is also trained in the innovative Open Space Technology facilitation approach.

Mixed-Use Planning and Design, Minnesota

Mr. Carlson has experience designing and implementing mixed-use town centers that encourage efficiency and active living. He worked with the City of Burnsville on the Heart of the City development, Maple Grove on the Arbor Lakes area, West St. Paul on the Robert Street Corridor design guidelines, Mankato on the Downtown Mankato Urban Design Guidelines, New Brighton on the Northwest Quadrant, Eagan on the Cedar Grove area, and many others.

Zoning Ordinance Preparation

Mr. Carlson has written zoning ordinances for many Midwest communities. He has studied special issues such as sign regulations, commercial-industrial guidelines, adult use regulations, and low impact development. He has designed and implemented mixed-use town centers with form-based and hybrid codes that encourage density, pedestrian traffic, and conservation. He worked with the cities of La Crescent, Newport, and Spring Lake Park on complete ordinance updates, Burnsville on the Heart of the City code, Maple Grove on the Arbor Lakes area, West St. Paul on the Robert Street Corridor design guidelines, Mankato on the Downtown Mankato Urban Design Guidelines, and others. He has completed the full-day training on form-based codes at the national APA conference.

Training

Education and Outreach

An expert in his field of practice, Mr. Carlson has served on the faculty of GTS Educational Events for more than 30 years conducting seminars on the foundations of planning, comprehensive planning, zoning ordinances, shoreland regulation, tax increment financing, and municipal government. He has also served as adjunct faculty to the University of St. Thomas Real Estate Department in Minneapolis.

Jeffrey Grob RLA

Senior Associate

37 years of experience · New York, New York

Mr. Grob has 37 years of experience in all types of landscape architectural, transportation and planning projects including urban, suburban and rural park planning and design, urban design, and waterfront development. As an early practitioner of the practice of Context Sensitive Design, Mr. Grob is particularly well-versed in transportation design and consensus-building projects, including architectural and aesthetic treatments for new, rehabilitated and historic bridge structures, noise and retaining wall design, selection of highway appurtenances, the preparation of Visual Impact Statements, as well as urban streetscapes, and landscape treatments. In his various roles as project manager, technical advisor, and task leader, Mr. Grob has managed and overseen many of Stantec's most noteworthy and award-winning projects.

EDUCATION

Bachelor of Science, Summa Cum Laude, Landscape Architecture, Cook College, Rutgers University, New Brunswick, New Jersey, United States, 1985

REGISTRATIONS

Landscape Architect #1200, State of New York

MEMBERSHIPS

Member, (New Jersey Chapter President 2006-2007), American Society of Landscape Architects (New Jersey)

Member, Scenic America

Member, National Trust for Historic Preservation

PROJECT EXPERIENCE

VISUAL IMPACT ASSESSMENTS

Route 7/Route 15 Merritt Parkway Interchange, Norwalk, Connecticut

Mr. Grob is the principal landscape architect for the NEPA/CEPA Environmental Documentation and design for the proposed reconfiguration of the Route 7/Route 15 Merritt Parkway Interchange in Norwalk, CT. The redesigned interchange will improve system linkages between Route 7 and the Merritt Parkway which is listed on the National Register of Historic Places. The project will improve safety at the currently substandard interchanges and reduce congestion along the Main Avenue corridor. As the principal landscape architect, he is responsible for the Visual Impact Assessment and the aesthetic design of the replacement of the highway and bridges in the project area including historic bridge replacements for freeway and local road networks. Given the high visibility of the project on the historic Merritt Parkway, the potential visual impacts of the project have been of vital concern to the community.

I-49 Connector, Lafayette Regional Airport to I-10/I-49/US 167 Interchange | Louisiana Department of Transportation and Development | Lafayette Parish, Louisiana | Lead Landscape Architect/Urban Designer/CSS Coordinator

A critical transportation link for Lafayette and the state as a whole, the I-49 Connector will connect the existing I-49 at its intersection with I-10 with new interstate mileage through Lafayette and on south to New Orleans – linking this hurricane evacuation route and “energy corridor” through the state and to the nation. This connector segment of 5.5 miles of new urban interstate must be designed and constructed through a very heavily urbanized corridor within the heart of Lafayette. To accomplish this successfully, Mr. Grob will use the concepts of Context Sensitive Solutions (CSS) to their maximum extent so that in the end, the completed project melds LADOTD's transportation requirements with local interests in order to achieve a project solution that's affordable and acceptable to all stakeholders. The successful solution will satisfy both the project's transportation mandate as well as becoming a substantial urban improvement and valued community asset in Lafayette. Mr. Grob will also direct all the visual simulation renderings required for all the public meetings, the Visual Impact Assessment and Section 106 portions of the SEIS.

**Route 9A Reconstruction | New York State
Department of Transportation Region 11 | New
York, New York | Lead Landscape Architect/Urban
Designer**

Mr. Grob was responsible for the preparation of the project's Visual Resource Assessment, its Urban Design Guidelines report, portions of the 4(f) statement, and the computer-generated photo simulations developed for the five-mile urban boulevard replacement project adjacent the Hudson River along Manhattan's west side. As an early example of the use of the concepts of Context Sensitive Design, the project has become a featured case study in the Federal Highway Administration's 1997 publication "Flexibility in Highway Design".

**Woodland Viaduct | Westchester County
Department of Public Works | White Plains, New
York | Lead Landscape Architect/Bridge Architect**

Senior Landscape Architect responsible for the architectural concepts and detailing of the rehabilitation of an historic, spandrel arch bridge on the Bronx River Parkway in White Plains that is listed on the National Register of Historic Places. Mr. Grob was responsible for developing the Visual Resource Assessment and the architectural treatments of the bridge structure and retaining walls, gaining SHPO approval as well as the landscape planting design.

**Crane Road Viaduct | Westchester County
Department of Public Works | Scarsdale, New
York, US | Lead Landscape Architect/Bridge
Architect**

Mr. Grob was responsible for developing the architectural concepts and detailing of the replacement of an historic, seven span, mushroom-style pier bridge on the Bronx River Parkway in Scarsdale that is listed on the National Register of Historic Places. Mr. Grob was also responsible for developing the Visual Resource Assessment and the architectural treatments of the bridge's retaining walls, gaining SHPO approval as well as the landscape planting design.

**Kosciuszko Bridge Replacement | New York State
Department of Transportation Region 11 |
Brooklyn and Queens, New York | Lead
Landscape Architect/Urban Designer/Bridge
Architect**

Mr. Grob directed the landscape and urban design components of Phases I-IV for the replacement of the Kosciuszko Bridge on the BQE that spans the Newtown Creek between the two boroughs. Mr. Grob was also responsible for developing the Visual Resource Assessment and the architectural treatments of the replacement bridge structure and retaining walls as well as the landscape planting design, 4-f mitigation concepts and community outreach strategies.

**Brooklyn-Queens Expressway, 61st Street to
Broadway | New York State Department of
Transportation Region 11 | Queens, New York |
New York State Department of Transportation
Region 11**

Mr. Grob lead the Preliminary and Final design effort for the development of the architectural treatment and landscape plans necessary for the construction of five replacement bridges, the rehabilitation of four existing bridges and the design of approximately 300,000 SF of new noise walls and rehabilitated retaining walls on the BQE in Queens, NY. Also included was the development of the Final Design Plans for the entire landscape portion of the project, as well as all the urban design amenities such as streetscape improvements and several neighborhood pocket parks needed to better blend the highway in with the surrounding neighborhoods and preparation of the Visual Impact Statement.

**Route 9A West Street Promenade Project (West
Thames to Chambers Street) | New York State
Department of Transportation Region 11 | New
York, New York | Task Leader, Lead Landscape
Architect/ Urban Designer**

Mr. Grob was responsible for the development of the project's Urban Design Guidelines report along with the development of the Visual Impact Assessment report and sections of the Section 4(f) statement. He also led the computer-generated photo simulations developed for the design concepts and public information session graphics needed for the supplemental EIS associated with the Route 9A redevelopment adjacent to the WTC site after 9/11. The firm was responsible for Phases I-IV and the SEIS for this \$300 million project.

**State Highway Route 21 Visual Resource
Assessment, Design Guidelines and Contract
Documents | HNTB/New Jersey Department of
Transportation | Bergen and Passaic Counties,
New Jersey | Project Manager/Lead Landscape
Architect/Bridge Architect/Urban Designer**

This freeway extension project was developed as three separate assignments for the planning and design of a new 2.5-mile segment of roadway that connected the previous terminus of Route with Route 46 and the garden State Parkway to the north. With this missing link, Route 21's through traffic was taken off the local city streets of Passaic and Clifton thus relieving both traffic congestion and neighborhood impacts. Mr. Grob was responsible for the development of the Visual Impact Assessment, the project's Design Principals and Guidelines report and three phases of contract documents for landscape plans, bridge and noise wall aesthetic treatments and off-site community improvements, enhancements and mitigation. Mr. Grob worked closely with and served on the NJDOT's Visual Enhancement Committee, which included representatives from NJ DOT, NJDEP, and FHWA. The project was the recipient of the Federal Highway Administration's prestigious 2001 Environmental Excellence Award for Excellence in Livable Communities

LIE/Cross Island Parkway Interchange Improvement, Exits 29 and 32 | New York State Department of Transportation Regions 10 and 11 | Queens County, New York | Task Leader, Lead Landscape Architect/Bridge Architect/Urban Designer

Task Leader for the preliminary and final design of landscaping, bridge and noise wall architectural treatments of the project along with the preparation of the project's Visual Resource Assessment. Distinctive and contextually themed architectural detailing for five bridges and ten retaining walls and noise barriers was developed throughout. Portions of the improved interchange design required work to be done within the NYC Department of Parks' environmentally sensitive Alley Pond Park. Mr. Grob coordinated and directed the development and coordination of numerous mitigation measures, such as new entrances to the park, upgrading of pedestrian paths, appropriate architectural finishes for walls and bridges within or adjacent to the park and supplemental landscaping. Special care was taken to minimize impacts to this area and where impacts were unavoidable, supplemental mitigation measures were implemented. One unique feature of the park is its "Tulip Trail", a pathway through one of the last vestiges of the once dominant tulip tree/oak forest association found throughout all Long Island.

Long Island Expressway/Seaford Oyster Bay Expressway Interchange and Service Roads | New York State Department of Transportation Region 10 | Nassau County, New York | Lead Landscape Architect/Bridge Architect/Urban Designer

Mr. Grob was responsible for the preparation of the project's Visual Resource Assessment, landscape plans and bridge and noise wall aesthetic treatment that included detailing needed for the widening of two miles of the Long Island Expressway. Following the principles of the Context Sensitive Design process, extensive community outreach was necessary to change what was initial stakeholder resistance of the project to their eventual endorsement of it. The project included architectural treatments for nine new bridges and over 500,000 square feet of noise and retaining walls.

New NYSTA Headquarters Building | New York State Thruway Authority | | Lead Landscape Architect/Planner

Mr. Grob was responsible for the initial site layout concepts and preparation of the Visual Impact Assessment for a new headquarters building on the northbound side of the Thruway in Albany. Test balloons were utilized to determine at what height a new building could be seen from various strategic vantage points throughout the area. Renderings were prepared to illustrate and analyze various massing scenarios and strategies.

Kew Gardens Interchange Infrastructure Design/Build Pursuit | New York State Department of Transportation Region 11 | Queens, New York | Task Leader, Lead Landscape Architect/Bridge Architect/Urban Designer

Mr. Grob lead the landscape architectural and bridge aesthetics tasks for a design/build pursuit for a major improvement to the Kew Gardens Interchange. The interchange is a complex intersection of the Grand Central Parkway, the Van Wyck Expressway, the Jackie Robinson Parkway and Union Turnpike, serving over 200,000 vehicles daily. As part of the Design/Build pursuit. The work included tree removals, tree protection, soil remediation, and a Landscape Development Plan that included a multi-use path for bicyclist and pedestrians. Additionally, as the bridge architect, he developed plans to utilize the recycled stone from the bridges to be demolished to create stone wall planters and stone benches at key locations on the site.

Millstone Valley Scenic Byway Corridor Management Plan | New Jersey Department of Transportation | Somerset, Mercer and Middlesex Counties, New Jersey | Project Manager and Lead Landscape Architect

The Millstone Valley Scenic Byway corridor is approximately 28 miles in length and lies in the Millstone River Valley of Somerset County, NJ. The historic Delaware and Raritan Canal runs through most of the byway along with the Millstone River. The corridor was designated as a New Jersey Scenic Byway in 2005. Mr. Grob was the Project Manager and Lead Landscape Architect in the development of the Corridor Management Plan needed to become a National Scenic Byway. The corridor was designated as a National Scenic Byway in 2010. The Byway is meant to be a destination in itself, as an enjoyable way for residents and visitors to explore the region by car, bike and on foot. Benefits of Byway Designation include economic development, resource management, tourism coordination, and funding and technical assistance. The plan was a cooperative effort between the NJDOT and the Millstone Valley Preservation Coalition, Somerset County, the D&R Canal Commission, the Townships of Franklin, Hillsborough and Montgomery and the Boroughs of Millstone and Rocky Hill and the Canal Society of New Jersey.

Ocean Parkway and Robert Moses State Park Traffic Circle Emergency Repairs Due To Superstorm Sandy | New York State Department of Transportation Region 10 | Long Island, New York | Task Leader, Lead Landscape Architect

Mr. Grob served as the Lead Landscape Architect in charge of the redesign of the ocean-side and landward –side plantings of the five miles of beach dunes in Robert Moses State Park that were destroyed during Superstorm Sandy. Beginning a just a week after the storm was over and working virtually around the clock for close to three weeks, Mr. Grob directed the completion of planting plans, specifications and estimates to revegetate both sides of the dune to reduce erosion from winds and to protect the barrier island's shoreline from future storm events.

Roslyn Road Bridge | New York State Department of Transportation Region 10 | Mineola, New York | Lead Landscape Architect/Bridge Architect

Mr. Grob was responsible for the design of aesthetic treatments and landscape enhancements for the design of a replacement single-span thru-girder type structure carrying the Long Island Rail Road over Roslyn Road in downtown Mineola in Nassau County.

Mineola Boulevard Bridge | New York State Department of Transportation Region 10 | Mineola, New York | Lead Landscape Architect/Bridge Architect

Mr. Grob was responsible for the design of aesthetic treatments for the design of the Mineola Boulevard grade-separation bridge over the Long Island Railroad. The aesthetic treatments developed for the structure reflect many of the details found in the buildings surrounding the project site, located in downtown Mineola in Nassau County.

New York State Statewide Welcome Center Program | New York State Department of Transportation, Various Regions, New York State Thruway Authority | Lead Landscape Architect/Planner

Mr. Grob was responsible for the initial overall conceptual site plans and landscape designs of the Welcome Center program for all the NYS Office of Tourism's regions throughout the state including building placement, access, vehicle and pedestrian circulation, parking configuration, play area themes and concepts. Additional duties also included oversight of play area final design packages and comprehensive construction support services throughout an accelerated construction schedule.

Long Island Welcome Center | New York State Department of Transportation, Region 10 | Dix Hills, Suffolk County, New York | Lead Landscape Architect/Planner

Responsible for directing all landscape architectural and graphic aspects of this first of many new welcome centers for New York State that are an initiative of the Governor's office, Empire State Development and NYS Department of Ag and Market. The \$20 million facility was constructed in record time: four months from groundbreaking to ribbon cutting. The concept and design details were developed in close collaboration with the Governor and his staff intent on redefining the way tourism could be supported by government. The Welcome Center has more than 5,000 visitors a day at the height of the summer visiting season.

Southern Tier Welcome Center | New York State Department of Transportation Region 9 | Kirkland, Broome County, New York | Lead Landscape Architect/Planner

Mr. Grob was responsible for the initial overall conceptual site and landscape design of improvements to the Southern Tier Welcome Center situated on I-81 just north of the New York/Pennsylvania border. Mr. Grob developed the overall site plan including circulation, access, play area themes and entrance element concepts. Additional duties also included oversight of play area final design package with a nature theme and comprehensive construction support services throughout an accelerated construction schedule.

Capital Region Welcome Center | New York State Thruway Authority | New Baltimore, Greene County, New York | Lead Landscape Architect/Planner

Mr. Grob was responsible for the initial overall conceptual site and landscape design of improvements to the Capital Region Welcome Center situated on the NYS Thruway northbound just south of Albany. Mr. Grob developed the overall site plan including circulation, access, play area themes and entrance element concepts. Additional duties also included oversight of play area final design package with a Saratoga Performing Arts Center musical theme and comprehensive construction support services throughout an accelerated construction schedule.

Mohawk Valley Welcome Center | New York State Thruway Authority | Randall, Montgomery County, New York | Lead Landscape Architect/Planner

Mr. Grob was responsible for the initial overall conceptual site and landscape design of improvements to the Mohawk Valley Welcome Center situated on the NYS Thruway westbound at Lock-13 on the Erie Canal. Mr. Grob developed the overall site plan including circulation, access, play area themes and entrance element concepts. Additional duties also included oversight of play area final design package with an Erie Canal theme and comprehensive construction support services throughout an accelerated construction schedule.

North Country Welcome Center | New York State Department of Transportation Region 7 | Orleans, Jefferson County, New York | Lead Landscape Architect/Planner

Mr. Grob was responsible for the initial overall conceptual site and landscape design of the creation of the North Country Welcome Center situated on I-81 just south of the Thousand Islands Bridge welcoming motorists entering the United States from Canada. Mr. Grob developed the overall site plan including circulation, access, play area themes and entrance element concepts. Additional duties also included oversight of play area final design package with a Boldt Castle theme and comprehensive construction support services throughout an accelerated construction schedule.

Popham Road Bridge Replacement | Scarsdale Public Works Department, Westchester County Department of Public Works | Scarsdale, New York | Lead Landscape Architect/Urban Designer/Bridge Architect

Mr. Grob was the Lead Landscape Architect, Urban Designer and Bridge Architect responsible for overseeing the design of aesthetic treatments developed for the design of the replacement of the Popham Road Bridge over the Metro-North Railroad's Harlem Line. The existing eighty-three-year-old, three-lane bridge, located in the Scarsdale Village Center, was replaced with a new five-lane structure. The aesthetic treatments developed for the structure reflect many of the details found on the buildings surrounding the project site in the Village of Scarsdale and on structures on the adjacent Bronx River Parkway. The single span bridge was replaced with a two-span structure that maintained the character of the Village's train station and residential and retail properties. Mr. Grob was responsible for overseeing the architectural treatments of the bridge structure and retaining walls, as well as the landscape planting design.

Palisades Interstate Parkway Trailway and Bicycle Path | New York State Department of Transportation Region 8. | New York and New Jersey | Project Manager/Senior Landscape Architect

Mr. Grob was the Project Manager and Senior Landscape Architect for NYSDOT Phases I-IV for a 26-mile, Class I bike path along the Palisades Interstate Parkway (PIP). The path was designed to extend from the NY/NJ Border to the Bear Mountain Bridge and included the design of the bike path, modifications to existing bridge structures, barrier separation for vehicular and bridge traffic, landscape and signing, and a community participation program.

PUBLICATIONS

Context Sensitive Design Makes New Jersey Roads People-Friendly. *New Jersey Municipalities*, 2002.

Former Brownsfield Site Becomes Scenic Waterfront Park. *Public Works*, 2002.

A Sound Solution? Expressway Noise Walls Can Fix Some Community Problems – While Causing Other. *Planning*, 2001.

Breathing New Life...The Design of Streetscapes. *Landscape Architect and Specifier News*, 1999.

A New Dimension; Acoustic Barriers Will Reduce Highway Noise: They Must Also Look Right. *World Highways*, 1999.

Integrating a Freeway Into an Urban Community. *Public Works*, 1997.

Restore Aesthetics as Design Priority. *Road and Bridges*, 1998.

Capital Improvements In BID's Enhance Property Values. *New York Real Estate Journal*, 1997.

Create Site Planning, Landscaping are Keys to Enhancing a Development's Value. *Real Estate Weekly*, 1998.

Video Composite Imaging Helps Involve Residents in Urban Design. *Road and Bridges*, 1995.

Barbara Nazarewicz RLA

Registered Landscape Architect
9 years of experience

Barbara holds a B.S. in Landscape Architecture from the University of California, Davis and an A.S. with honors in Horticulture from Foothill College. Barbara is a Registered Landscape Architect and has experience working on projects ranging in scale from mega-blocks in China to intimate residential spaces. In her work she is inspired by the local community's assets, and potential, with the intention of creating public spaces that promote people's health, happiness, and well-being. While in college, she was the Student Representative to the ASLA Board of Trustees and supported legislative efforts in Washington, DC. Afterwards she supported Sierra and Northern California ASLA Chapters in similar efforts in Sacramento before moving to the East Coast. Here she served as a Chair of the Boston AIA Women in Design Group (WID), where she championed the Negotiation Series workshops. She is also a founder of professional networking community LocalxDesign in the Albany, NY. Barbara is a member of Boston and Upstate NY ASLA Chapters.

EDUCATION

A.S. with Honors, Environmental Horticulture and Design, Foothill College, Los Altos Hills, CA, 2008

B.S. Landscape Architecture, University of California, Davis, Davis, CA, 2011

REGISTRATIONS

Registered Landscape Architect #2728, State of New York

Registered Landscape Architect #4285, Commonwealth of Massachusetts

Licensed Landscape Architect #1369, State of Connecticut

AWARDS

2020 American Council of Engineering Companies (ACEC) of New York Engineering Excellence Awards, Diamond Award, Category A: Studies, Research and Consulting Engineering Services, Albany Skyway

2020 Connecticut Chapter of the American Society of Landscape Architects (CTASLA) Professional Awards Honor Award, Landscape Planning & Analysis, Albany Skyway

2020 BSLA Merit Award in General Design, Arsenal on the Charles

2016 BSLA Merit Award in Residential Design, Reservoir Overlook*

PROJECT EXPERIENCE

Hudson River Recreation Areas | NYS OPRHP | Athens and Cocksackie, New York, United States | Landscape Architect

Albany Skyway | Capitalize Albany Corporation | Albany, New York, United States | Landscape Architect

Lowell Data Center | Lowell, Massachusetts | Landscape Architect

Adirondacks Welcome Centers | New York State Department of Transportation | Queensbury and New Baltimore, New York, United States | Landscape Architect

Arsenal on the Charles—New West Garage, Building 2 and Pocket Park | athenahealth | Watertown, Massachusetts | Landscape Architect

Worcester Polytechnic Institute - Kaven Hall Rehabilitation | Worcester, Massachusetts | Landscape Architect

Tufts Medical Center Campus Revitalization | Boston, Massachusetts | Landscape Architect

DCR Maudslay State Park Restoration Master Plan* | Newburyport, Massachusetts | Landscape Architect

Modera Residences | Mill Creek Residential Trust | Framingham, Needham, and Marshfield, Massachusetts | Landscape Architect

Multi-Family Residences | Fairfield Residential | Marlborough, Stoneham, and Franklin, Massachusetts | Landscape Architect

Jewish Community Housing for the Elderly | Brighton, Massachusetts | Landscape Architect

Cape Cod Rail Trail Re-design | Massachusetts Department of Conservation & Recreation | Dennis - Wellfleet, Massachusetts | Landscape Architect

Route 151 (Nathan Ellis Highway) Corridor Improvements | Massachusetts Department of Transportation | Mashpee, Massachusetts | Landscape Architect

* denotes projects completed with other firms

ATTACHMENT H SERVICE LIGHTING SPECIFICATIONS





HLF1

High Lumen LED Floodlight



Catalog
Number

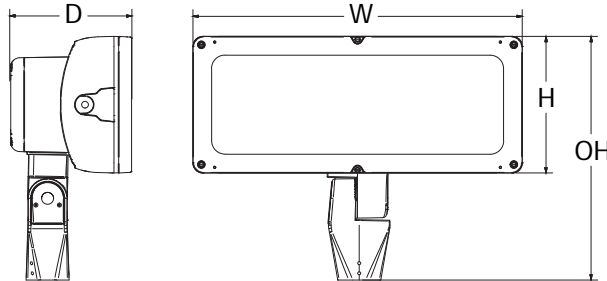
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: (ft ² @ 45°)	3.5 ft ² (0.33 m ²)
Depth:	9.1" (23.1 cm)
Width:	24.5" (62.2 cm)
Height:	10.2" (25.9 cm)
Overall Height:	18.1" (46.0 cm)
Weight: (IS mount)	53 lbs (24.0 kg)



Introduction

The HLF LED Flood family offers maximum versatility for high output floodlighting design and renovation applications. HLF precision optics offer vast design capabilities while delivering significant energy savings and long life. The HLF1 delivers 25,000 to 50,000 lumens allowing it to replace 400W and 1000W HID floodlights.

The HLF features an adjustable integral slipfitter that allows the luminaire to be mounted on a 2-3/8" OD tenon. Integral cover/wire box serves as an approved splice compartment allowing for fast, easy mounting and wiring without opening the electrical compartment. A steel yoke mount with water-tight SO cord is also available. All configurations are made in North America allowing for quick delivery.

Ordering Information

EXAMPLE: HLF1 LED P5 40K WFL MVOLT IS DDBXD

HLF1 LED					
Series	Performance package	Color temperature	Distribution	Voltage	Mounting
HLF1 LED	P1	30K 3000 K	WFL Wide flood (7x7)	MVOLT ²	Shipped included IS Integral slipfitter (fits 2-3/8" O.D. tenon) YKC64 Yoke with 4ft, 16-3 SO cord
	P2	40K 4000 K	MFL Medium flood (6x6)	120 ³	
	P3	50K 5000 K	MNFL Medium narrow flood (68°)	208 ³	
	P4 ¹		NFL Narrow flood (43°)	240 ³	
	P5 ¹		SP Spot (29°)	277 ³	
			NSP Narrow spot (18°)	347 ³	
				480 ³	
Options			Finish (required)		
Shipped installed PER7 Seven-wire receptacle only (controls ordered separate) ^{4,5} SF Single fuse (120, 277, 347V) ³ DF Double fuse (208, 240, 480V) ³ DMG 0-10V lead wires extended (no controls) ⁶			Shipped Separately (requires some field assembly)⁷ UBV Upper/bottom visor (universal) FV Full visor WG Wire guard VG Vandal guard (polycarbonate)		
			DDBXD	Dark bronze	
			DBLXD	Black	
			DNAXD	Natural aluminum	
			DWHXD	White	



COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
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HLF1
 Rev. 11/23/2020
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Ordering Information

Accessories

Ordered and shipped separately.

FTS CG6 (FINISH) U	Slipfitter for 2-3/8" to 2-7/8" OD tenons; mates with yoke mount (specify finish)
HLF1WG (FINISH) U	HLF1 wire guard (specify finish) ⁷
HLF1FV (FINISH) U	HLF1 full visor (specify finish) ⁷
HLF1UBV (FINISH) U	HLF1 upper/bottom visor (specify finish) ⁷
HLF1VG (FINISH) U	HLF1 vandal guard (clear polycarbonate, specify finish for mounting brackets) ⁷
DSHORT SBK U	Shorting cap ⁸
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ⁸
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ⁸
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ⁸

NOTES

- Performance package P4 and P5 is not available with MNFL, NFL, SP, NSP.
- MVOLT driver operates on any line voltage from 120-277V.
- Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
- For units with a photocontrol receptacle, the mounting must be restricted to $\pm 45^\circ$ from horizontal aim per ANSI C136.10-2010.
- Compatible with standard twist-lock photocells for dusk to dawn operation or advanced control nodes that provide 0-10V dimming signals. Wire 4/Wire 5 wired to dimming leads on driver. Wire6/Wire7 capped inside luminaire.
- Not available with option PER7.
- Can be ordered separately as an accessory. Requires in-field assembly. Guards and visors limited to one accessory type installed on lens frame at any given time.
- Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

Mountings/External Shields/Accessories

Mountings



IS - Adjustable Slipfitter
(fits 2-3/8" O.D. tenon)



YKC64 - Yoke with
16-3 SO cord, 4ft



UBV Visor
Top Mounted



UBV Visor
Bottom Mounted



FV - Full Visor



VG- Vandal Guard

Accessories

Accessories/Optics

Accessories



WG - Wire Guard



Yoke with FTS CG6
(Yoke tenon adapter)
Accessory

Optics



Internal Reflectors
(WFL, MFL)



Hybrid silicone optics
(MNFL, NFL, SP, NSP)

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Reported LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient and hours of LED testing (tested per IESNA LM-80-08 and reported per IESNA M-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the luminaire performance package below. For other lumen maintenance values, contact factory.

Optic Type	Performance Package	TM-21 Percent Lumen Maintenance at 60,000 hrs
WFL, MFL	P1 / P2	90%
	P3	88%
	P4 / P5	86%
MNFL, NFL, SP, NSP	P1	89%
	P2	88%
	P3	85%

Electrical Load

Performance Package	System Watts (W)	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	163	1.36	0.79	0.68	0.59	0.47	0.34
P2	203	1.69	0.98	0.85	0.73	0.58	0.42
P3	289	2.41	1.39	1.20	1.04	0.83	0.60
P4	342	2.86	1.65	1.43	1.24	0.99	0.71
P5	368	3.06	1.77	1.53	1.33	1.06	0.77

EPA Table

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Tilt	EPA (ft²)
0°	2.4
15°	2.5
30°	2.8
45°	3.5
60°	3.6
90°	3.6



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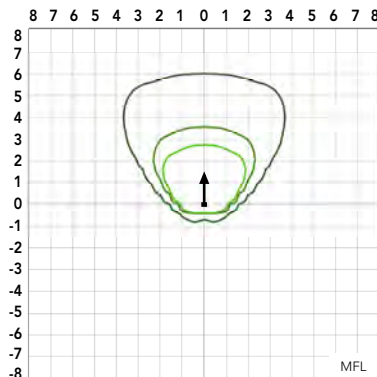
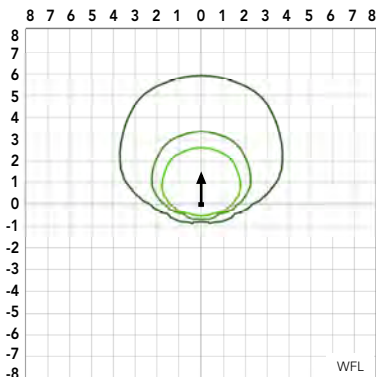
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Isofootcandle plots.

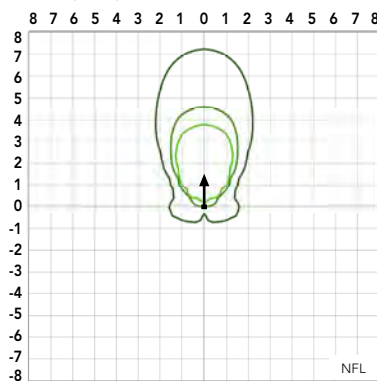
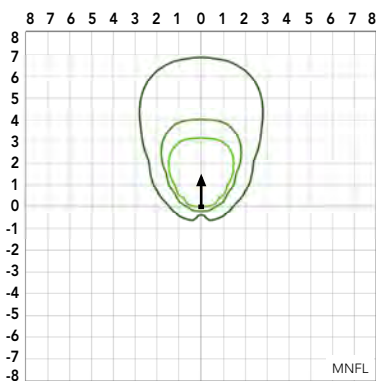
LEGEND



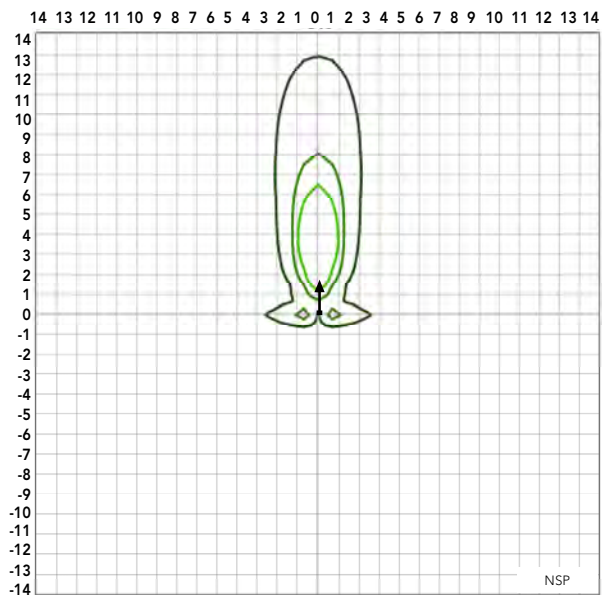
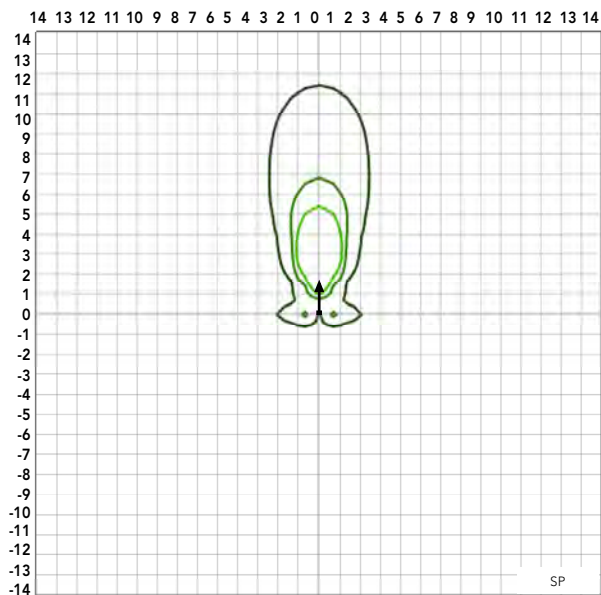
HLF1 LED P5 50K - Luminaires tilted at 45° at 30ft mounting height



HLF1 LED P3 50K - Luminaires tilted at 60° at 30ft mounting height



HLF1 LED P3 50K - Luminaires tilted at 80° at 30ft mounting height



Performance Data

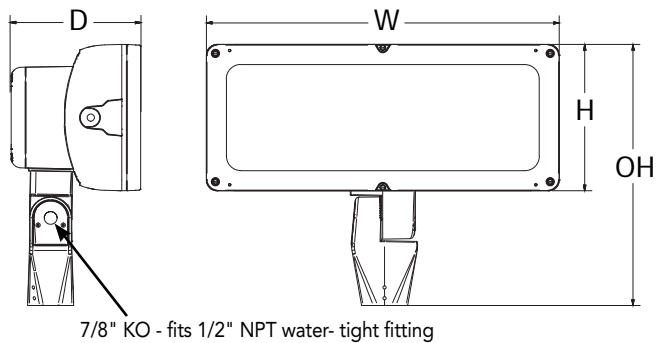
Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within allowed tolerances. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Distribution Type	NEMA Type	Field Angle		Beam Angle		30K (3000K, 70 CRI)			40K (4000K, 70 CRI)			50K (5000K, 70 CRI)		
				°H	°V	°H	°V	Lumens	LPW	Max Cd	Lumens	LPW	Max Cd	Lumens	LPW	Max Cd
P1	163	WFL	7 X 7	145	135	106	105	23,431	143	9,010	23,867	146	9,178	24,300	149	9,345
		MFL	6 X 6	116	124	95	100	24,342	149	10,073	24,795	152	10,261	25,245	154	10,447
		MNFL	5 X 5	93	91	67	68	23,603	145	19,663	24,040	148	20,027	24,477	151	20,392
		NFL	4 X 4	65	61	43	37	24,022	148	47,978	24,467	151	48,867	24,912	153	49,756
		SP	4 X 4	49	47	29	28	23,769	146	85,251	24,210	149	86,830	24,650	152	88,410
		NSP	3 X 3	38	38	19	18	23,637	146	148,604	24,075	148	151,357	24,513	151	154,111
P2	203	WFL	7 X 7	145	135	106	105	28,300	139	10,883	28,827	142	11,086	29,350	145	11,287
		MFL	6 X 6	116	124	95	100	29,400	145	12,166	29,948	148	12,393	30,491	150	12,618
		MNFL	5 X 5	93	91	67	68	28,317	140	23,591	28,842	143	24,028	29,366	145	24,465
		NFL	4 X 4	65	61	43	37	28,820	143	57,562	29,354	145	58,628	29,888	148	59,695
		SP	4 X 4	49	47	29	28	28,517	141	102,280	29,046	144	104,175	29,574	146	106,070
		NSP	3 X 3	38	38	19	18	28,359	140	178,287	28,884	143	181,591	29,410	145	184,894
P3	289	WFL	7 X 7	145	135	106	105	37,237	129	14,320	37,931	131	14,587	38,619	134	14,851
		MFL	6 X 6	116	124	95	100	38,685	134	16,009	39,406	137	16,307	40,121	139	16,603
		MNFL	5 X 5	93	91	67	68	37,172	129	30,968	37,861	131	31,542	38,550	134	32,115
		NFL	4 X 4	65	61	43	37	37,833	131	75,562	38,534	134	76,962	39,235	136	78,362
		SP	4 X 4	49	47	29	28	37,435	130	134,264	38,129	132	136,752	38,822	135	139,239
		NSP	3 X 3	38	38	19	18	37,227	129	234,040	37,917	132	238,377	38,606	134	242,713
P4	342	WFL	7 X 7	145	135	106	105	42,205	123	16,230	42,991	126	16,533	43,771	128	16,833
		MFL	6 X 6	116	124	95	100	43,846	128	18,144	44,663	130	18,482	45,473	133	18,818
P5	368	WFL	7 X 7	145	135	106	105	48,285	131	18,569	49,185	134	18,914	50,077	136	19,258
		MFL	6 X 6	116	124	95	100	50,162	136	20,758	51,097	139	21,145	52,024	141	21,529

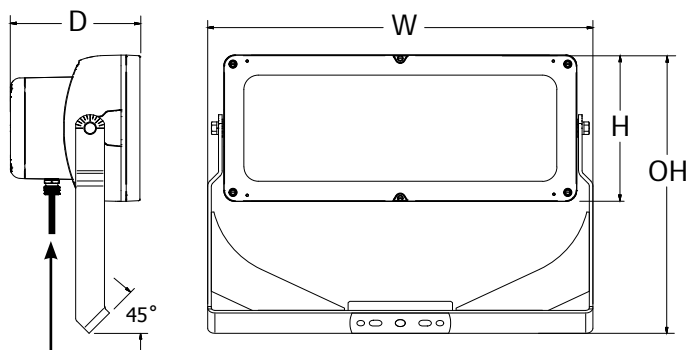
Dimensions

HLF1 with Adjustable Slipfitter (IS)



Width: 24.5" (62.2 cm)
 Depth: 9.1" (23.1 cm)
 Height: 10.2" (25.9 cm) main body
 Overall: 18.1" (46.0 cm) with arm
 Weight: 53 lbs (24.0 kg)

HLF1 with Yoke (YKC64)

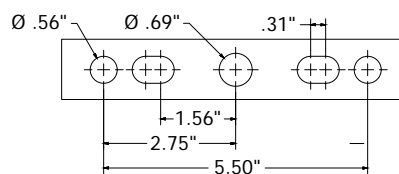


Note: Standard cord is 16-3 wire, 4 ft cord. Other lengths can be specified.
 Ex: YKC64

YK = Yoke Mount
 C6 = 16 gage, 3 wire cord
 4 = 4 feet (5 = 5ft, 6 = 6ft, etc.)

Width: 26.8" (68.1 cm)
 Depth: 9.1" (23.1 cm)
 Height: 10.2" (25.9 cm) main body
 Overall: 19.3" (49.0 cm) with arm
 Weight: 60 lbs (27.2 kg)

Yoke (YK) Mounting Detail



Pole Mounting Information

Accessories including bullhorns, cross arms and other adapters are available on pages 5-7. For the complete line of accessories available, visit the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit [Accessories](#).

FEATURES & SPECIFICATIONS

INTENDED USE

The contemporary design of the HLF LED High Lumen Floodlight embodies high performance LED technology with precision optics offering maximum versatility in designing for high output lighting applications. The HLF1 delivers 25,000 to 50,000 lumens. It is ideal for commercial applications including new construction or replacing 400W to 1000W HID floodlights. HLF may be used for lighting large signage, monuments, large building facades large yards, recreational sports fields and many other commercial applications.

CONSTRUCTION

The HLF LED floodlight features rugged die-cast aluminum construction with integral heat sink fins that optimize thermal management through conductive and convective cooling. A die-cast isolated driver compartment protects LED drivers that are mounted in direct contact with the casting away from the LED heat source, to promote low operating temperature and long life. Integral adjustable slipfitter mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box for easy installation. The heat sink, housing, lens frame and driver compartment are sealed against moisture and environmental contaminants to IP66. HLF1 is 1.5G vibration rated per ANSI C136.31.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

OPTICS

HLF features both specular aluminum and silicone based "hybrid" type optics that are engineered for superior field-to-beam ratios, uniformity, and spacing. Seven photometric distributions are available including wide pattern distributions Wide Flood, Medium Flood, and narrow pattern distributions Medium Narrow Flood, Narrow Flood, Spot and Narrow Spot. Optional visors minimize uplight and reduce light trespass.

ELECTRICAL

Light engines consist of chip-on-board (COB) LEDs directly coupled to the housing to maximize heat dissipation and promote long life. LED lumen maintenance is >L86/60,000 hours for WFL/MFL optics and >L85/60,000 hours for Hybrid optics. CCT's of 3000K, 4000K, and 5000K (minimum 70 CRI) are available. Class 1 electronic drivers ensure system power factor: 90% and THD <20%. Serviceable 10kV surge protection device meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

CONTROLS

HLF features an optional NEMA twist-lock 7-pin photocell receptacle that is compatible with standard twist-lock photocells for dusk to dawn operation or advanced control nodes that provide 0-10V dimming signals. Standard wiring will be per following: Wire 1/2/3 as normal (hot input, switch leg and neutral). Wire 4/Wire 5 wired to dimming leads on driver. Wire 6/Wire 7 capped inside luminaire.

INSTALLATION

The die-cast integral "IS" mount features an adjustable slipfitter that mounts on a 2 3/8" OD tenon and features a 0° to 185° full range tilt adjustment in 5° increments. The slipfitter has an integral junction box and offers easy installation, wiring and precision distribution pattern aiming. A steel yoke "YK" mount (die-formed 1/4" thick plate steel) is available and includes a water tight cord grip and cord. HLF features a glass lens enclosure that is protected to IP66 and is rated for lighting aimed up above 90°. Suitable for mounting within 4 feet of ground.

LISTINGS

CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



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