



**Revised Exhibit 15: Agricultural
Resources**

Cider Solar Farm
Towns of Oakfield and Elba
Genesee County, New York

Matter No. 21-01108

September 2021

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Abbreviations

A-R	Agricultural Residential District
L-C	Land Conservation District
LU/LC	land use/land cover
MHO	Mobile Home Overlay Zone
MSG	Mineral Soil Group
MW	megawatt
NLCD	National Land Cover Database
NYCRR	New York Codes, Rules, and Regulations
NYS	New York State
NYSDAM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
ORES	Office of Renewable Energy Siting
R&A	Residential and Agriculture District

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Glossary of Terms

Applicant	Hecate Energy Cider Solar LLC
Environmental Monitor	An Applicant designee that oversees Project construction, restoration, and monitoring in agricultural areas and serves as the agricultural point of contact and acts as a liaison between landowners, Project construction personnel, and New York State Department of Agriculture and Markets regarding agriculture-related matters for the Project.
Project	Refers to the proposed Cider Solar Farm, an up to 500-megawatt utility scale solar project that will be comprised of photovoltaic panels, inverters, access driveways, electrical collection lines, point of interconnection/substation, construction staging areas, fencing and plantings, located on private land in the towns of Elba and Oakfield, Genesee County, New York.
Project Area	Refers to the Project Site and surrounding/adjacent land totaling approximately 7,518 acres.
Project Footprint	Refers to the limit of temporary and permanent disturbance within the Project Site caused by the construction and operation of all components of the Project totaling approximately 2,452 acres.
Project Site	Refers to those privately owned parcels under option to lease, purchase, easement or other real property interests with the Applicant in which all Project components will be sited totaling approximately 4,650 acres.
Study Area	Refers to the area evaluated for specific resource identification and/or resource impact assessment. The size of this area is appropriate for the target resource and takes into account the project setting, the significance of resource or impact being identified or evaluated, and the specific survey distances included in Chapter XVIII, Title 19 of NYCRR Part 900. As appropriate, the Study Area for each type of survey or resource impact assessment is provided in the respective sections within the Application.

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The content of Exhibit 15 is provided in conformance with Chapter XVIII, Title 19 of the New York Codes, Rules, and Regulations (NYCRR) § 900-2.16, as follows.

a) Agricultural Study Area

19 NYCRR § 900-2.16(a) and (b) requires an assessment within the study area, with data sets, and mapping/illustrations information at the both the tax parcel level and/or the site level. Pursuant to 19 NYCRR § 900-1.2(bx), "Study area means the area generally related to the nature of the technology and the setting of the proposed site. Unless otherwise provided in this Part, for facilities within components spread across a rural landscape, the study area shall at a minimum include the area within a radius of at least five (5) miles from all generating facility components, interconnections and related facilities." Therefore, this section includes an assessment of agricultural land use within five miles of the Project Site, unless otherwise noted or required in 19 NYCRR §900-2.16.

1) Lands within NYS Certified Agricultural Districts

According to data gathered from the Cornell Institute for Resource Information Science and New York State Department of Agriculture and Markets (NYSDAM; 2018), the vast majority of the Project Area (6,588 acres; 84%) is located within Genesee County Agricultural District #2. The Project Area includes a total of approximately 7,845 acres, while the Project Site includes approximately 4,650 acres, and the Project Footprint is comprised of approximately 2,452 acres. Approximately 2,434 acres (99%) of the Project Footprint is located within Agricultural District #2. Figure 15-1a: *Agricultural Districts Within 5-Mile Study Area* depicts certified Agricultural Districts within the 5-mile Study Area.

Within Genesee County, approximately 64% of lands are located within a State-certified Agricultural District (Genesee County 2017). Within the Study Area in Genesee County, approximately 75% of lands are located within a State-certified Agricultural District. Genesee County manages the Agricultural District program, including the inclusion and removal of specific parcels from the Districts, as well as the required eight-year review/renewal process. The County is currently undertaking a review of properties in their respective Agriculture Districts and is observing continued participation at a high level (Genesee County 2017). Within Orleans County, approximately 46% of lands are located within a State-certified Agricultural District and approximately 60% of lands within the Study Area in Orleans County are located within a State-certified Agricultural District (Orleans County, 2017).

2) Lands Receiving Real Property Agricultural Value Assessment

This section contains an assessment of land within the Project Site receiving Real Property Agricultural Value Assessment. Per the Department of Taxation and Finance Report released by the NYS Department of Taxation and Finance dated July 2021, certain parcels in NYS are exempt from real property taxation in NYS, allowing for an assessment other than market value. Certain agricultural land is eligible for assessment and determined by the NYS Office of Real Property Tax Services on an annual basis. Certain agricultural land can be eligible for tax exemption code 41720 benefits. The Exemption code 41720 numbering signifies that the property is a private owner, exemption limited by State law in amount, duration, or tax purpose; meets exemption statute for county, and city/town purposes, county purposes, or village purposes, and the last digit of the number signifies the exemption was granted and is

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exempt for county, city/town and school purposes. The parcels granted exemption code 41720 within the 5-mile Study Area are depicted on Figure 15-1b: *Agricultural Tax Parcel Exemption Code 41720 Within 5-Mile Study Area*.

For the Project Site, information on the current parcels receiving Real Property Agricultural Value Assessments by tax parcel number and the year by which each parcel may be subject to payment under Agricultural District Law within the Project Site is provided in Table 15-1: *Lands Receiving Real Property Agricultural Value Assessment*.

Table 15-1: Lands Receiving Real Property Agricultural Value Assessment

Project Site Parcel ID	Subject to Real Property Agricultural Value Assessment (Year-end)
Town of Elba	
12.-1-10.2	This parcel is not currently subject to real property agricultural value assessment
13.-1-73	2024
13.-1-99.11	2024
14.-1-39	2024
14.-1-41	2027
14.-1-42.1	2024
16.-1-1.111	2024
16.-1-15.1	2024
16.-1-18.11	2024
16.-1-19.113	2024
16.-1-2.1	2024
16.-1-22	2024
16.-1-26.1	2024
16.-1-26.2	2024
16.-1-29.11	2024
16.-1-30.11	2024
16.-1-30.12	2024
16.-1-31.11	2024
16.-1-35	2024
16.-1-38	This parcel is not currently subject to real property agricultural value assessment
16.-1-7.21	2024
16.-1-8.112	2024
16.-1-9	2024
17.-1-1.2	2024
17.-1-13.11	2024

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Project Site Parcel ID	Subject to Real Property Agricultural Value Assessment (Year-end)
17.-1-2	2024
17.-1-35	2024
17.-1-46.11	2024
17.-1-49.1	2024
17.-1-69	2024
17.-1-73.21	This parcel is not currently subject to real property agricultural value assessment
17.-1-77.2	2027
17.-1-80.211	2024
17.-1-88	2024
17.-1-96.1	2024
19.-1-55.111	2024
19.-1-63.12	2024
19.-1-63.222	2024
19.-1-64.111	2024
19.-1-9	2024
Town of Oakfield	
11.-1-32	2024
11.-1-33.1	2028
11.-1-34.21	2024
11.-1-34.22	This parcel is not currently subject to real property agricultural value assessment
11.-1-35.11	2024
12.-1-1.2	2024
12.-1-10.1	2024
12.-1-11.1	2024
12.-1-11.2	2024
12.-1-27.21	This parcel is not currently subject to real property agricultural value assessment
12.-1-29.1	2024
12.-1-30	2024
12.-1-32.111	2024
12.-1-34.1	2024
12.-1-4.12	2024
12.-1-42	2024
12.-1-5.2	2024
12.-1-56	2024

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Project Site Parcel ID	Subject to Real Property Agricultural Value Assessment (Year-end)
12.-1-6.11	2024
12.-1-61.12	2024
12.-1-62.11	2024
12.-1-63	2024
12.-1-65.11	2024
12.-1-7	2024
12.-1-8	2024
13.-1-40	2024
13.-1-8	2024

Source: Genesee County 2020a, 2020b.

3) Municipal Zoning Districts

As described in Exhibit 3, the Project Area is located within the Towns of Elba and Oakfield and to the north of the Villages of Elba and Oakfield. The portion of the Project Area within the Town of Elba is located in the Agricultural Residential (A-R) District. A very small section of the southeastern boundary of the Project Area intersects a Mobile Home Overlay (MHO) Zone; however, no Project components will be located within the MHO Overlay Zone. The portion of the Project Area located within the Town of Oakfield is located on lands zoned as Residential and Agriculture (R&A) District and Land Conservation (L-C) District. Within the towns, there are no overlay districts designated for renewable energy. A detailed depiction of existing zoning districts within the Towns of Elba and Oakfield is included in Figure 3-4a: *Zoning Districts* within Exhibit 3: *Location of Facilities and Surrounding Land Use* of this Application.

As discussed in Exhibit 3 of this Application, there are eleven municipalities outside of the Project Area, but within the 5-mile Study Area. These municipalities include the towns of Shelby, Barre, Clarendon, Alabama, Byron, Pembroke, Batavia, Strafford, City of Batavia, and Villages of Elba and Oakfield. The primary zoning districts in these eleven municipalities are Agricultural Residential (A-R, AG-R) and Agricultural (AG). A detailed depiction of existing zoning districts for these municipalities is included in Figure 3-4b: *Zoning Districts within the 5-mile Study Area* in Exhibit 3.

Exhibit 3 of this Application also summarizes the existing zoning districts for the Towns of Elba and Oakfield, including a description of each zoning district and the permitted and prohibited uses within each district. Appendix 3-A(1) in Exhibit 3 contains the local zoning laws and ordinances and zoning districts for the Towns of Oakfield and Elba. Exhibit 3, Appendix 3-A(2) provides the local zoning laws and ordinances and zoning districts for the eleven towns within the 5-mile Study Area..

4) Farmland Classification Mapping

According to NLCD data, the dominant landcover class in the Project Site is active agriculture, followed by forestland. Agricultural lands in the Project Site are comprised of active agricultural land (both row crops and mowed/maintained hayfields) and there are numerous family and commercial farms and farm structures in the Project Site. Row crops comprise approximately 68% (3,143 acres) of the Project Site,

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and less than 1% (23 acres) of the total Project Site is maintained hayfields. Additionally, there is approximately 3.5% (161 acres) of the Project Site where the dominant land cover is grasslands or pasturelands.

Relative to agricultural soils, the Project Site includes approximately 41% (1,912 acres) of land classified as Prime Farmland, 27% (1,252 acres) as Prime Farmland if Drained, 19% (891 acres) as Farmland of Statewide Importance, and 13% (596 acres) as Not Prime Farmland (Natural Cooperative Soil Survey 2020). A map of the existing farmland classifications within the broader Project Area is included as Figure 15-3: *Prime Farmlands and Drainage Features*. A discussion of how the Project will avoid or minimize impacts to agricultural production areas and the effects the Project has on use of the land for future farming operations is included in Section (b)(3) of this Exhibit.

5) Existing Energy Infrastructure and Completed Renewable Energy Facilities

Revised Figure 15-2: *Existing Utilities and Agricultural Businesses Within 5-Mile Study Area* illustrates known existing major existing electric and gas energy facilities within the 5-mile Study Area. There are two aboveground electric transmission lines (owned and operated by New York Power Authority), and one underground gas transmission line (owned and operated by Empire Pipeline) within the Project Site. Each of these linear facilities crosses the Project Site east to west, north of Lockport Road. As discussed in Exhibit 20: *Effect on Communications* of this Application, all underground utilities within the Project Footprint will be identified and located prior to construction and will be avoided during construction activities in order to avoid impacts to existing lines.

Based upon publicly available information, there are no other completed utility scale renewable energy facilities occurring within the Project Area or within a mile of the proposed Project Footprint. Based upon a review of the New York State Department of Public Service and ORES websites, as if the time of this Application, there are three proposed renewable energy facilities located in Genesee County and neighboring Orleans County. These include the 280-MW Excelsior Energy Center in the Town of Byron located approximately two (2) miles east; the 200-MW Orleans Solar Project in the towns of Barre and Shelby located approximately three (3) miles northwest; and the 200-MW Heritage Wind Project in the Town of Barre located approximately one and a half (1.5) miles north. Figure 7 in Appendix 8-A depicts the proposed utility scale renewable energy facilities within 5-miles of the Study Area.

6) Active Agricultural Businesses and Related Infrastructure

The Project Site is located within Genesee County Agricultural District #2 and includes approximately 3,166 acres (68%) of land designated as actively farmed.

Active agricultural infrastructure was identified with 5-miles of the Project Site. This infrastructure is depicted on Revised Figure 15-2 and includes structures typical to small-scale agricultural operations. Agricultural-related business operations located on participating parcels within the Project Site include Big O Realty LLC, Call Farms Inc. (including Wildlands LLC), CY Properties LLC, JoDee Farms LLC, Norton Farms Inc, Oak Orchard Dairy LLC, Offhaus Farms Inc., Triple B Farms LLC, Porter Farms, LLC, Sinemus Farms, and Provitello, LLC, Additional operations within the Project Area, but outside of the Project Site (i.e., on non-participating parcels), include Lamb Farms and Torrey Farms, L Brooke Farms,

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Inc., My-T acres, Inc., Underhill Farms FM, and Stymus Farms, LLC. . A discussion of how the Project will impact agricultural soils and the effects the Project has on use of the land for future farming operations is included in Section (b)(3) of this Exhibit, below.

In addition, Figure 15-1b depicts parcels within 5-miles of the Study Area having tax exemption code 41720. A requirement for this tax exemption code is “Seven or more acres of land used as a single operation for the production for sale of crops, livestock, or livestock products, exclusive of woodland products, which does not independently satisfy the gross sales requirement but has been used in such production for the preceding two years and is currently being so used under a written rental arrangement of five or more years in conjunction with land which is eligible for an agricultural assessment.” (Assessor Manuals, Exemption Administration: AGML Section 305 available online: https://www.tax.ny.gov/research/property/assess/manuals/vol4/pt2/sec4_08/sec305.htm).

7) Potential Construction Impacts and Methods to Facilitate Farming During Construction

Potential impacts to agricultural land during construction will occur primarily from equipment movement and the installation of Project components including solar panels, mounting posts, inverters, access roads, buried electrical collection lines, temporary construction laydown areas and the substation. Most of these impacts will displace farming practices on agricultural lands during the operational life of the Project, while some construction activities will only create temporary disturbances to farming activities.

Although the solar panels and maintained areas, i.e., those areas within the fenceline not covered by panels or another project component, will cover approximately 2,178.9 acres total and 2,159 acres of active agricultural land, only 0.9 acres of permanent ground disturbance will occur for the installation of racking systems and associated steel posts. The Project’s racking system will be pile-driven to minimize subsurface ground disturbance. Areas under panel arrays would be taken out of agricultural production during the operational life of the Project, estimated to be a maximum of 30 years. Once Project construction has been completed, a native seed mixture will be used as ground cover to enable soil recovery, replenish soil nutrients and mitigate soil erosion. The Project will avoid using pesticides and herbicides, to the extent practicable,¹ and surface grading will be limited to the minimal amount necessary to accommodate panel areas, access road and substation areas. A total of 2,159 acres of land will be removed from agricultural use during the operational life of the project. However, once decommissioned, agricultural land sited within the Project Footprint will be restored and able to return to its prior land use condition.

Traditional row crop agricultural use is not anticipated to resume within the Project Footprint during operation. However, throughout Project development, the Applicant has engaged with participating landowners to site Project components in a manner that will allow landowners to continue using the remainder of their land outside of the fence and Project Footprint for agricultural purposes. The Project enables the agricultural land to be used for solar energy production, which will ensure that parcels remain intact during the life of the Project, rather than being sold or subdivided for other purposes. This allows for

¹ Measures that may be necessary to prevent the introduction of invasive species are further discussed in Exhibit 13: *Water Resources and Aquatic Ecology* of this Application.

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continued agricultural use on parcels excluded from the Project by the participating landowners and protects the viable agricultural land for future use at the end of the Project's useful life.

8) Temporary and Permanent Impacts on Agricultural Production Areas

Impacts on agricultural production areas for the life of the Project include the construction of solar arrays, inverters, access roads, substation, and switchyard and associated fencing and access roads, as depicted on Figure 15-3. Temporary impacts would result from the installation of construction laydown areas, and disturbance from installation of some buried collection lines outside of the fence which are located in agricultural areas. There would be minimal permanent impacts (less than one acre) on agricultural production areas, as described in the following paragraph, as the Project will be decommissioned, and the Project Site will be restored in accordance with the Applicant's *Decommissioning and Site Restoration Plan* (Appendix 23-A of this Application). During the operation of the Project, the Applicant will comply with its Agricultural Plan (see Section (c) of this Exhibit, below). Together, these plans will ensure that agricultural production areas can resume on the Project Site after decommissioning.

Approximately 2,159 acres of agricultural disturbance, including both temporary and permanent disturbance, are anticipated to occur within the Project Footprint. The temporary disturbance will be caused by grading and laydown areas. The Project will likely select a panel system that will not require grading in the panel areas. However, proposed contours depicted in the Design Drawings take into consideration the conservative grading approach to achieve a 7% maximum slope throughout the panel areas, totaling approximately 291 acres. Moreover, not all agricultural production areas within the Project Footprint will be physically disturbed. For example, areas under panels are not disturbed, although taken out of agricultural operation during the life of the Project. Additionally, access roads will impact approximately 47 acres (less than 1%) of agricultural lands; inverters will impact less than 1 acre (less than 0.1%) of agricultural lands; and the substation and switchyard will impact 5.4 acres (0.3%) of agricultural lands within the Project Footprint. At the conclusion of operation, the Project Site can be returned to its current state for future agricultural uses, as further discussed in the *Decommissioning and Site Restoration Plan*.

The Applicant has made significant efforts to minimize impacts to existing and future use of agricultural lands within the Project Site through minimization of the Project Footprint and less intrusive construction methods. To ensure impacts to agricultural lands are minimized to the maximum extent practicable, the Project will comply with the NYSDAM Guidelines for Solar Energy Projects – Construction Mitigation for Agricultural Lands requirements, dated October 18, 2019 ("NYSDAM Guidelines"). Refer to Section (c) of this Exhibit for detail on the Applicant's Agricultural Plan to avoid, minimize, and mitigate agricultural impacts to active agricultural lands, to the maximum extent practicable, consistent with NYSDAM Guidelines.

During earth moving activities, best management practices, such as erosion and sediment controls and stormwater management, will be utilized to stabilize soils and reduce sediment and silt transport. Additionally, impacts to agricultural soils will be minimized through the use of trenchless installations measures for some portions of the electrical collection lines. Overhead lines are not proposed in

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agricultural fields. Following the completion of construction, the Project Footprint will be revegetated, which will allow for long-term soil stabilization throughout the life of the Project.

Lease payments, to be made by the Applicant to the landowners, will provide a stable income to support landowners' agricultural operations on nearby fields. Through collaboration with landowners, the Applicant has designed the Project Footprint to enable these continued agricultural operations outside of the Project Footprint. The Applicant continues to engage with landowners to explore opportunities for shared uses, such as livestock grazing; however, these opportunities are not being proposed at this time. This type of co-use could be implemented any time during operation of the Project, depending on the economic feasibility and terms to be negotiated between the Applicant and the landowner. The approximately 2,198 acres of the Project Site that will remain undeveloped may continue to be used for agricultural purposes.

b) Agricultural Resources Mapping

1) Field-verified Active Agricultural Land

This section contains an assessment of agricultural lands within the 5-mile Study Area conducted by comparing NLCD data from 2016 and 2019, and field verification within the Project Site.

Within the Project Site, 3,166 acres are active agricultural land consisting primarily of row crops, and to a lesser extent managed/mowed hayfields. To determine the status of agricultural land production within the last five years, the Applicant conducted direct outreach to participating landowners within the Project Footprint to verify agricultural practices over the last five years. Based on these outreach efforts, all of the 3,166 acres of active agricultural lands on the Project Site (68% of the Project Site) have been field-verified as having been used as active agricultural lands for at least three of the past five years.

Agricultural land use within the Project Site represents a portion of the larger agricultural land use within the geographic region. According to Genesee County (2017), a total of 187,317 acres within Genesee County were used for farming practices; thus, the Project will temporarily displace approximately 1.2% of the county's farmland during the operation of the Project. The use of this land for renewable energy generation has other, positive socioeconomic effects, as further described in Exhibit 18: Socioeconomic Effects of this Application. In addition, the lease payments to landowners will provide a stable income and allow for continued agricultural production on nearby fields. Therefore, on balance, the Project will not create an adverse economic impact on local agricultural businesses and services.

To assess active agriculture for the broader 5-mile Study Area, available NLCD data for the years 2016 and 2019 were reviewed and compared to determine how active agriculture changed between these years. Figure 15-4a: *Active Agriculture- NLCD 2016* depicts NLCD Land Cover Classification data from 2016 and Figure 15-4b: *Active Agriculture- NLCD 2019* depicts NLCD Land Classification data from 2019. Results of the review indicated that active agriculture land cover (hay/pasture, cultivated crops, and barren land) showed very little change in this land cover between 2016 and 2019, with barren land increasing by approximately 0.4 percent. Figure 15-4c: *Active Agriculture and Unique Features Within 5-mile Study Area* depicts active agriculture within the 5-mile Study Area. The below Table 15-2: *2016 and 2019 Land Cover Comparison* shows the percent change in land cover classification between the two years.

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Table 15-2: 2016 and 2019 Land Cover Comparison

NLCD Land Cover Classification	2016 Acreage	2019 Acreage	Percent Change
Barren Land	54.04	54.26	+0.41%
Cultivated Crops	60,633.10	60,649.39	+0.03%
Hay/Pasture	7,169.11	7,168.00	-0.02%
Total			+0.42%

2) Agricultural Production Acreage

The Project Footprint will occupy approximately 2,159 acres currently utilized for agricultural production as row crops and hayfields. Of the 2,159 acres, 19.3 will be used temporarily for construction laydown yards, will be restored after construction, and can be returned to agricultural production when construction is complete. For the operational life of the Project, 2,452 acres of the Project Footprint will be used for the operation of the Project, and these lands will not remain in agricultural use. However, this land will be preserved for future agricultural use once the Project is decommissioned and restored. Land outside of the Project Footprint may continue to be utilized for agricultural production, as desired by the landowner.

3) Landowner-imposed Development Restrictions

The Applicant has consulted with the agricultural landowners to identify areas of concern during the siting process. The current Project layout and design takes into consideration landowners farming practices. Additionally, the future operation and maintenance of the Project takes into consideration ongoing and adjacent farming practices. No specially designated restricted areas, (e.g., no herbicide use) have been imposed by landowners.

Agricultural activities outside the fence line and on adjacent parcels can continue as there will be no offsite staging and/or storage used for the construction of the Project. The Applicant worked with participating landowners to identify specific properties that should be preserved to allow for continued agricultural use and development. This allows the landowners to continue existing agricultural operations, including growth of crops and to support continued manure spreading. The land outside the Project Facility fence remains available to landowners for agricultural use and development.

4) Unique Agricultural Facilities

Locations of known or suspected sub-surface drainage systems (including outlets), surface drainages, irrigation lines, or other unique agricultural facilities within the 5-miles Study Area are depicted on Figure 15-4c. A dataset from the National Center for Atmospheric Research was utilized which used multiple US Department of Agriculture and US Geological Survey datasets to show a 30-meter resolution layer of suspected drain tile areas (Valayamkunnath et. al., 2020). The locations shown on Figure 15-4c are suspected of containing drain tiles and may not actually contain drain tiles or other drainage features. In addition to the US Department of Agriculture and US Geological Survey datasets, field observable ground conditions were observed within the Project Footprint. The Applicant's consultant noted evidence of drainage features in six locations during wetland delineations within the Project Site, four of which are present within the Project Footprint.

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Several water lines and culverts are located within the proposed Project Site. However, the Project has been designed to avoid adverse impacts to these facilities, to the maximum extent practicable. Further, natural drainage patterns will be maintained to the maximum extent practicable as described in Appendix 15-A Agricultural Plan. More information regarding impacts to drainage features and plans for remediation is included in Section (d) of this Exhibit.

5) United States Department of Agriculture Soil Mapping

Refer to Exhibit 10: *Geology, Seismology and Soils* (Figure 10-2: *Soil Types within the Project Area*) of this Application, for detailed mapping of United States Department of Agriculture soils within the Project Site.

6) NYS Agricultural Land Classification Mineral Soil Groups

Figure 15-5: *Mineral Soil Groups* depicts Agricultural Land Classification Mineral Soil Groups (MSGs) 1 through 10 for impacted agricultural areas within the 5-mile Study Area. The soil data used for the figure was obtained from US Department of Agriculture Natural Resources Conservation Service dated 09/03/2018 and the 2021 New York State Agricultural Land Classification from NYSDAM. For soil mapping units with multiple soil group values, the higher order MSG value was assigned to that map unit.

MSGs 1 through 4 are considered by NYSDAM to be highly productive soils (NYSDEC 2021). Table 15-3: *Mineral Soil Group Classifications within the Project Footprint* below provides acreages of agricultural areas within NYS Agricultural Land Classification MSGs 1 through 4 that are within the Project Footprint. Approximately 49% (1,208 acres) of the Project Footprint occurs within MSGs 1 through 4, which NYSDAM considers to be highly productive soils (NYSDEC 2021).

Table 15-3: Mineral Soil Group Classifications within the Project Footprint

Mineral Soil Group Classification	Acres within Project Footprint	% of Project Footprint
1	82	3%
2	846	34%
3	241	10%
4	39	2%
Total	1,208	49%

MSGs 1 through 10 are depicted on Figure 15-5. Refer to Section (c) of this Exhibit and Appendix 15-A: *Agricultural Plan* of this Application for measures the Applicant will implement to avoid, minimize, and mitigate agricultural impacts to active agricultural lands as a result of the Project.

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c) Agricultural Plan

An *Agricultural Plan* was prepared by the Applicant to address impacts and mitigation to active agricultural lands, as defined in 19 NYCRR § 900-2.16(c), within New York State Agricultural Land MSGs 1-4 and to conform with NYSDAM Guidelines. The *Agricultural Plan* includes the use of a third-party Environmental Monitor that is qualified as an agricultural monitor in accordance with 19 NYCRR §§ 900-6.4(b)(4), 6.4(s).

d) Remediation Plan

1) Potential Impacts to Surface and Subsurface Drainages

Impacts to surface and subsurface drainages are outlined in Exhibit 13: *Water Resources and Aquatic Ecology* and Exhibit 14: *Wetlands* of this Application. As described in Exhibit 13 of this Application, the Project will cross 32 delineated streams, none of which are NYS protected streams, with access roads, buried collection lines, and fencing installations. Project components have been sited to avoid temporary or permanent impacts to surface waters to the maximum extent practicable. Certain construction activities have the potential to result in direct and/or indirect impacts to surface drainages, including surface waters that drain agricultural fields. These activities include the installation of access roads (and associated culverts), upgrading of existing farm lanes, and installation of buried electrical collection lines and fence. Impacts related to the construction of access road and collection line crossings will be minimized to the maximum extent practicable by utilizing existing crossings and by crossing at narrow wetland and waterbody locations where feasible. In addition, implementation of best management practices outlined in Appendix 13-C: *Stormwater Pollution Prevention Plan* and Appendix 13-D: *Spill Prevention, Control, and Countermeasure Plan* of this Application will avoid or minimize impacts to the maximum extent practicable.

Permanent impacts to subsurface water resources are not anticipated to result from the construction or operation of the Project. Temporary impacts to subsurface drainages within the Project Footprint will be avoided to the maximum extent practicable. The Project design is intended to maintain existing drainage patterns and will reduce overall drainage as outlined in the *Stormwater Pollution Prevention Plan*. Disruption of existing drainage features will be avoided, to the maximum extent practicable, and stormwater management has been designed to avoid downstream impacts. The Applicant will consider the need to implement any corrective measures throughout the operation of the Project, including the implementation of the Decommissioning and Site Restoration Plan and in response to any issues identified through the complaint resolution process described in the Applicant's Complaint Management Plan, which will be provided to ORES in accordance with the compliance filing requirements set forth in 19 NYCRR § 10.2(e)(7).

The Applicant's consultant noted evidence of drainage features in 6 locations incidentally during wetland delineations within the Project Site, 4 of which are present within the Project Footprint. No publicly available information on the presence of drainage tiles within the Project Area was identified.

REVISED EXHIBIT 15: AGRICULTURAL RESOURCES

Matter No. 21-01108

2) Measures to Repair Drainage Systems

The Applicant will retain current surface drainage patterns and install a significant surface drainage system in accordance with the Project *Stormwater Pollution Prevention Plan* comprised of dry swales, slope protection, storm pipes, culverted crossings of surface water features, and vegetated filter strips that accommodate water quantity generated by the Project. Where drainage features such as swales, agricultural ditches and drainages, and culverts are impacted by Project construction, they will be repaired and restored. The construction contractor will promptly mark and record any exposed or damaged culverts or pipes revealed during grading, excavation, land compaction, or topsoil stripping, and will immediately notify the Environmental Monitor. As land disturbance conditions require, a site-specific plan will be prepared, in consultation with the landowner, for the replacement or repair of crushed/severed culverts and pipes. In situations where damage to a surface or subsurface drainage feature is discovered by the environmental monitor or construction contractor, prompt repair or replacement will be completed prior to the restoration phase, to the extent practically feasible.

e) Agricultural Co-utilization Plan

As discussed in Section (b)(3) of this Exhibit, although the Applicant will continue to explore opportunities for agricultural co-utilization, such as livestock grazing, throughout the life of the Project, these opportunities are not being proposed at this time. The sections of the Project Site outside of the Project Footprint that remain undeveloped after construction may continue to be used for agricultural purposes.

REVISED EXHIBIT 15: AGRICULTURAL RESOURCES

Matter No. 21-01108

References

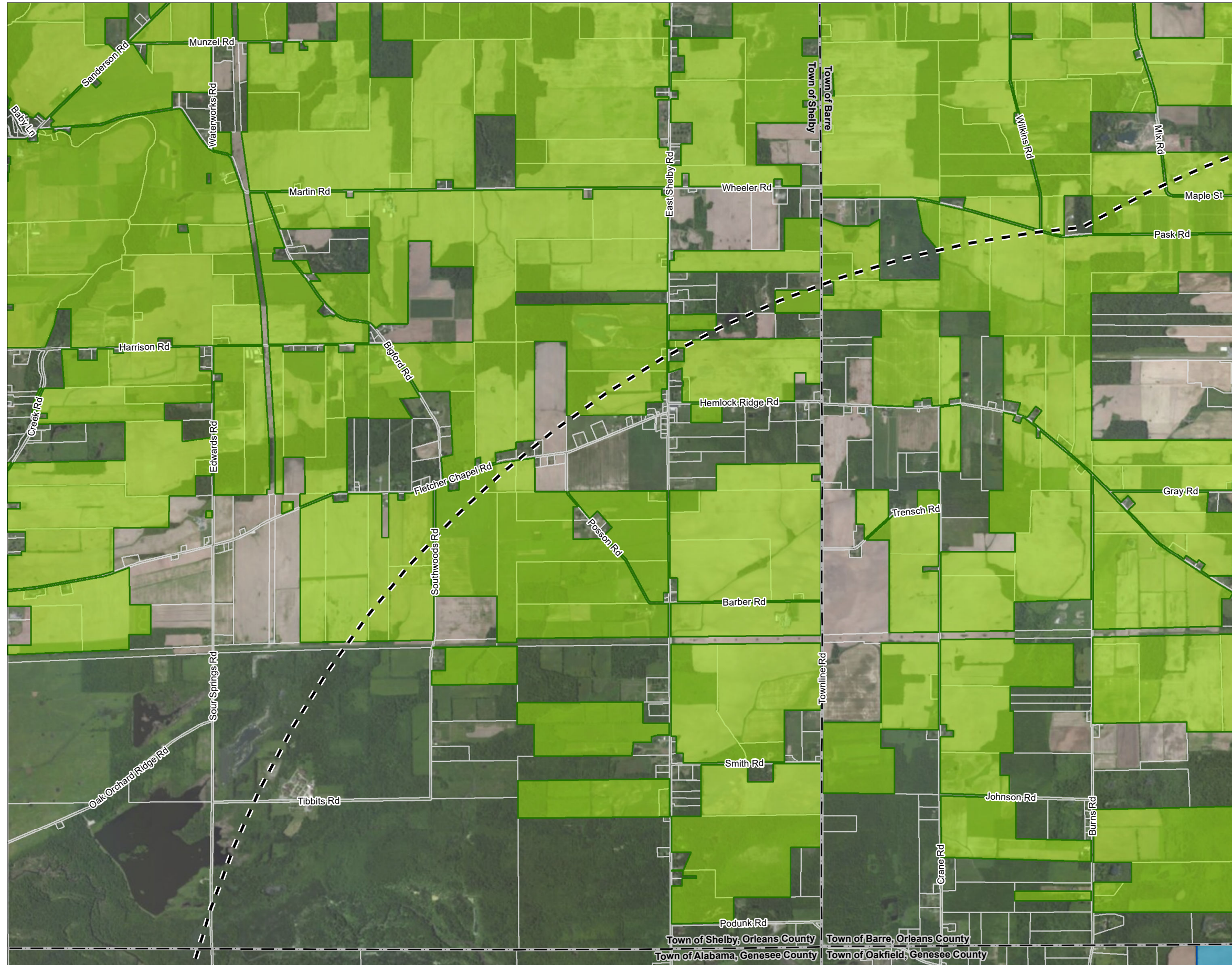
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REVISED EXHIBIT 15: AGRICULTURAL RESOURCES

Matter No. 21-01108

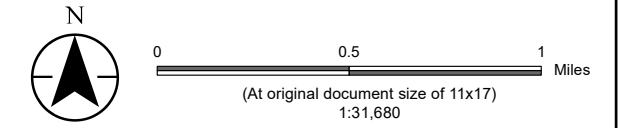
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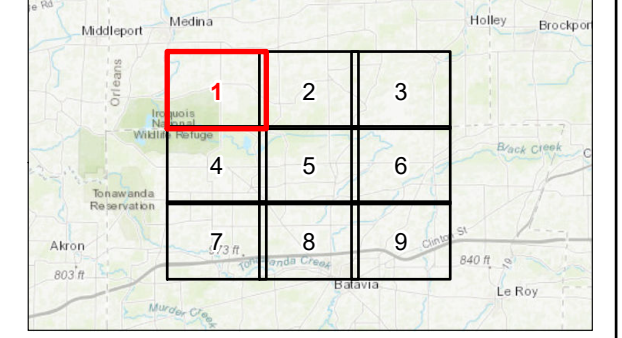


Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- Substation and Switchyard
- Inverter
- PV Panel Array
- Collection Line
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Project Location
 Towns of Elba and Oakfield
 Genesee County, NY

Prepared by EE on 2021-09-01
 TR by AS on 2021-09-01
 IR by SG on 2021-09-01

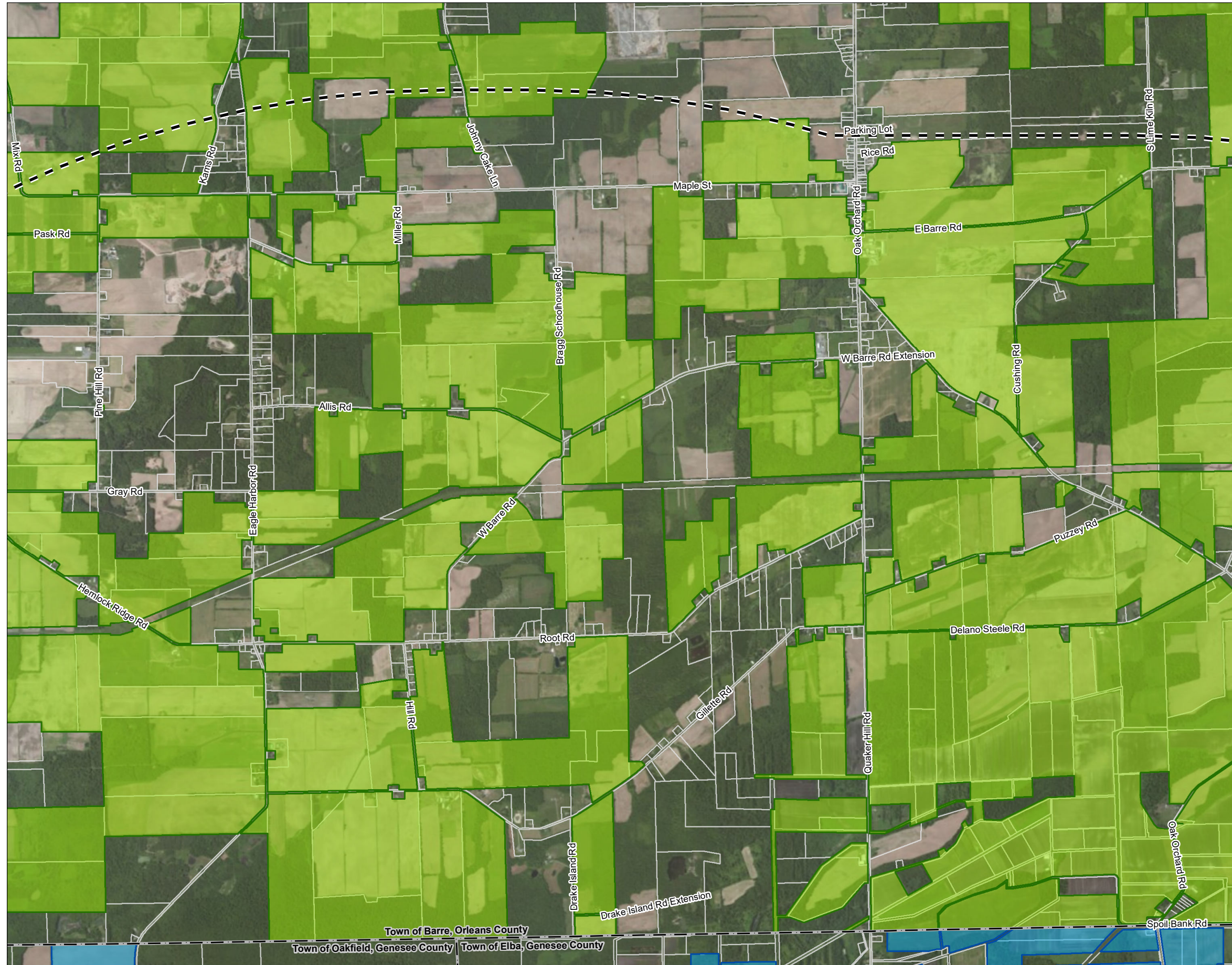
Client/Project
 Hecate Energy Cider Solar LLC
 Cider Solar Farm

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Figure No.
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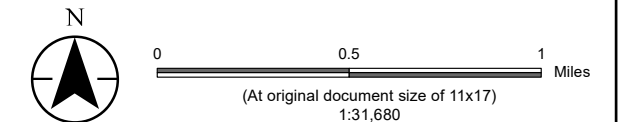
Title
 Agricultural Districts Within 5-mile Study Area
 Map 1 of 9

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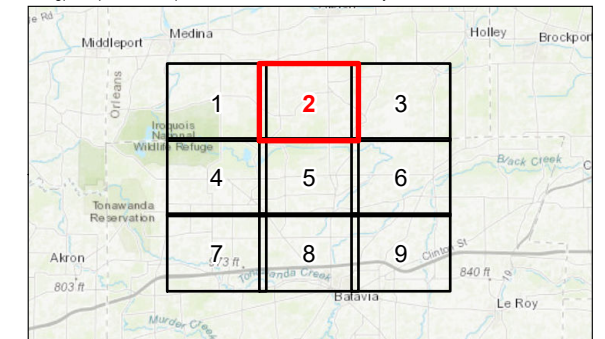


Legend

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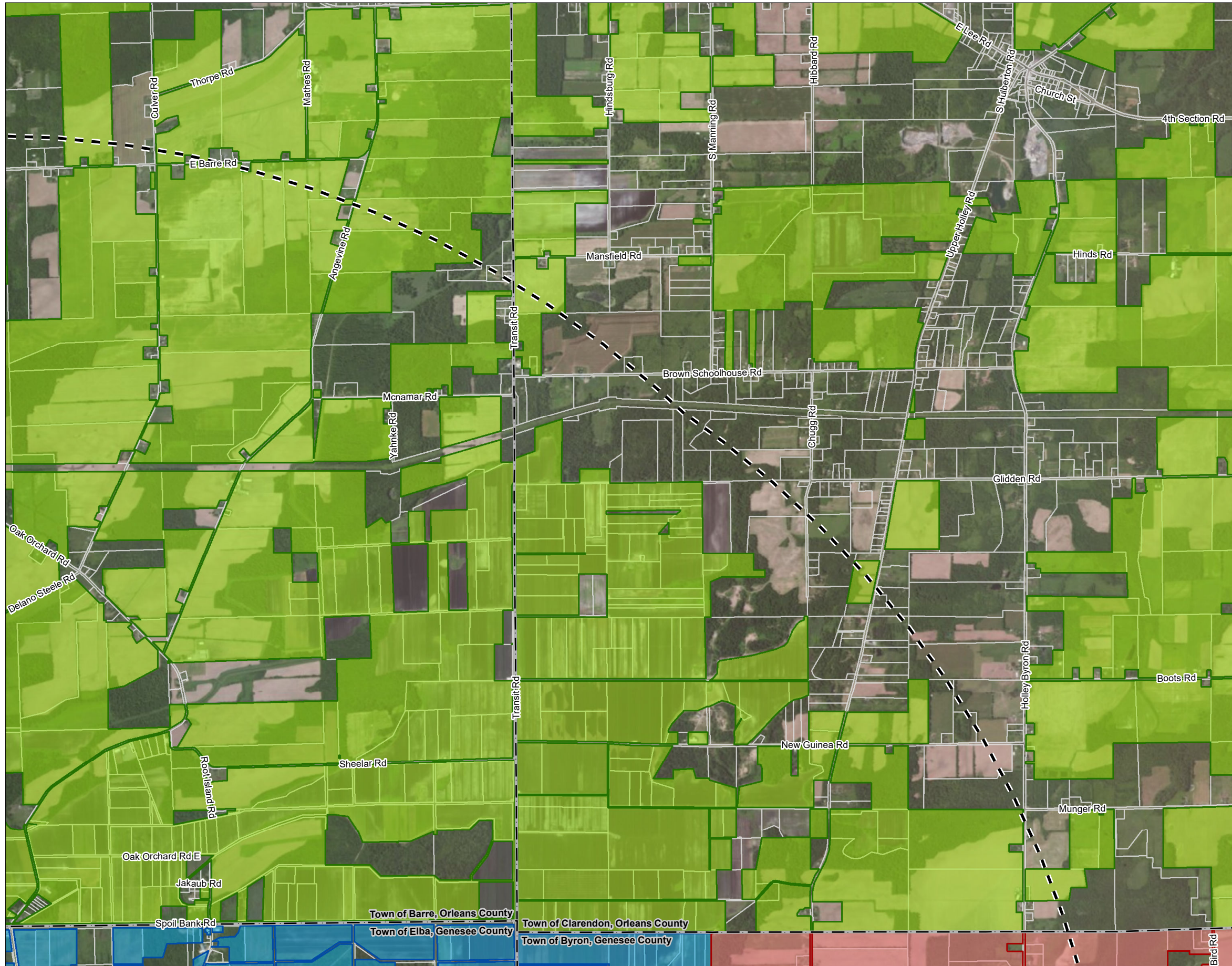
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Hecate Energy Cider Solar LLC
Cider Solar Farm

Figure No.
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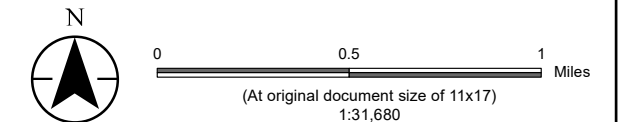
Title
Agricultural Districts Within 5-mile Study Area
Map 2 of 9

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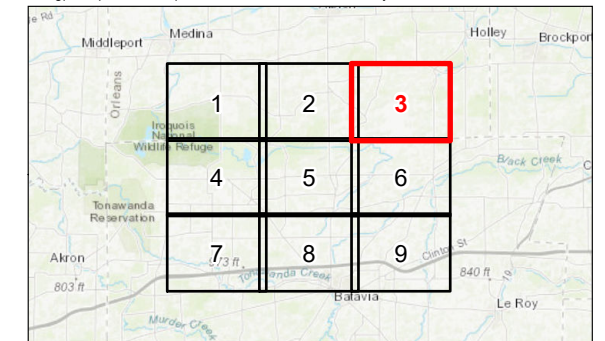


Legend

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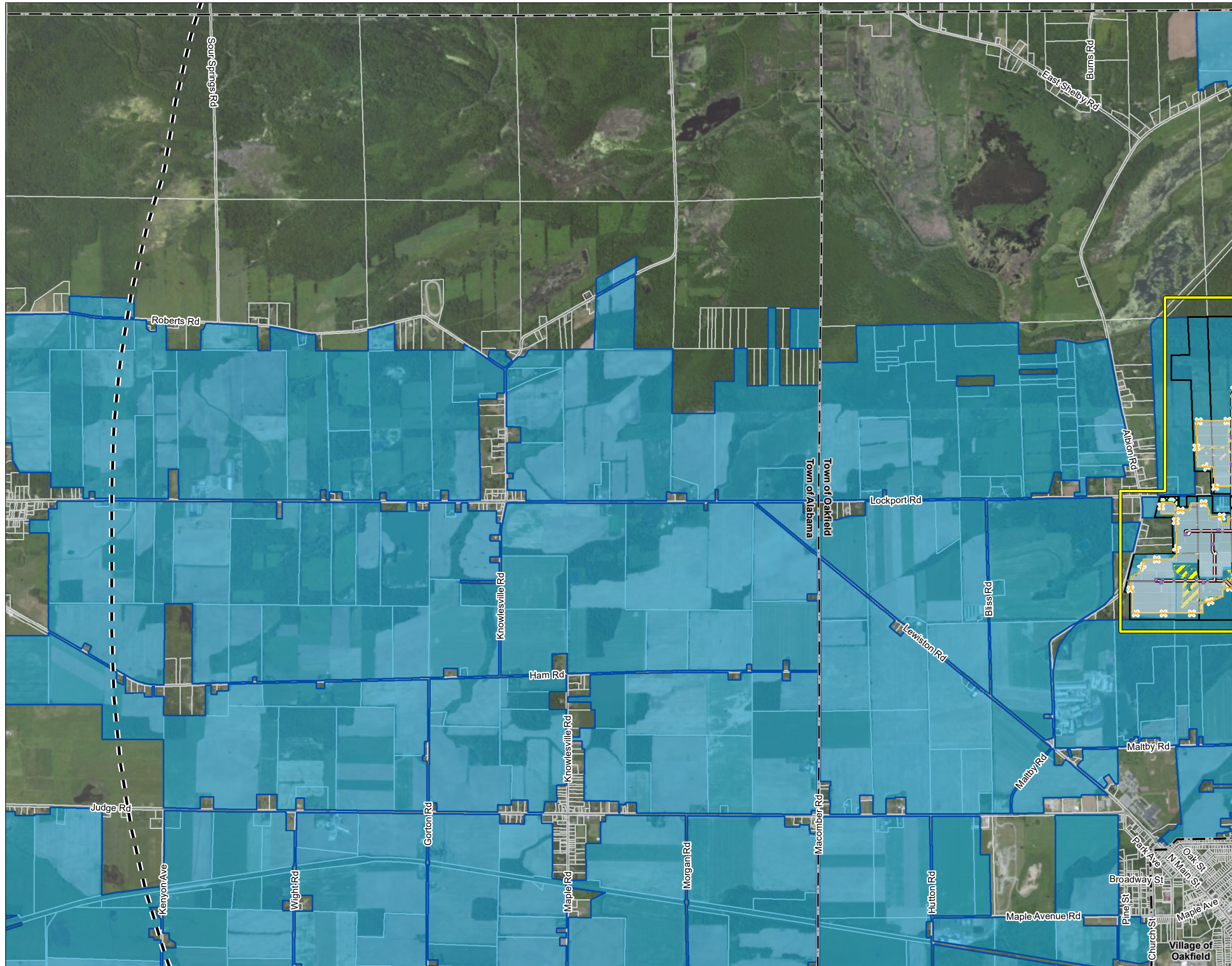
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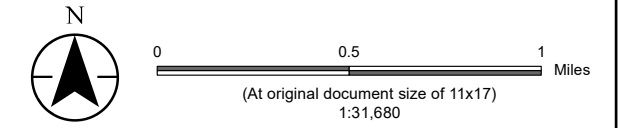
Title
Agricultural Districts Within 5-mile Study Area
Map 3 of 9

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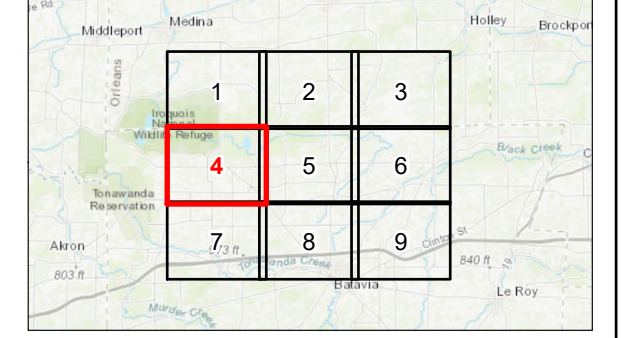


Legend

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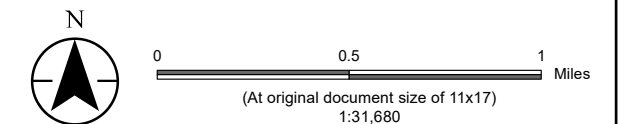
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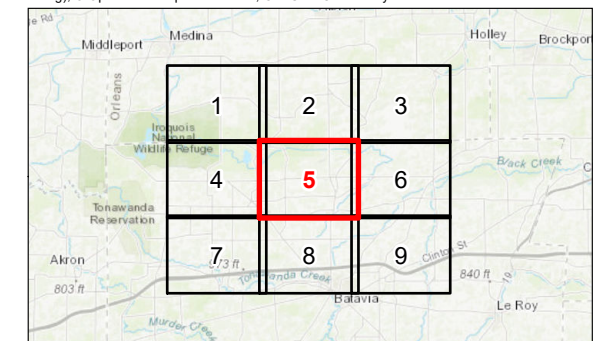
Title
 Agricultural Districts Within 5-mile Study Area
 Map 4 of 9

Legend

- Project Area
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- Proposed Project**
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Project Location
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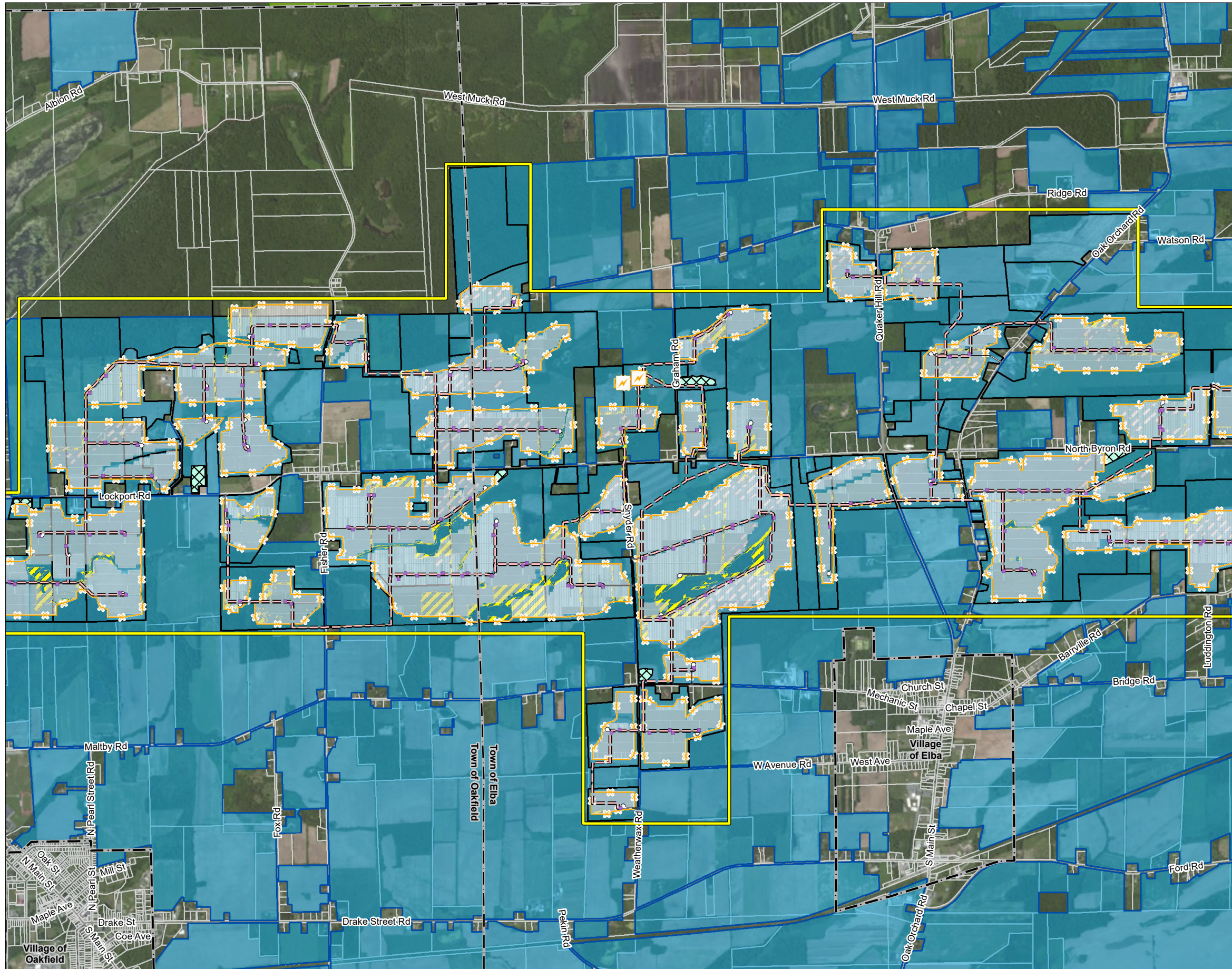
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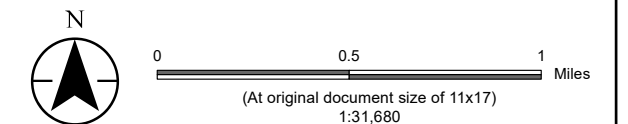
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Title
 Agricultural Districts Within 5-mile Study Area
 Map 5 of 9

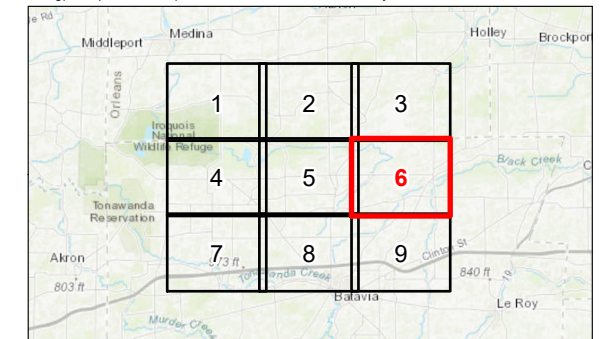


Legend

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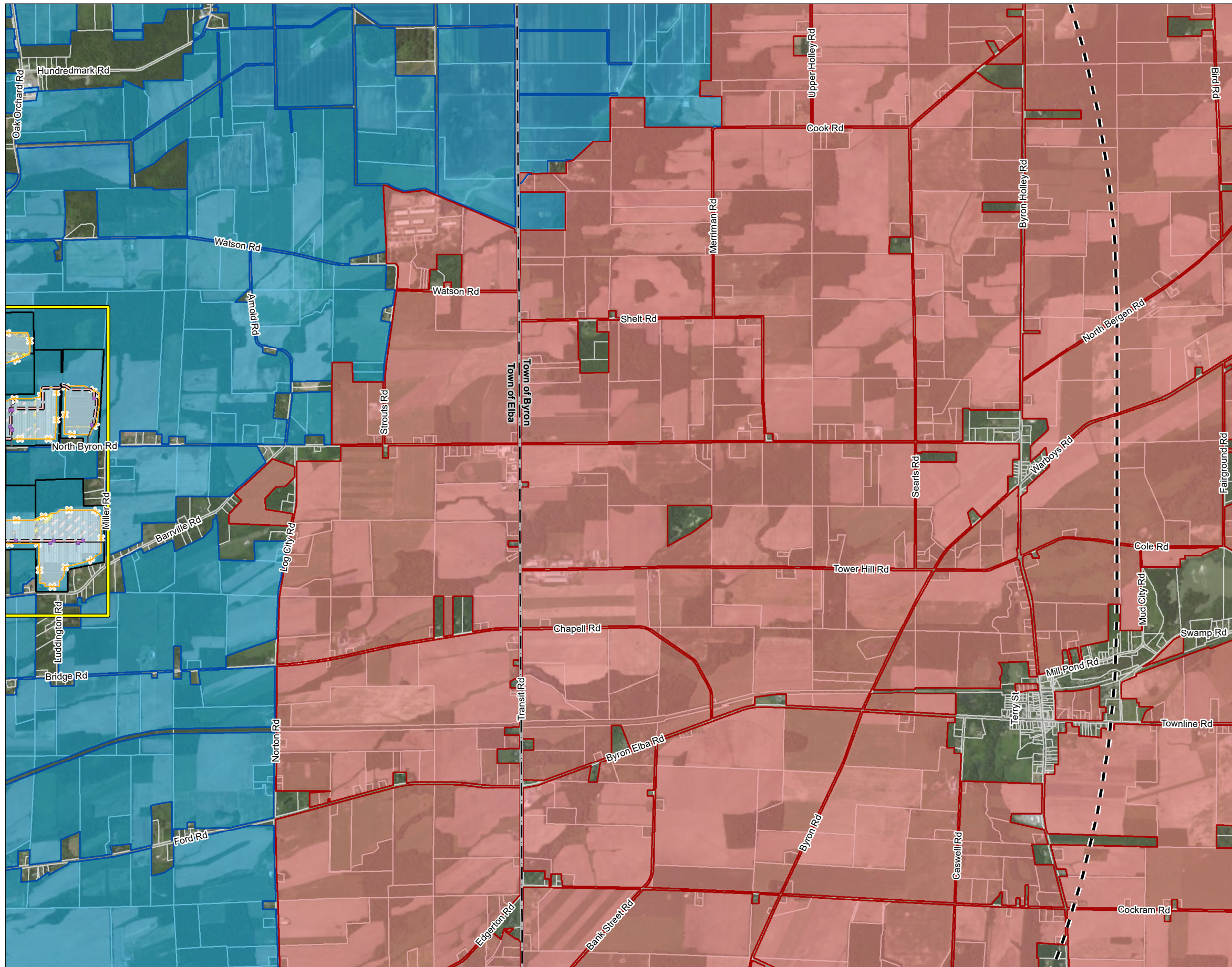
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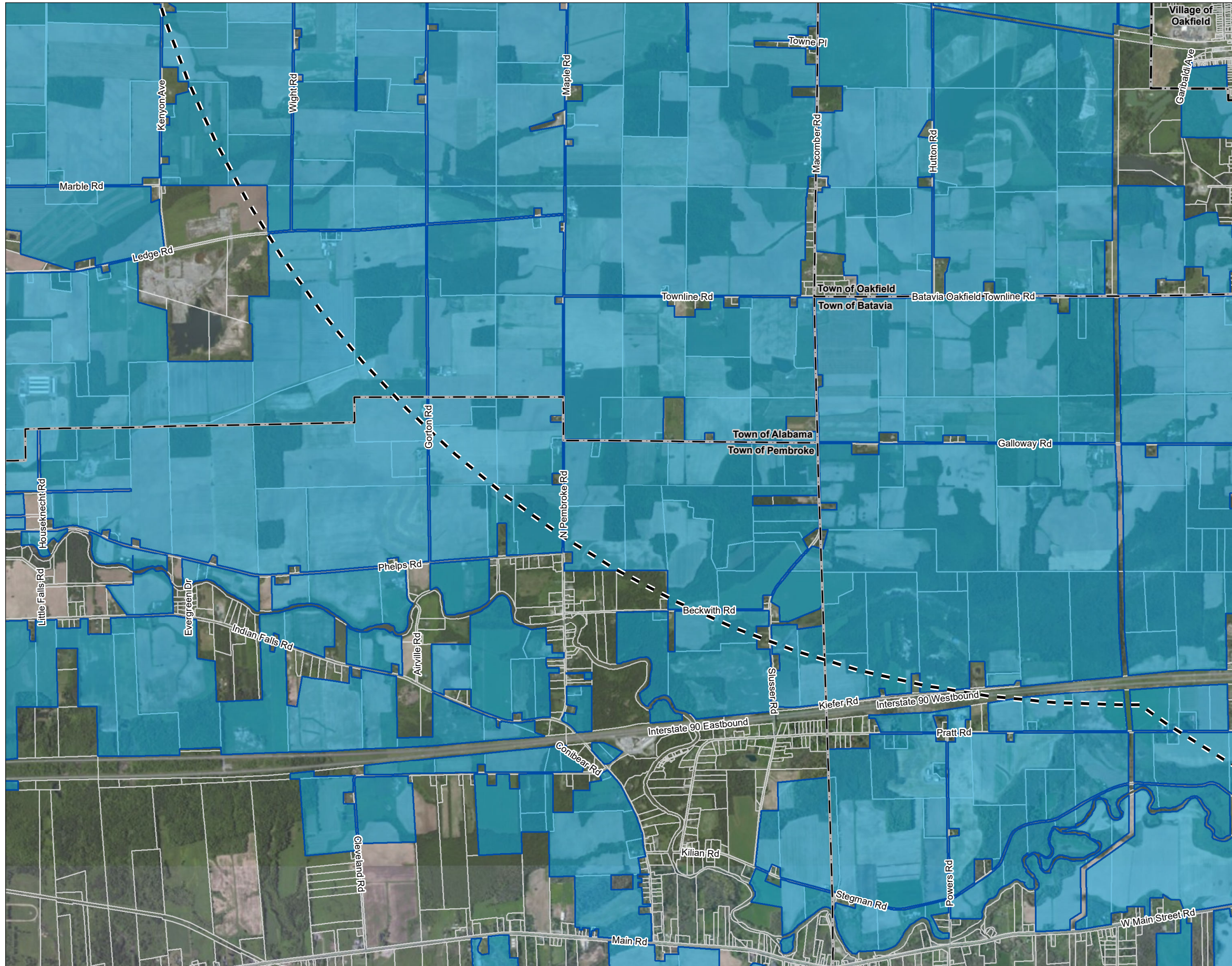
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Title
 Agricultural Districts Within 5-mile Study Area
 Map 6 of 9

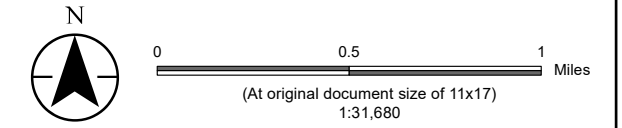


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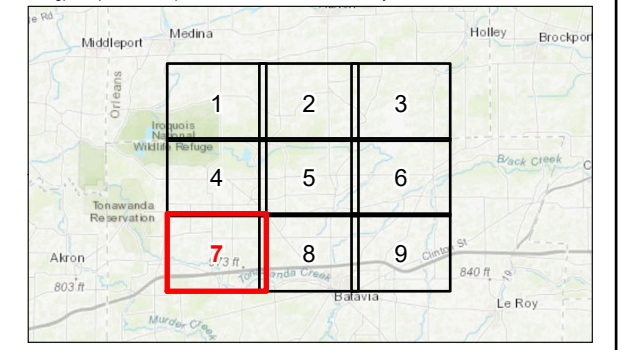


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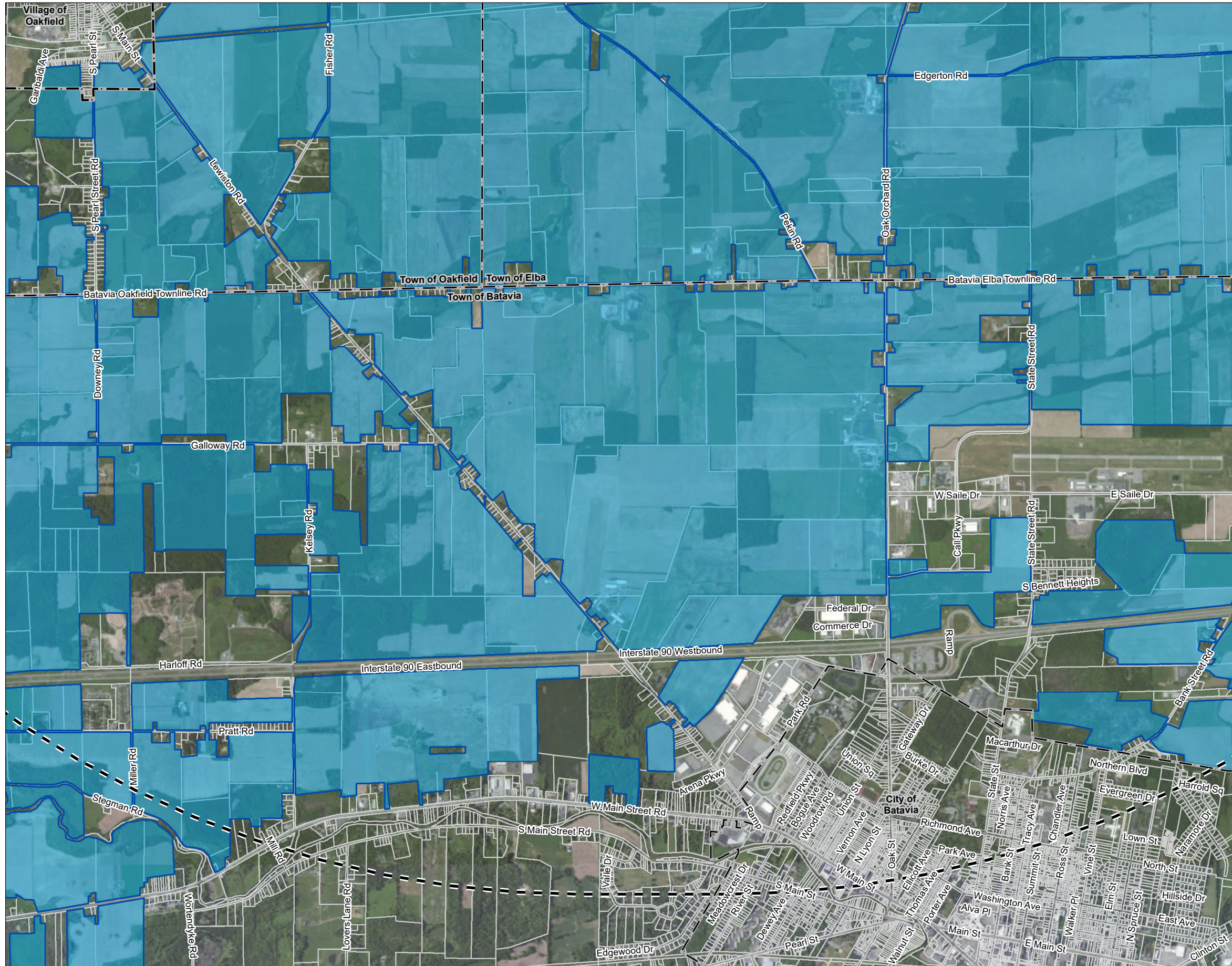
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Figure No.
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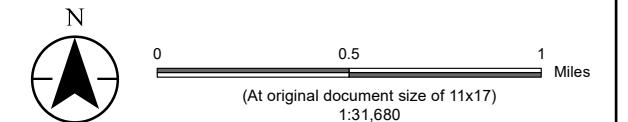
Title
 Agricultural Districts Within 5-mile Study Area
 Map 7 of 9

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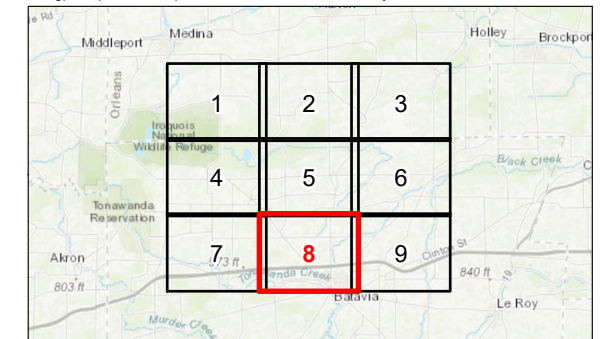


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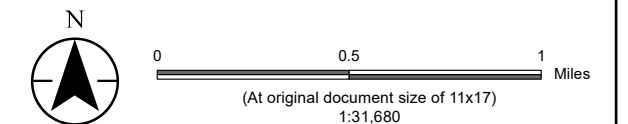
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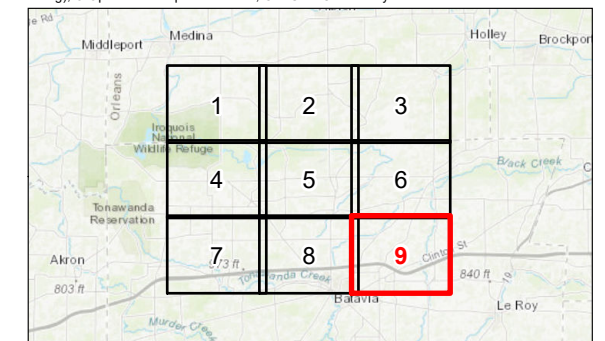
Title
 Agricultural Districts Within 5-mile Study Area
 Map 8 of 9

Legend

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 Towns of Elba and Oakfield
 Genesee County, NY

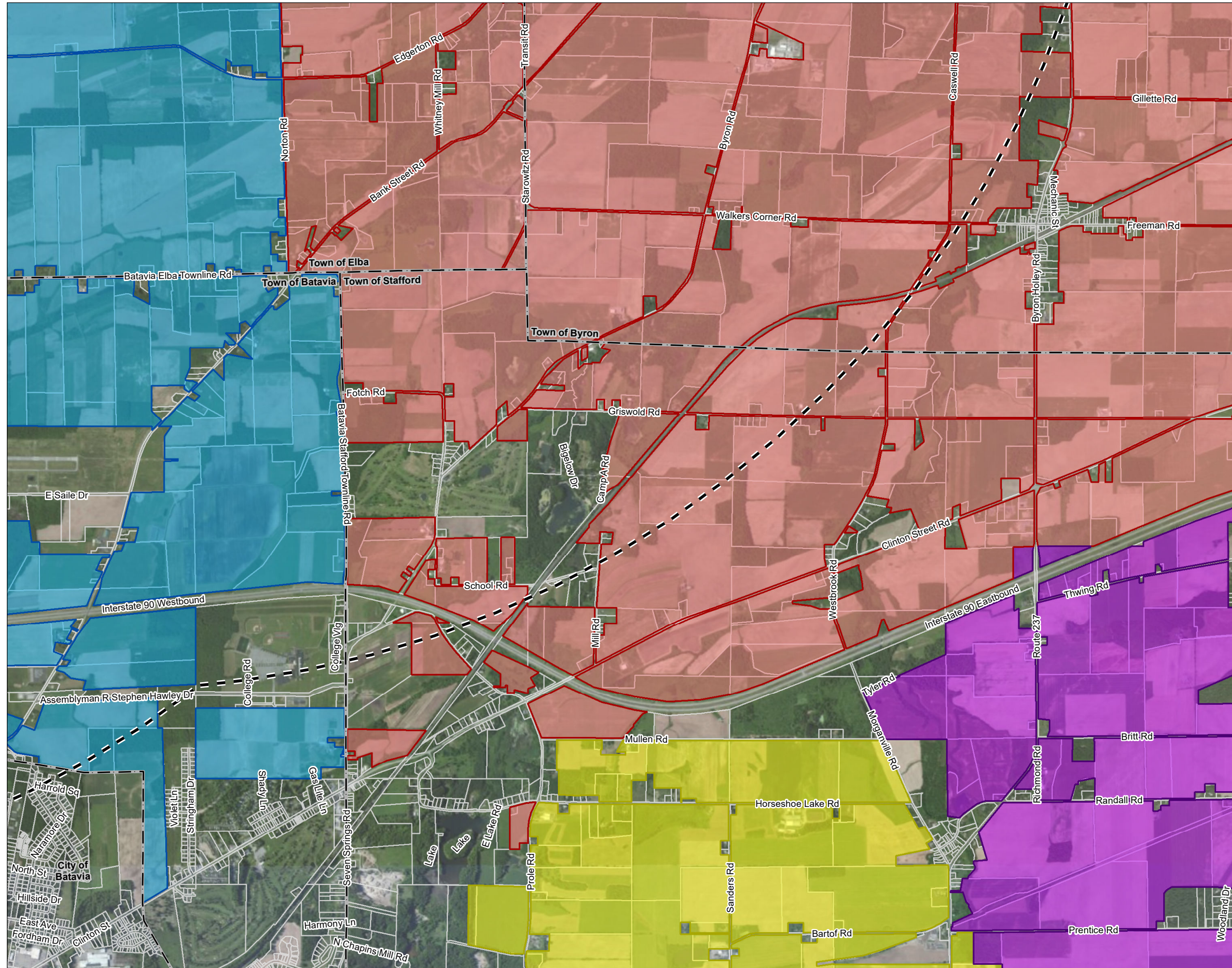
Prepared by EE on 2021-09-01
 TR by AS on 2021-09-01
 IR by SG on 2021-09-01

Client/Project 190502038 REVA

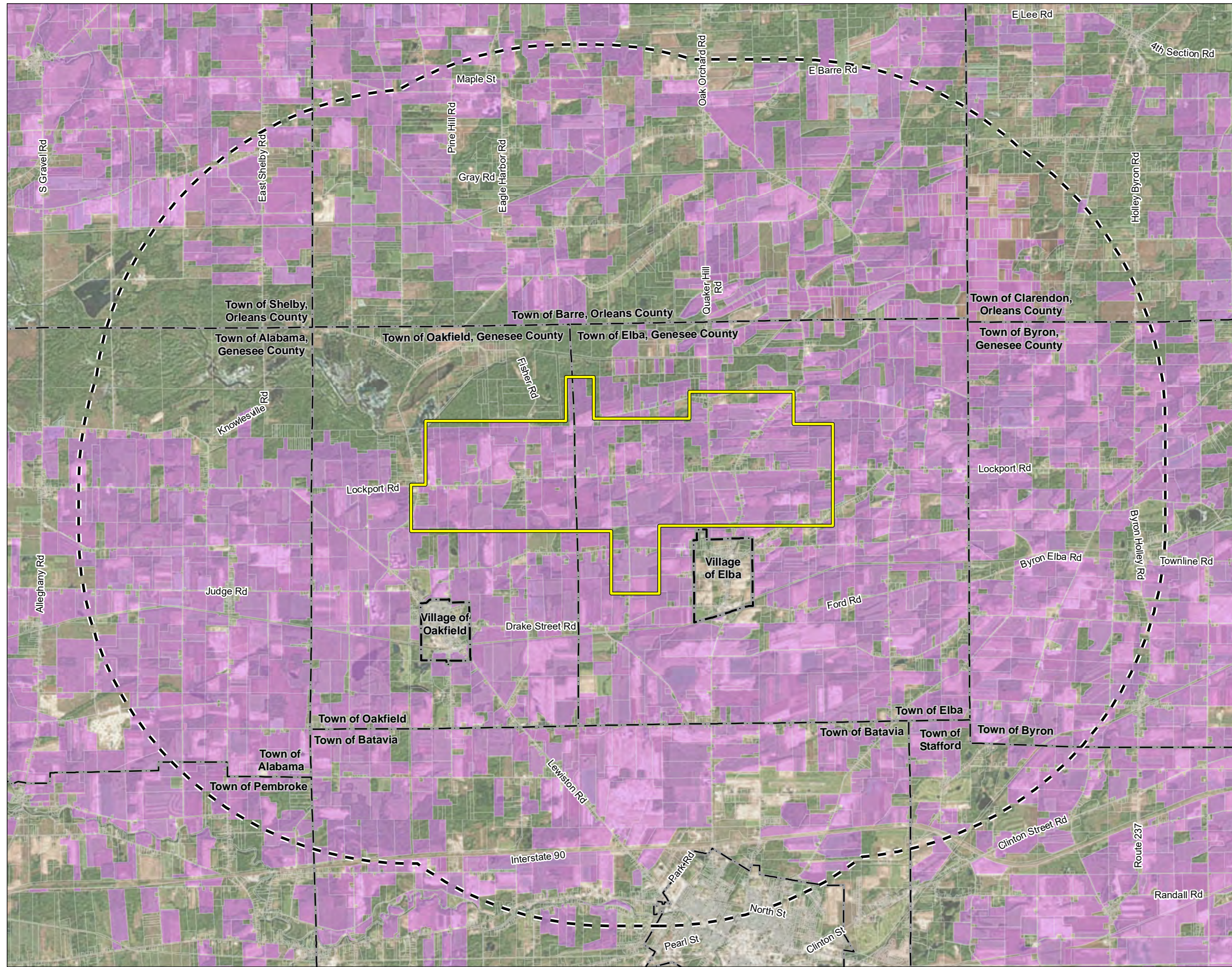
Hecate Energy Cider Solar LLC
Cider Solar Farm

Figure No.
15-1a

Title
Agricultural Districts Within 5-mile Study Area
Map 9 of 9

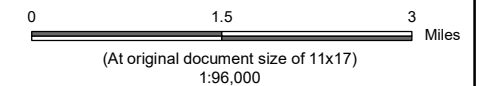


U:\190502038\03_data\gis\mxd\Application\Exhibit15\Exhibit_15_1b_Ag_Tax_Parcel_Exemption_Code_41720_CSF.mxd Revise: 2021-09-01 By: astapleton



Legend

- Project Area
- 5-miles from Project Footprint
- Existing Features**
- Municipal Boundary
- Tax Parcel Boundary
- Active Agriculture Parcel (Tax Parcel with Exemption Code 41720)



- Notes**
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 2. Data Sources: NYS GIS Clearinghouse (<https://gis.ny.gov>); Orleans County Planning Department
 3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community
 4. Genesee County agricultural exempt parcels provided by Genesee County Treasurer's Office. Orleans County agricultural exempt parcel provided by the New York State Department of Taxation and Finance, Office of Real Property Tax Services.



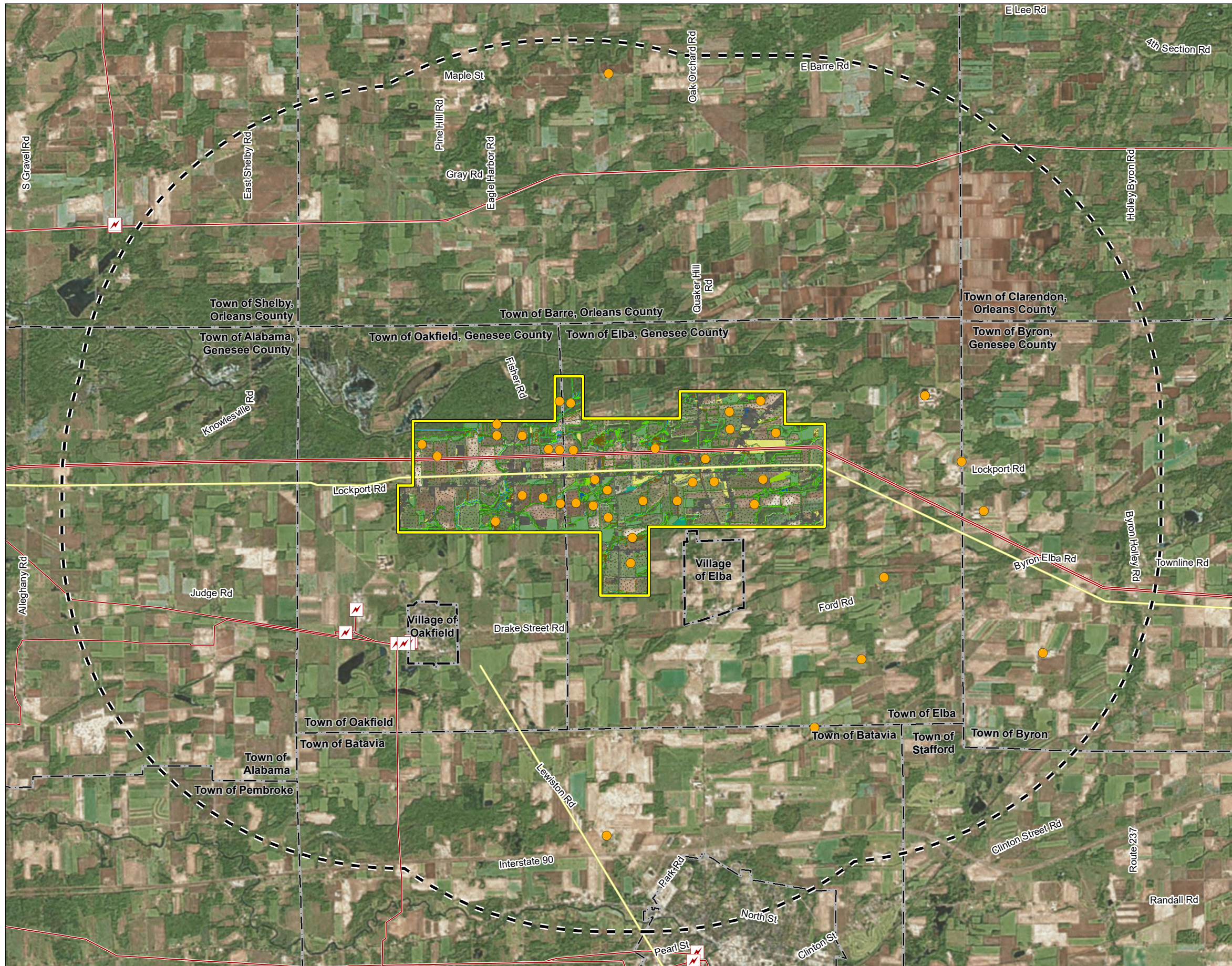
Project Location: Towns of Elba and Oakfield, Genesee County, NY
 Prepared by AS on 2021-08-30
 TR by SB on 2021-08-31
 IR by JK on 2021-08-31

Client/Project: Hecate Energy Cider Solar LLC, Cider Solar Farm
 190502038 REV B

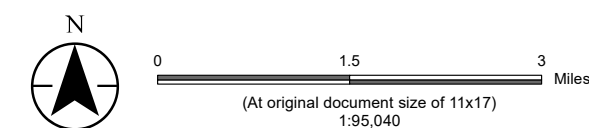
Figure No. 15-1b

Agricultural Tax Parcel Exemption Code 41720 Within 5-Mile Study Area

U:\190502038\03_data\gis\mxd\Application\Exhibit15\Exhibit_15_2_Agriculture_Related_Business_CSF_supp.mxd Revised: 2021-09-02 By: eeshenour



- Legend**
- Project Area
 - 5-mile Study Area
 - Existing Features**
 - Agriculture Related Business
 - ⚡ Electric Substation
 - Electric Transmission Line
 - Natural Gas Pipeline
 - Municipal Boundary
 - Land Cover - Upland**
 - Active Agriculture Row Crop
 - Active Agriculture Hay Field
 - Grassland/Pastureland
 - Successional Forestland
 - Successional Shrubland
 - Disturbed/Developed Structures
 - Land Cover - Wetland**
 - Forested Wetlands
 - Wet Meadow/Marshland
 - Streams
 - Open Water



Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: NYS GIS Clearinghouse (<https://gis.ny.gov/>); Homeland Infrastructure Foundation-Level Data (HIFLD) (hifld-geoplatform.opendata.arcgis.com)
3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-09-02
TR by AS on 2021-09-02
IR by SG on 2021-09-02

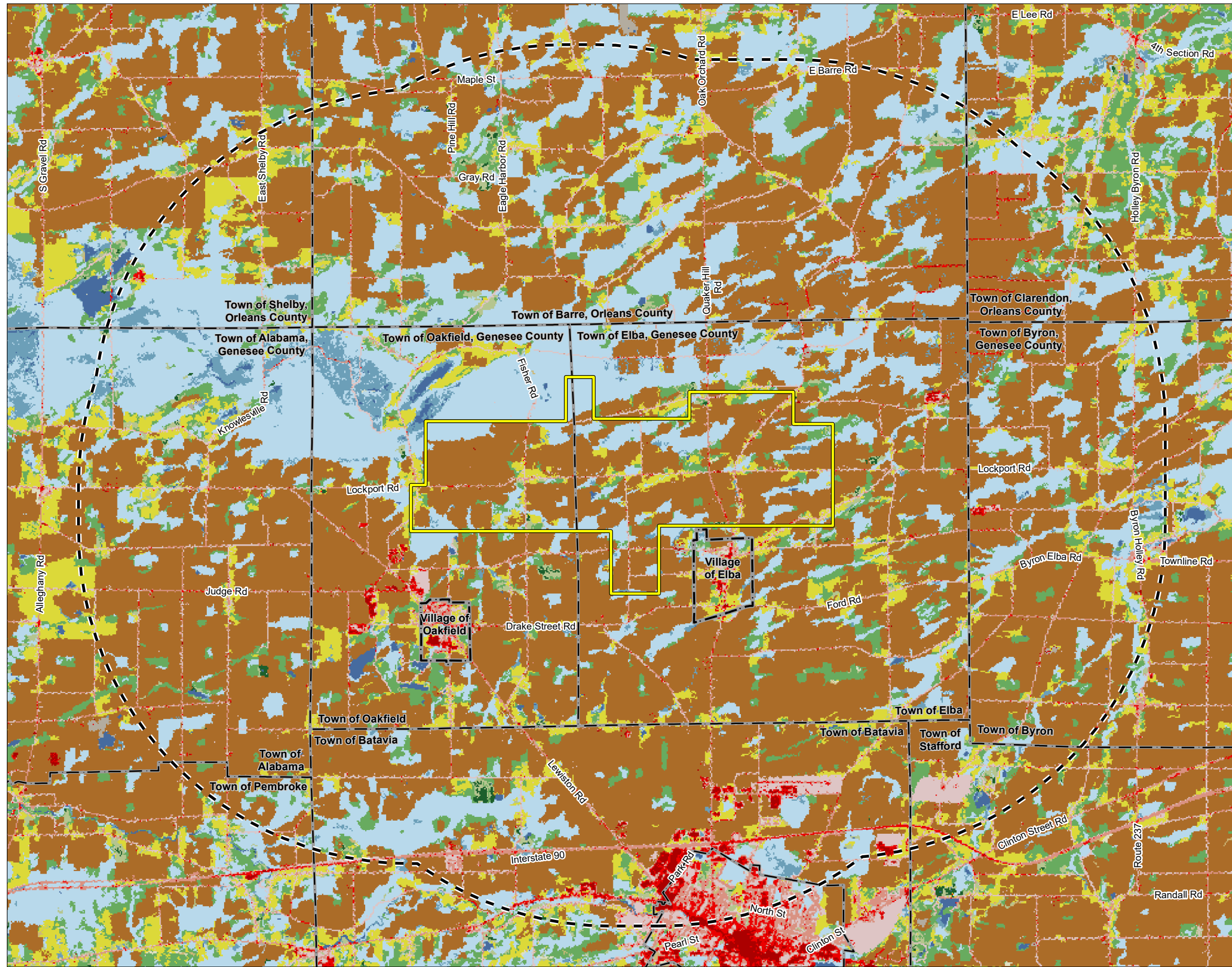
Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REVA

Figure No.
Revised 15-2

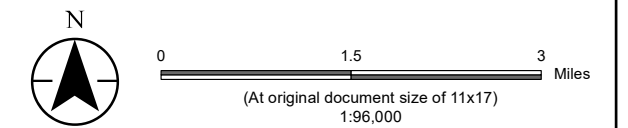
Title
**Existing Utilities and Agricultural
Businesses Within 5-Mile Study Area**

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Legend

- Project Area
- 5-miles from Project Footprint
- NLCD Land Cover Classification**
- Unclassified
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Herbaceous
- Hay/Pasture
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands



Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: MRLC NLCD 2016 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>)
3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-08-23
TR by XX on 2021-08-23
IR by XX on 2021-08-23

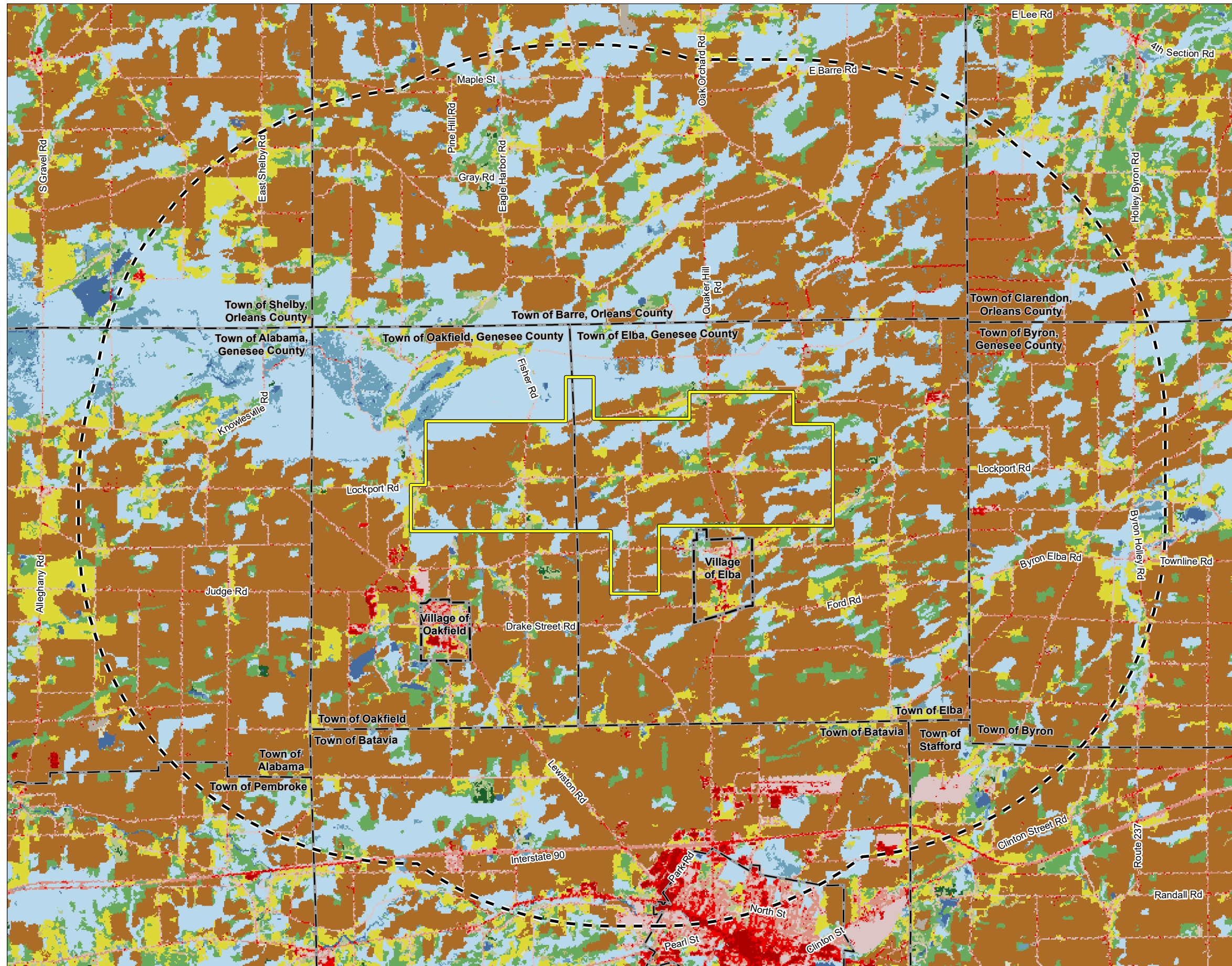
Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REVA

Figure No.
15-4a

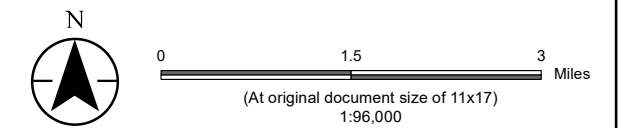
Title
Active Agriculture - NLCD 2016

U:\190502038\03_data\gis\mxd\Application\Exhibit15\Fig_15-4b_Active_Agriculture_2019_CSF_supp.mxd Revised: 2021-08-23 By: eeshenour



Legend

- Project Area
- 5-miles from Project Footprint
- NLCD Land Cover Classification**
- Unclassified
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Herbaceous
- Hay/Pasture
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands



Notes
 1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 2. Data Sources: MRLC NLCD 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (https://gis.ny.gov)
 3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
 Towns of Elba and Oakfield
 Genesee County, NY

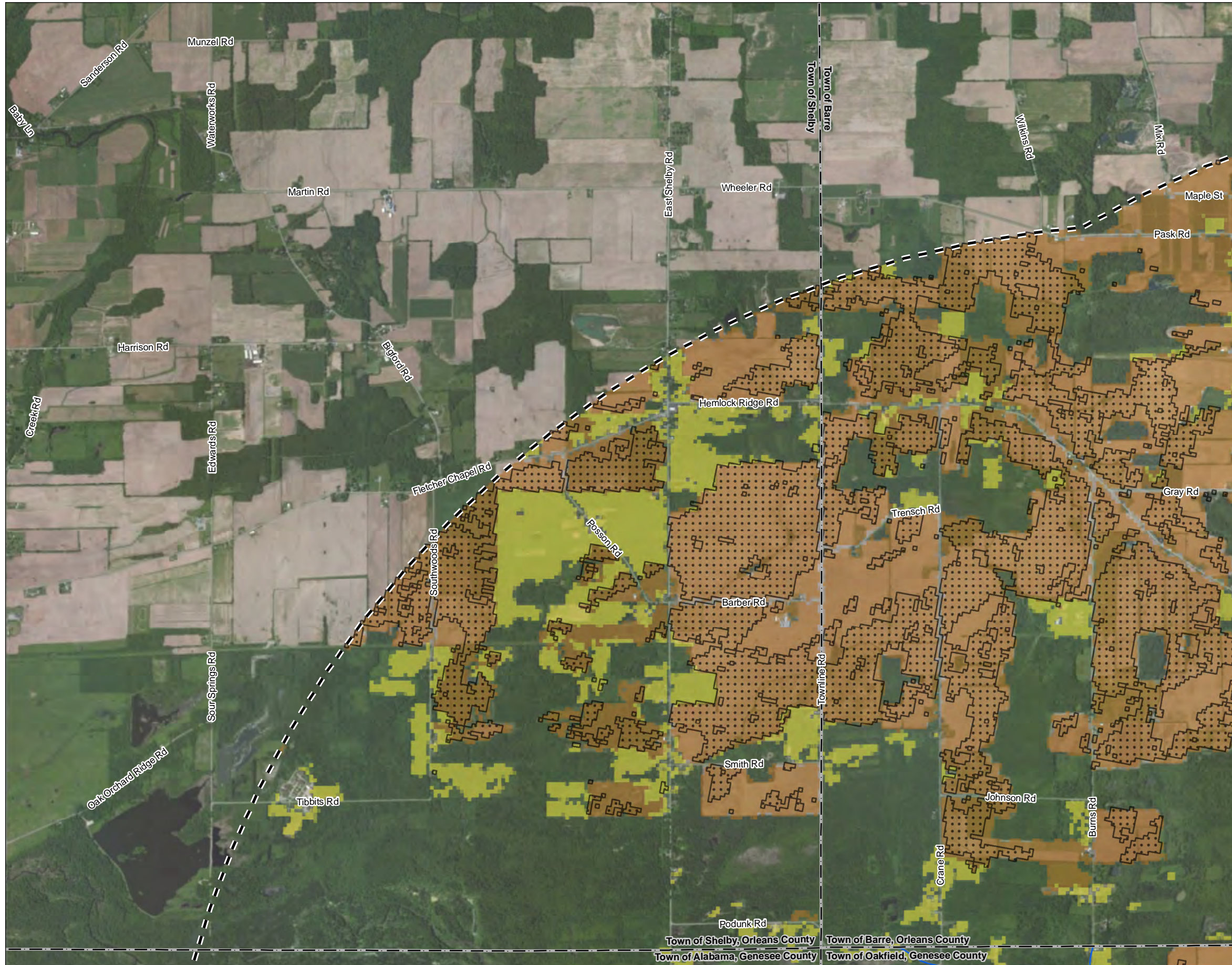
Prepared by EE on 2021-08-23
 TR by XX on 2021-08-23
 IR by XX on 2021-08-23

Client/Project
 Hecate Energy Cider Solar LLC
 Cider Solar Farm

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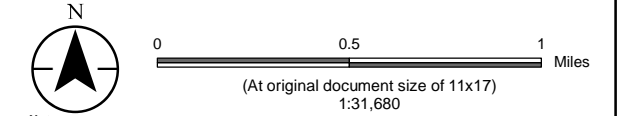
Figure No.
 15-4b

Title
 Active Agriculture - NLCD 2019



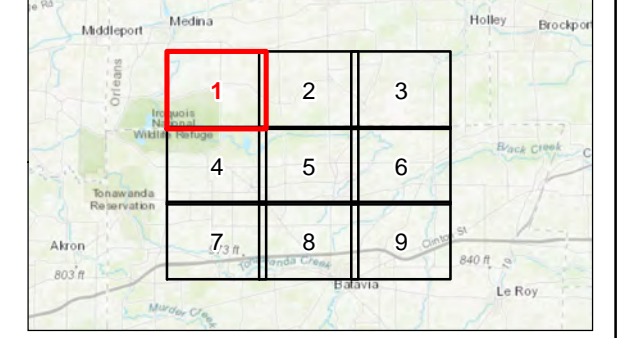
Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- ⚡ Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- ✂ Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- ▲ Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. Sci Data 7, 257, (<https://doi.org/10.1038/s41597-020-00596-x>)
3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-08-23
TR by AS on 2021-08-23
IR by SB on 2021-08-23

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

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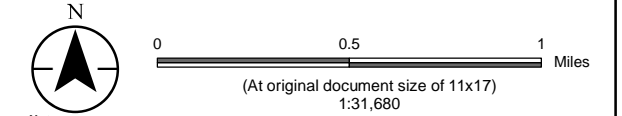
Figure No.
15-4c

Title
**Active Agriculture and Unique Features
Within 5-mile Study Area
Map 1 of 9**

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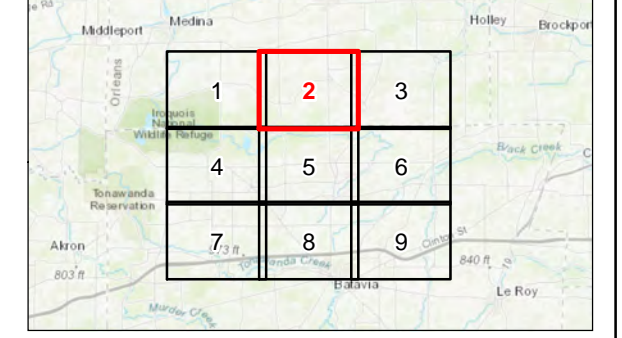
Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>), 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. Sci Data 7, 257, (<https://doi.org/10.1038/s41597-020-00596-x>)
3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
Towns of Elba and Oakfield
Genesee County, NY

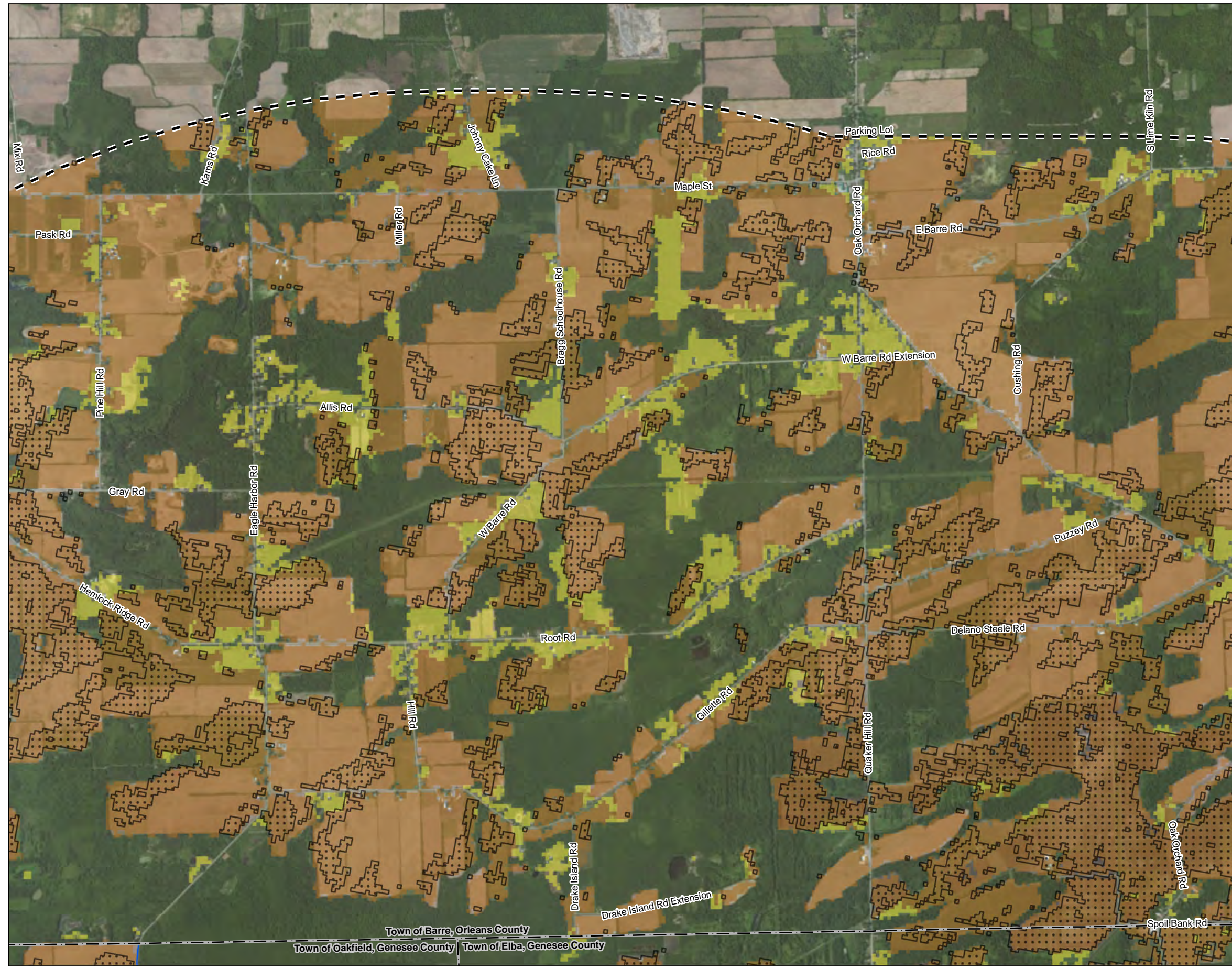
Prepared by EE on 2021-08-23
TR by AS on 2021-08-23
IR by SB on 2021-08-23

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REVA

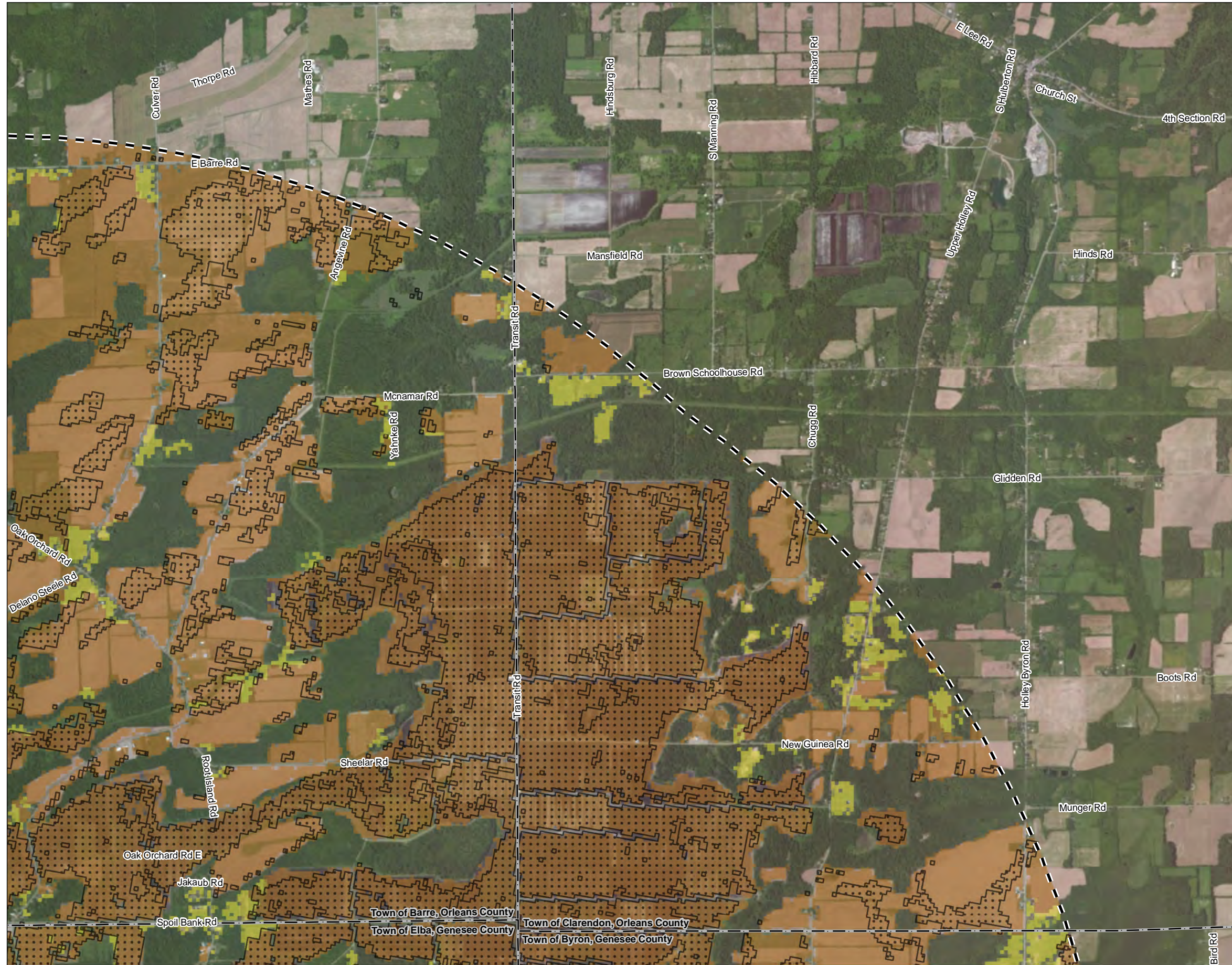
Figure No.
15-4c

Title
**Active Agriculture and Unique Features
Within 5-mile Study Area
Map 2 of 9**



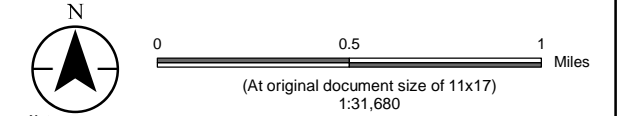
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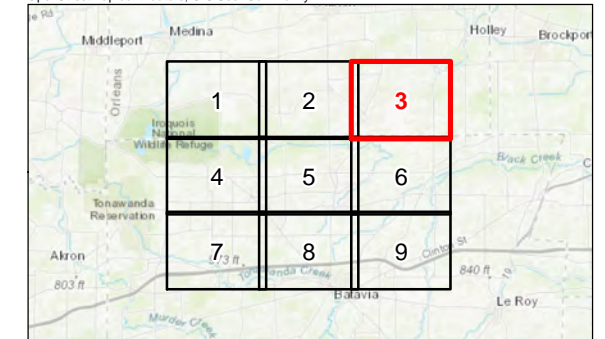


Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes
 1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. *Sci Data* 7, 257, (<https://doi.org/10.1038/s41597-020-00596-x>)
 3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location: Towns of Elba and Oakfield, Genesee County, NY
 Prepared by EE on 2021-08-23, TR by AS on 2021-08-23, IR by SB on 2021-08-23

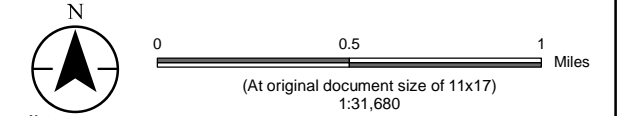
Client/Project: Hecate Energy Cider Solar LLC, Cider Solar Farm, 190502038 REVA

Figure No. 15-4c

Active Agriculture and Unique Features Within 5-mile Study Area
 Map 3 of 9

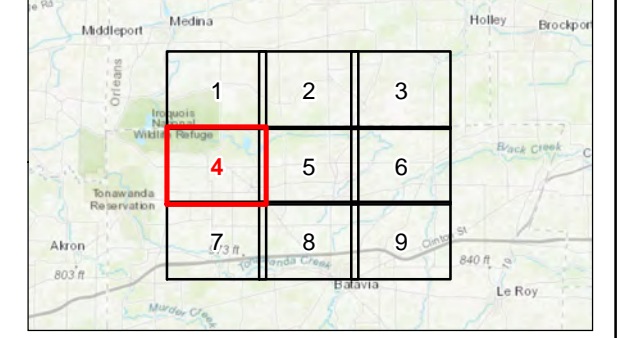
Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. *Sci Data* 7, 257, (<https://doi.org/10.1038/s41597-020-00596-x>)
3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
Towns of Elba and Oakfield
Genesee County, NY

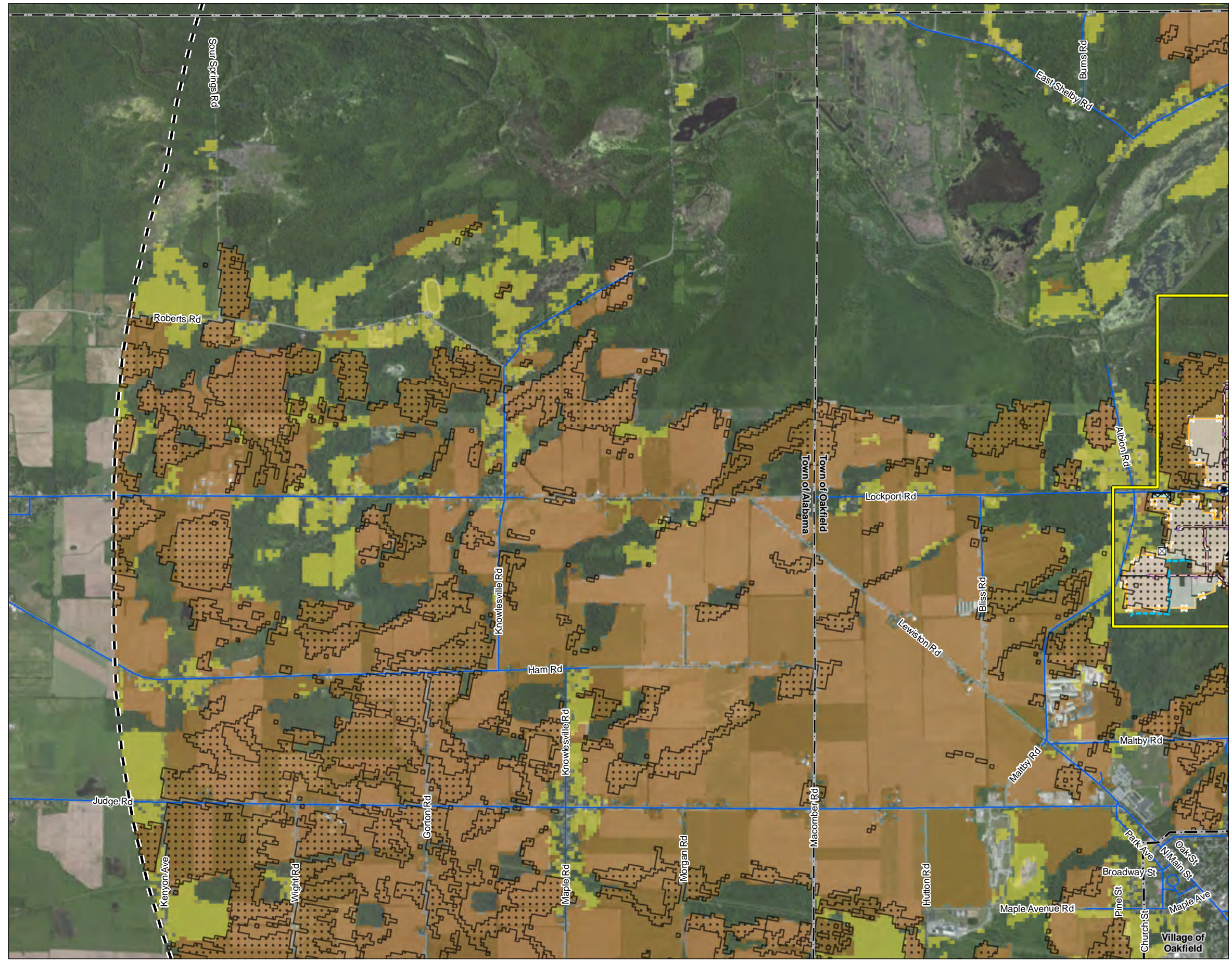
Prepared by EE on 2021-08-23
TR by AS on 2021-08-23
IR by SB on 2021-08-23

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REVA

Figure No.
15-4c

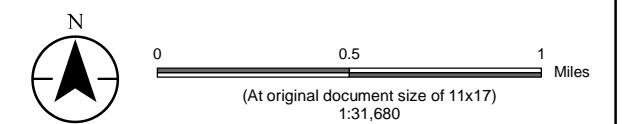
Title
**Active Agriculture and Unique Features
Within 5-mile Study Area
Map 4 of 9**



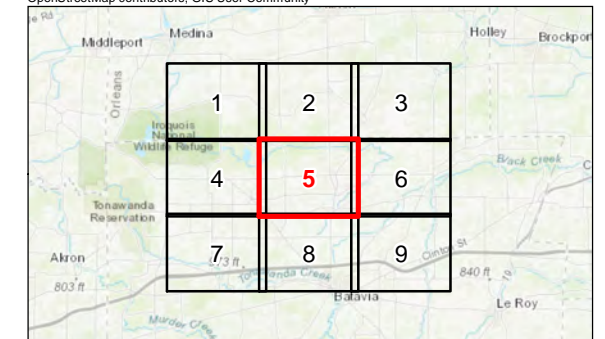
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Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- ⚡ Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- ✂ Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- ▲ Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes
 1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. *Sci Data* 7, 257. (<https://doi.org/10.1038/s41597-020-00596-x>)
 3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
 Towns of Elba and Oakfield
 Genesee County, NY

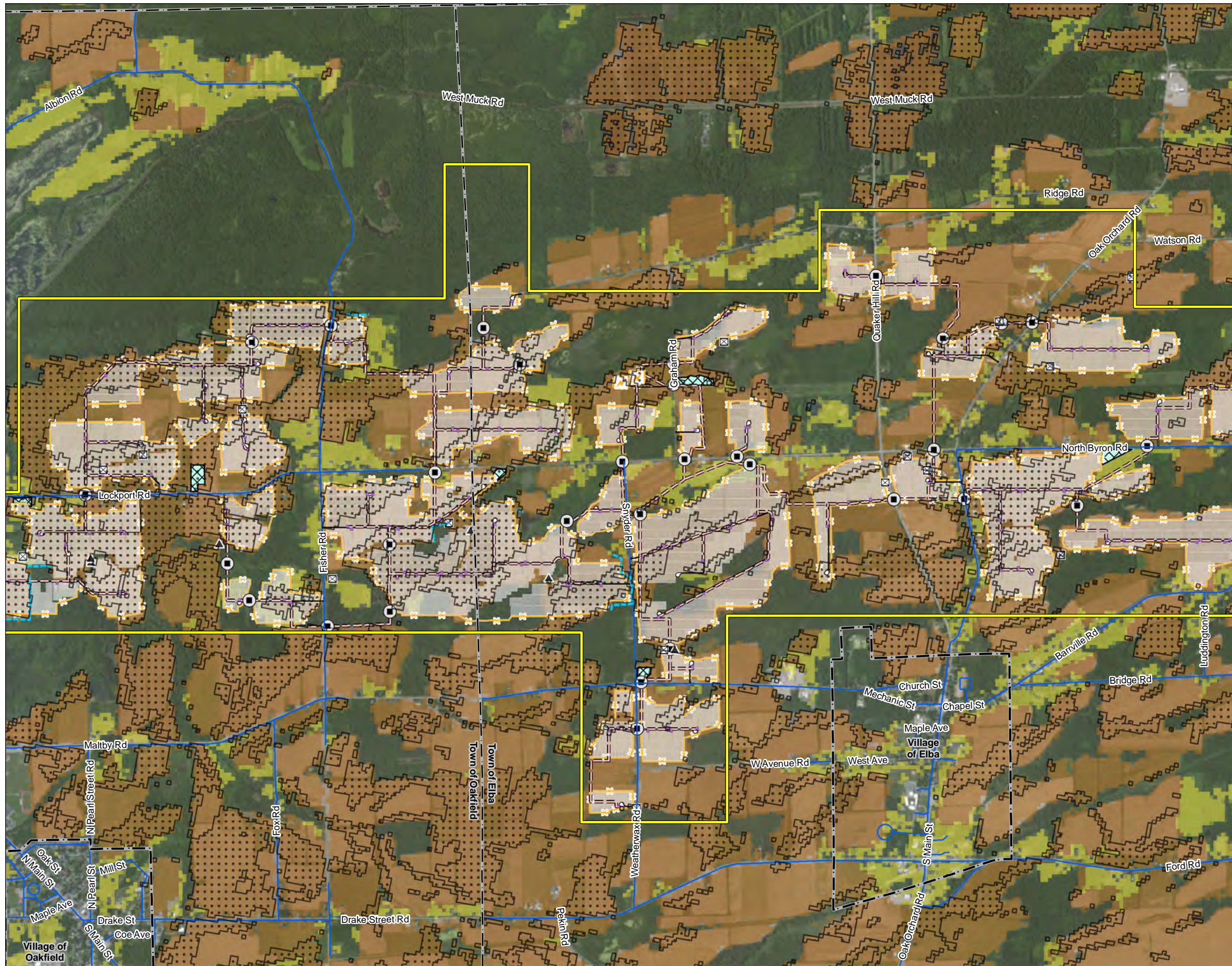
Prepared by EE on 2021-08-23
 TR by AS on 2021-08-23
 IR by SB on 2021-08-23

Client/Project
 Hecate Energy Cider Solar LLC
 Cider Solar Farm

190502038 REVA

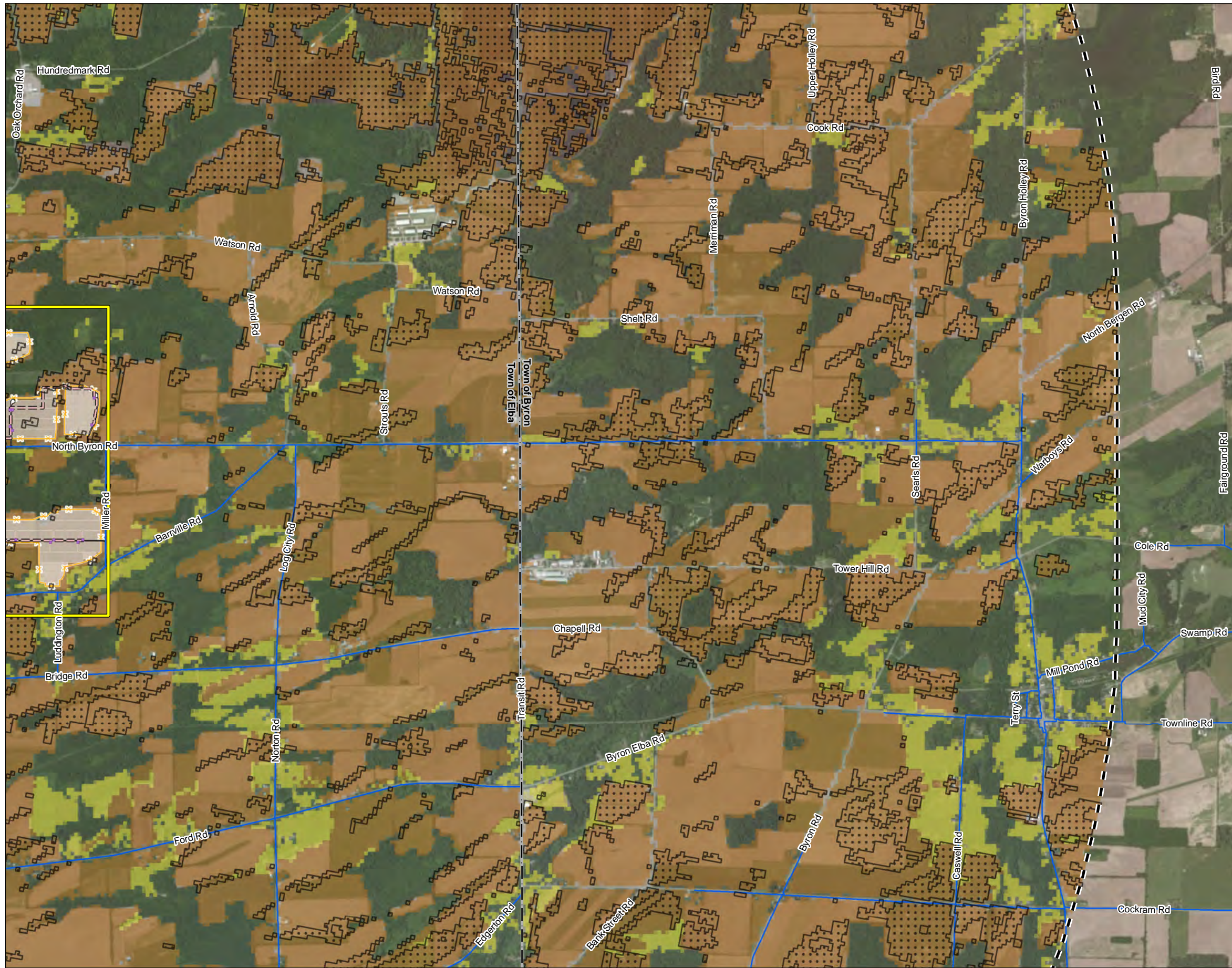
Figure No.
 15-4c

Title
 Active Agriculture and Unique Features
 Within 5-mile Study Area
 Map 5 of 9



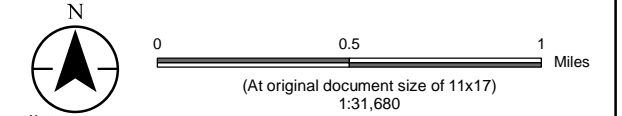
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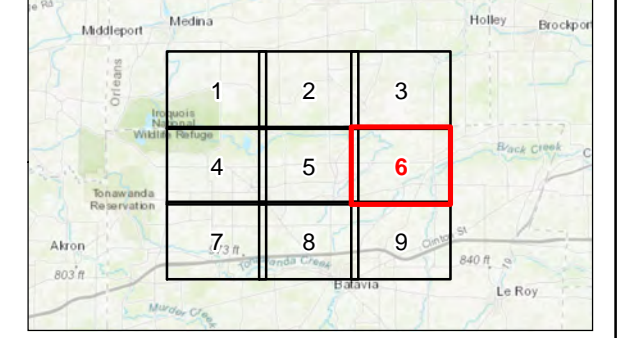


Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- ⚡ Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- ✂ Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- ▲ Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes
 1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (https://gis.ny.gov); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. Sci Data 7, 257. (https://doi.org/10.1038/s41597-020-00596-x)
 3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
 Towns of Elba and Oakfield
 Genesee County, NY

Prepared by EE on 2021-08-23
 TR by AS on 2021-08-23
 IR by SB on 2021-08-23

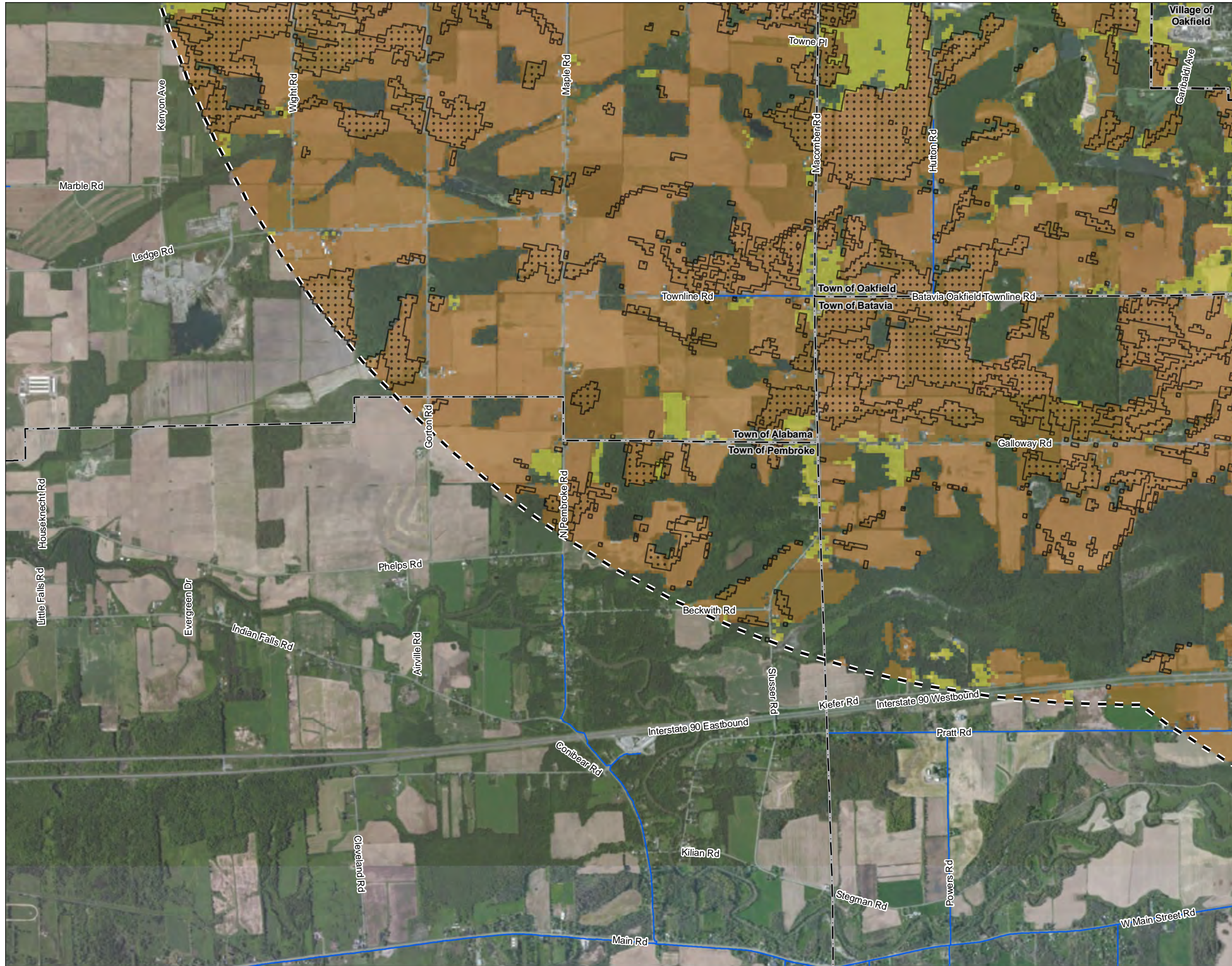
Client/Project
 Hecate Energy Cider Solar LLC
 Cider Solar Farm

190502038 REVA

Figure No.
 15-4c

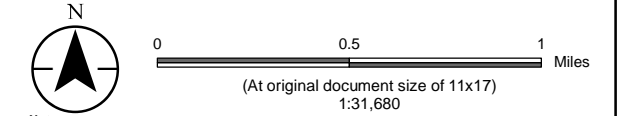
Title
**Active Agriculture and Unique Features
 Within 5-mile Study Area
 Map 6 of 9**

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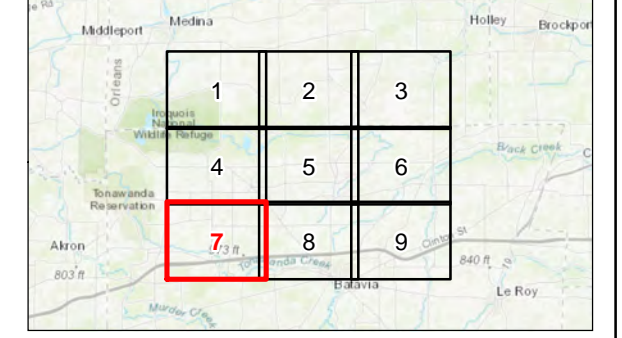


Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- ▲ Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes
 1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (https://gis.ny.gov); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayakunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. Sci Data 7, 257, (https://doi.org/10.1038/s41597-020-00596-x)
 3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



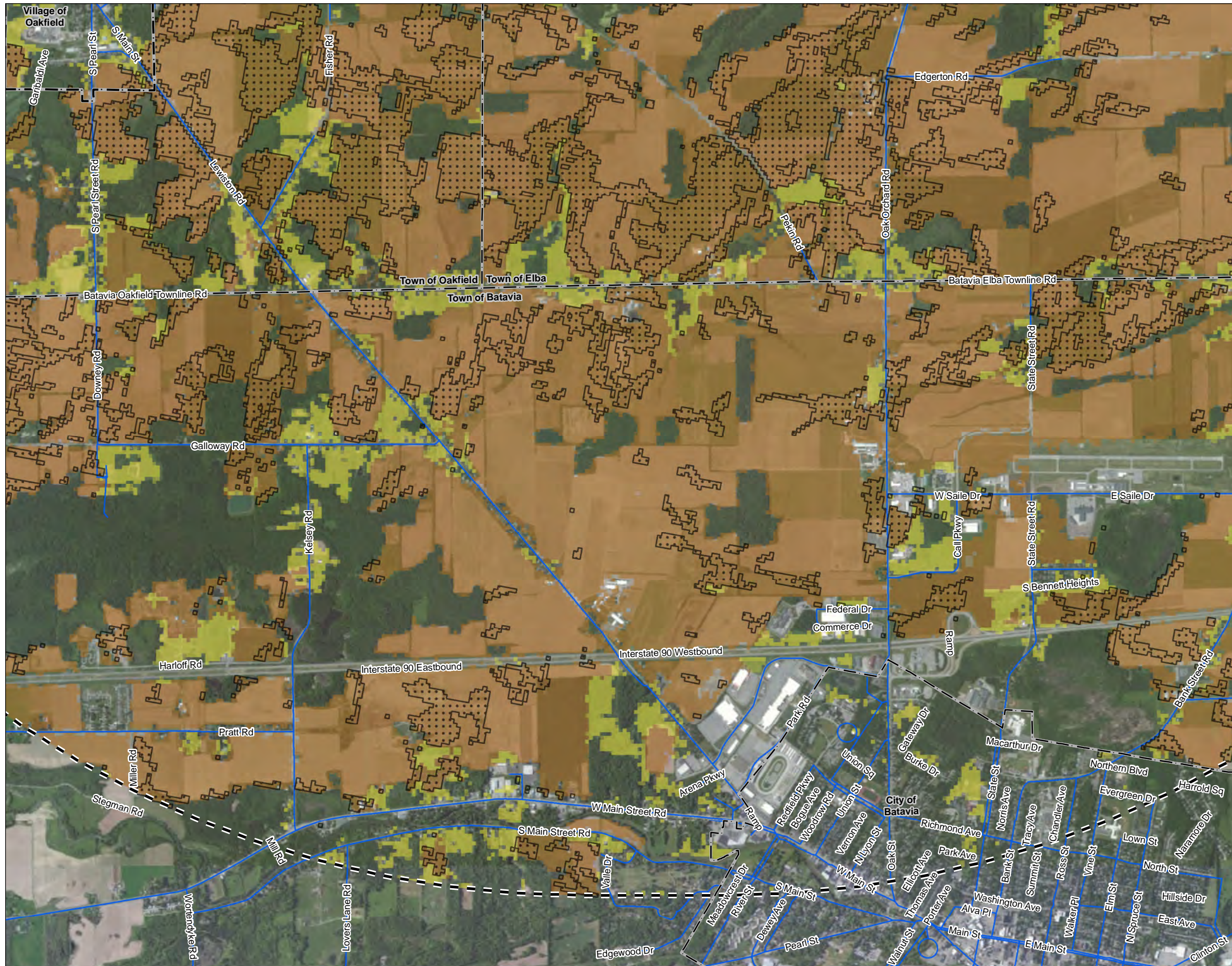
Project Location: Towns of Elba and Oakfield, Genesee County, NY
 Prepared by EE on 2021-08-23, TR by AS on 2021-08-23, IR by SB on 2021-08-23

Client/Project: Hecate Energy Cider Solar LLC, Cider Solar Farm
 190502038 REVA

Figure No. 15-4c

Active Agriculture and Unique Features Within 5-mile Study Area
Map 7 of 9

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Legend

- Project Area
- 5-mile Study Area

Proposed Project

- ⚡ Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- Fence Line
- Access Road
- Laydown Area

NLCD Land Cover Classification

- Hay/Pasture
- Cultivated Crops
- Barren Land

Existing Features

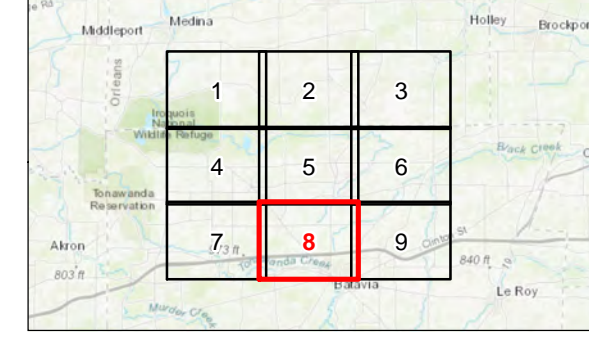
- ▲ Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary

N

(At original document size of 11x17)
1:31,680

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. Sci Data 7, 257. (<https://doi.org/10.1038/s41597-020-00596-x>)
3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-08-23
TR by AS on 2021-08-23
IR by SB on 2021-08-23

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

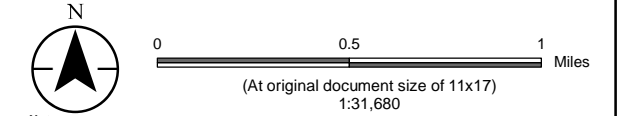
190502038 REVA

Figure No.
15-4c

Title
**Active Agriculture and Unique Features
Within 5-mile Study Area
Map 8 of 9**

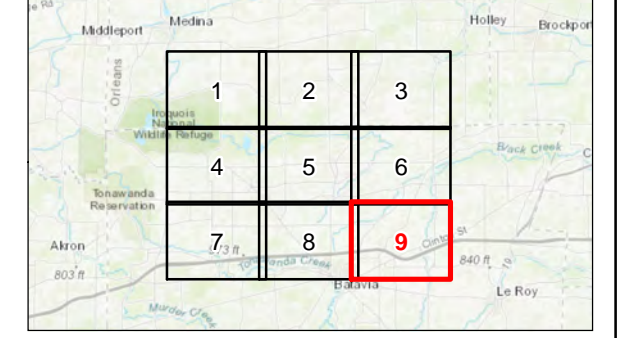
Legend

- Project Area
- 5-mile Study Area
- Proposed Project**
- Substation and Switchyard
- Inverter
- HDD
- PV Panel Array
- Collection Line
- Fence Line
- Access Road
- Laydown Area
- NLCD Land Cover Classification**
- Hay/Pasture
- Cultivated Crops
- Barren Land
- Existing Features**
- Agricultural Drainage Feature
- Culvert
- Drainage Ditch
- Water Line
- Suspected Drain Tile Areas
- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Data Sources: MRLC NLCD 2016 & 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>); 30-m Gridded Tile Drainage Data for the Contiguous United States - Valayamkunnath, P., M. Barlage, F. Chen, D. J. Gochis and K. J. Franz. 2020. Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach. *Sci Data* 7, 257, (<https://doi.org/10.1038/s41597-020-00596-x>)
3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community



Project Location
Towns of Elba and Oakfield
Genesee County, NY

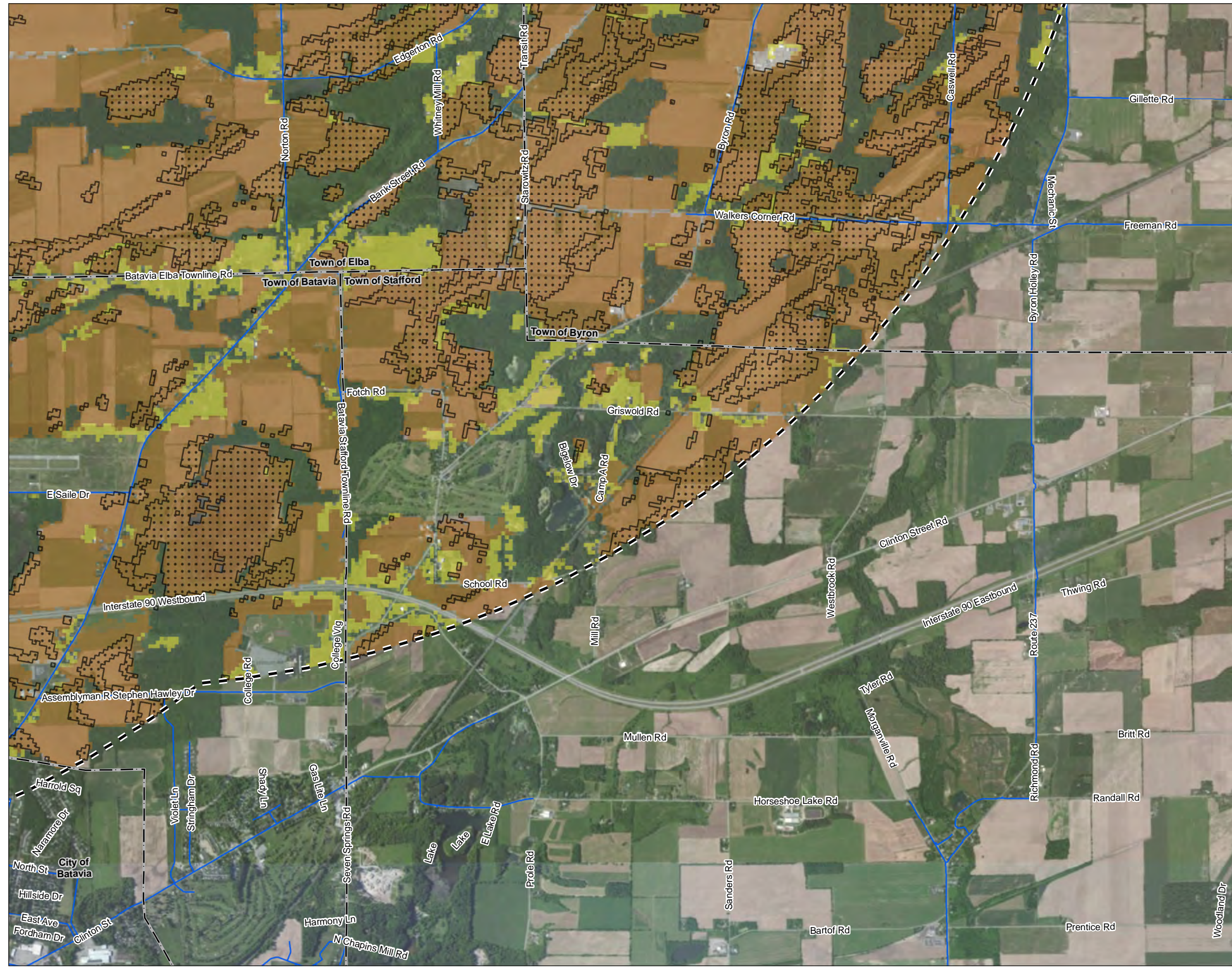
Prepared by EE on 2021-08-23
TR by AS on 2021-08-23
IR by SB on 2021-08-23

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REVA

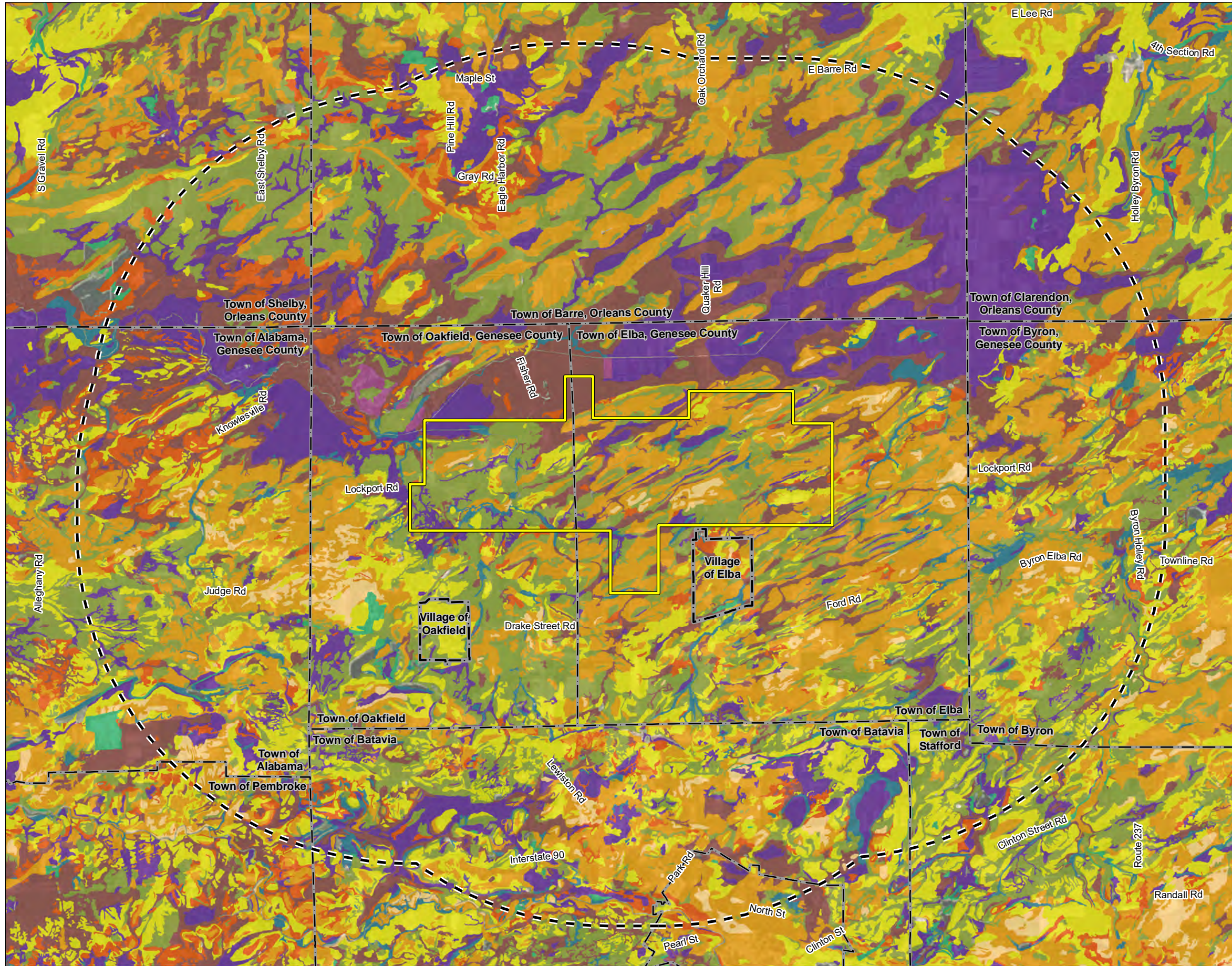
Figure No.
15-4c

Title
**Active Agriculture and Unique Features
Within 5-mile Study Area
Map 9 of 9**



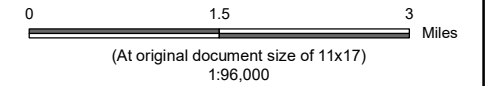
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U:\190502038\03_data\gis\mxd\Application\Exhibit15\Fig_15-5_Mineral_Soil_Groups_CSF_supp.mxd Revised: 2021-08-27 By: astaplion



Legend

- Project Area
- 5-mile Study Area
- Mineral Soil Group**
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10



- Notes**
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 2. Data Sources: MRLC NLCD 2019 (www.mrlc.gov/data), NYS GIS Clearinghouse (<https://gis.ny.gov>); Mineral Soil Groups data from the USDA - NRCS (Natural Resources Conservation Service) dated 09/03/2018 and the 2021 New York State Agricultural Land Classification from New York State Department of Agriculture and Market's (NYSAGM).
 3. Background: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, GIS User Community
 4. For soil mapping units with multiple mineral soil group values, the higher order Mineral Soil Group value was assigned to that map unit.



Project Location
Towns of Elba and Oakfield
Genesee County, NY

Prepared by EE on 2021-08-23
TR by AS on 2021-08-23
IR by JK on 2021-08-23

Client/Project
Hecate Energy Cider Solar LLC
Cider Solar Farm

190502038 REVA

Figure No.
15-5

Title
Mineral Soil Groups