HOFFMAN FALLS WIND

SHADOW FLICKER IMPACT ASSESSMENT - Revision 1

OFFICE OF RENEWABLE ENERGY SITING AND ELECTRIC TRANSMISSION

Prepared for:

Hoffman Falls Wind LLC
90 State Street
Albany, NY 12207

Prepared by:

Epsilon Associates, Inc.
3 Mill & Main Place, Suite 250
Maynard, MA 01754

February 2, 2024

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REDACTED VERSION

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1.0 EXECUTIVE SUMMARY

Hoffman Falls Wind LLC (the Applicant), is proposing to construct a wind energy generation facility, including up to twenty-four (24) wind turbines and corresponding ancillary project infrastructure, within the Towns of Eaton, Fenner, Nelson, and Smithfield in Madison County, New York (the Project). The proposed Project has an expected generating capacity of up to 100 megawatts (MW). Regardless of which wind turbine model is ultimately selected, no more than 24 wind turbines will be constructed. Therefore, for the purposes of this assessment, 24 wind turbines were included.

This version of the Shadow Flicker Impact Assessment has been revised from February 2, 2024, to reflect the redesigned Project layout, incorporating changes associated with the response to the Second Notice of Incomplete Application from the New York State Office of Renewable Energy Siting and Electric Transmission (ORES).

This report provides an assessment of the potential shadow flicker that could be experienced at sensitive receptors located in the vicinity of the Project. This assessment tracks the requirements of Shadow Flicker for Wind Facilities regulations from the New York State Office of Renewable Energy Siting in accordance with Title 16 New York Codes Rules and Regulations (16 NYCRR Part 1100) Chapter XI §1100-2.9(d)(6) which were issued final July 17, 2024. The regulations limit the amount of potential shadow flicker from a Project to thirty (30) hours per year at any non-participating residence.[1]

For the up to 24 wind turbines associated with the Hoffman Falls Wind Project, three different wind turbine generators are being considered. These include the Vestas V150-4.5 wind turbine, the Nordex N149-4.X TS 108 wind turbine, or the GE 158-6.1 wind turbine. All three wind turbine generators were included in this shadow flicker assessment. Shadow flicker was modeled for all potentially sensitive receptors (as defined in 16 NYCRR §1100-2.8(h), sensitive receptors include any known residential structures [both participating and non-participating], outdoor public facilities and public areas, hospitals, schools, libraries, parks, camps, summer camps, places of worship, cemeteries, historic resources listed or eligible for listing on the State or National Register of Historic Places, any public lands, cabins and hunting camps identified by property tax codes, and any other seasonal residences with septic systems/running water) located within ten times the rotor diameter of a wind turbine (dependent on each individual generator), and isolines were generated from a grid encompassing the area surrounding the wind turbines. For the purpose of this modeling effort, receptors were treated as “greenhouses” (i.e., it was assumed

[1] For the purposes of this report, is it assumed that all residences located outside the Facility Site are “non-participating residences.” The Applicant is actively pursuing and/or has secured Good Neighbor Agreements with landowners located outside the Facility Site that may be impacted by shadow flicker (see Appendix 4-B). However, as the real estate process for any utility-scale wind energy generating facility is dynamic and protracted, the assumption above is being applied in this report to support the conservative approach to curtailment outlined in Section 6.0.

that sunlight could enter the structure from any angle), which is inherently conservative, and all of the receptors were modeled without obstacles such as vegetation or structures that could block the shadow flicker effect ("bare earth").

For each wind turbine generator, the majority of potentially sensitive receptors are expected to receive less than 30 hours of shadow flicker per year. However, shadow flicker was modeled to exceed 30 hours per year for each modeling scenario at some non-participating residences. Under the worst-case scenario (i.e., modeling the GE 158-6.1 turbine), twenty-nine (29) non-participating residences were modeled to receive greater than 30 hours per year of shadow flicker, based on the proposed Project layout. It is important to note that these results do not reflect expected on-the-ground conditions—many of the receptors modeled to receive greater than 30 hours of shadow flicker per year are likely to have limited exposure to shadow flicker as a result of vegetation and structures obstructing visibility of the turbines.

To address locations that are currently modeled to exceed 30 hours of shadow flicker per year, the Applicant intends to conduct further shadow flicker assessments prior to the start of construction. These assessments will be based on the final Project layout and turbine model selected and will incorporate site-specific information on the visibility individual non-participating residential receptors will have of those turbines with the potential to cause shadow flicker. For those non-participating residential receptors that continue to exceed the 30-hour annual threshold, the Applicant intends to secure Good Neighbor Agreements (GNAs) or use shadow flicker detection and prevention technology to curtail turbines contributing to exceedances and meet the 30-hour annual threshold. As a result, based on detailed analyses presented in this report, the operation of the Hoffman Falls Wind Project will comply with 16 NYCRR §1100-2.9(d)(6) as it relates to shadow flicker at non-participating residences.

2.0 INTRODUCTION

Hoffman Falls Wind LLC is proposing to construct a wind energy generation facility of up to 100 MW, including up to twenty-four (24) wind turbines within the Towns of Eaton, Fenner, Nelson, and Smithfield in Madison County, New York. The actual number and location of wind turbines constructed will depend on the capacity of the wind turbine model selected. Eight wind turbines are currently proposed in the Town of Eaton, twelve wind turbines in the Town of Fenner, one wind turbine in the Town of Nelson, and three in the Town of Smithfield. Associated support facilities will include an underground medium voltage collection system, gravel access roads, a permanent meteorological (MET) tower, an aircraft detection lighting system (ADLS) tower, temporary construction laydown yards, a temporary concrete batch plant, an operations and maintenance (O&M) facility, a collection substation, a point of interconnection (POI) switchyard, and a short 115-kilovolt (kV) transmission line that will connect the Facility to the high voltage electric grid.

This shadow flicker analysis was conducted in accordance with the ORES Article VIII regulations. This report, which summarizes the results of the study, includes the following elements:

- Wind turbine shadow flicker description
- Discussion of shadow flicker limits and regulations for the Project
- Shadow flicker modeling procedures
- Shadow flicker modeling results
- Shadow flicker evaluation
- Detailed appendices of modeling data and results tables

3.0 WIND TURBINE SHADOW FLICKER

With respect to the Project's wind turbines, shadow flicker can be defined as an intermittent change in the intensity of light in a given area resulting from the operation of a wind turbine due to its interaction with the sun. While indoors, an observer may experience repeated changes in the brightness of the room as shadows cast from the wind turbine blades briefly pass by windows as the blades rotate. For this to occur, the wind turbine must be operating, the sun must be shining, and the window must be within the shadow region of the wind turbine. Otherwise, there is no shadow flicker. A stationary wind turbine only generates a stationary shadow similar to any other structure.

Based on the current design and operation of typical modern wind turbines, shadow flicker impacts are generally an annoyance and not a health effects concern. Sometimes the public is concerned about the possibility of epileptic seizures being caused by shadow flicker (i.e., photosensitive epilepsy). According to the Epilepsy Foundation, "[g]enerally, flashing lights most likely to trigger seizures are between the frequency of 5 to 30 flashes per second (Hertz)."[2] Of the proposed wind turbines under consideration for this Project, the maximum rotational speed of 12.6 revolutions per minute (rpm) corresponds to a frequency of 0.63 hertz (Hz) (above this amount, the turbine shuts down). This frequency is well below the frequency identified by the Epilepsy Foundation as a possible epilepsy trigger; therefore, the triggering of epileptic seizures is not a concern with this Project.

[2] Epilepsy Foundation, https://www.epilepsy.com/what-is-epilepsy/seizure-triggers/photosensitivity. Accessed in January 2024.

4.0 REGULATIONS – SHADOW FLICKER

4.1 New York State

Section 1100-2.9(d)(6) of the Article VIII regulations establishes the following shadow flicker limits:

(6) **Shadow Flicker for Wind Facilities**. Shadow flicker shall be limited to thirty (30) hours per year at any non-participating residence, subject to verification using shadow prediction and operational controls at appropriate wind turbines. The Visual Impacts Minimization and Mitigation Plan shall include:

(i) Analysis of a full year of hourly potential and realistic and receptor-specific predicted flicker based on sunshine probabilities, operational projections, and facility design;

(ii) A protocol for monitoring operational conditions and potential flicker exposure at the wind turbine locations identified in the updated analysis, based on meteorological conditions;

(iii) Details of the shadow prediction and prevention technology that will be adopted for real-time meteorological monitoring and operational control of turbines;

(iv) Schedule and protocol for temporary turbine shutdowns during periods that produce flicker to meet required shadow flicker; and

(v) Shielding or blocking measures (such as landscape plantings and window treatments) may also be implemented at receptor locations that exceed the thirty (30)-hour annual limit, with approval by the residential receptor.

4.2 Local Laws

Hoffman Falls Wind is located within the Towns of Eaton, Fenner, Nelson and Smithfield in Madison County, New York. Madison County, the Town of Fenner, and the Town of Nelson do not have any shadow flicker regulations applicable to wind turbine operations. The Town of Smithfield's local wind law for Wind Energy Conversions Systems (WECS) addresses shadow flicker in Section 1100-5.B.(p)i.

i. Shadow Flicker. The applicant shall conduct a study on potential shadow flicker. The study shall identify locations where shadow flicker may be caused by the WECSs and the expected durations of the flicker at these locations. The study shall identify areas where shadow flicker may interfere with residences and describe measures that shall be taken to eliminate or mitigate the problems.

The Town of Eaton's local wind law contains the same language as Smithfield (see Section 120-23.15(B)(p)(i) of their wind law). Although these provisions are procedural in nature and are therefore supplanted by Article VIII, this report satisfies the requirements of the Towns' local provisions.

5.0 MODELING ANALYSIS – PREDICTED SHADOW FLICKER

5.1 Modeling Methodology

Shadow flicker was modeled using a software package, WindPRO version 3.6.366. WindPRO is a software suite developed by EMD International A/S and is used for assessing potential environmental impacts from wind turbines. Using the Shadow module within WindPRO, worst-case shadow flicker in the area surrounding the wind turbines was calculated based on data inputs including:

- Location of the wind turbines (latitude and longitude coordinates),
- Location of discrete modeling points (i.e., latitude and longitude coordinates of receptors),
- Wind turbine dimensions,
- Flicker calculation limits, and
- Terrain data.

For purposes of this study, the discrete modeling points (i.e., receptors), both participating and non-participating, include residences (year-round residences and seasonal residences), unknown structures, commercial structures, other structures (other structures and uninhabitable residences), and public structures (public structures and institutional structures).

Based on these data, the model was able to incorporate the appropriate sun angle and maximum daily sunlight for this latitude into the calculations. The resulting worst-case calculations assume that the sun is always shining during daylight hours and that the wind turbine is always operating. The WindPRO Shadow module can be further refined by incorporating sunshine probabilities and wind turbine operational estimates by wind direction over the course of a year. The values for this further refinement, also known as the "expected" shadow flicker, are presented in this section. These apply to the expected hours per year of shadow flicker.

A twenty-four (24) wind turbine project layout was provided by the Applicant on August 8, 2024. All wind turbines were input into the model for the three wind turbine generators being considered by the Applicant:

- Vestas V150-4.5,
- Nordex N149-4.X TS 108, or
- General Electric GE 158-6.1.

The proposed locations of the Project's wind turbines are shown in Figure 5-1 and listed in tabular format in Table A-1 as part of Appendix A.

Each wind turbine had key specifications included in the analysis based on the technical data provided by the Applicant. The V150-4.5 wind turbines have a hub height (HH) of 120 meters and a rotor diameter of 150 meters. The cut-in and cut-out wind speeds for the V150-4.5 wind turbines

are 3.0 m/s and 24.5 m/s respectively. The Nordex N149-4.X TS 108 wind turbines have a hub height of 108 meters and a rotor diameter of 149 meters. The cut-in and cut-out wind speeds for the N149-4.X TS 108 turbines are 3.0 m/s and 26.0 m/s respectively. The GE 158-6.1 wind turbines have a hub height of 117 meters and a rotor diameter of 158 meters. The cut-in and cut-out wind speeds for the GE 158-6.1 are 3.0 m/s and 25.0 m/s respectively.

A modeling receptor dataset was developed by Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) and provided. The 2,333 receptors from this dataset were input into the WindPRO model. This receptor dataset identified and classified structures or places that may meet the sensitive receptor definition outlined in 16 NYCRR § 1100-2.8(h)(1) that are located within a 2-mile radius of any proposed wind turbine or substation. Of the 2,333 total receptors, 1,522 are non-participating residences and 26 are participating residences. The remaining 785 receptors are categorized as unknown structures, commercial structures, other structures (other structures and uninhabitable residences), and public structures (public structures and institutional structures). As outlined in the Article VIII regulations, only permanent residences were evaluated for shadow flicker impacts.[3]

Shadow flicker was assessed out to a distance of 10 times the rotor diameter of the turbine model being evaluated (the Study Area).[4] For this Project, 10 times the rotor diameter corresponds to a distance of 1,500 meters (0.93 miles) for the V150-4.5 wind turbine, a distance of 1,490 meters (0.93 miles) for the N149-4.X TS 108 wind turbine, and a distance of 1,580 meters (0.98 miles) for the GE 158-6.1 wind turbine. Receptors located outside the Study Area were assigned a shadow flicker value of zero in the output tables.

Receptors were modeled as discrete points and are shown in Figure 5-1. Each modeling point was assumed to have a window facing all directions ("greenhouse" mode) which yields conservative results. In addition, a dataset containing the latest parcel participation status was provided by the Applicant on November 3, 2023, which allowed for participation status to be assigned to each

[3] The Applicant will update the receptor dataset, and studies that rely on this dataset, as additional information is made available on the status of receptors located within the Study Area. For example, if a permanent residence is determined to be uninhabitable, seasonal, or otherwise not a permanent residence, the shadow flicker and sound results will be updated accordingly.

[4] To-date, there are no federal, state, or local regulations or guidelines regarding the maximum radial distance from a wind turbine to which shadow flicker should be analyzed applicable to this Project. In the United States, shadow flicker is commonly evaluated out to a distance of ten times the rotor diameter. According to the Massachusetts Model Bylaw for wind energy facilities, shadow flicker impacts are minimal at and beyond a distance of ten rotor diameters (Massachusetts Department of Energy Resources, "Model As-of-Right Zoning Ordinance or Bylaw: Allowing Use of Wind Energy Facilities" 2009). Defining the shadow flicker calculation area has also been addressed in Europe where the ten times rotor diameter approach has been accepted in multiple European countries. In addition to modeling discrete points, which occurred for all three wind turbine generators and associated hub height combinations being considered, shadow flicker was calculated at grid points in the area surrounding the modeled wind turbines to generate flicker isolines. A 20-meter spacing was used for this grid.

modeling receptor. Only parcels in the Project's Facility Site were considered "participating." All other parcels and corresponding modeling receptors were considered "non-participating." Participating parcels are shown on Figure 5-1.

The terrain height contour elevations for the modeling domain were generated from elevation information derived from the National Elevation Dataset (NED) developed by the U.S. Geological Survey from their 10-meter resolution digital elevation model (DEM) data. Obstacles such as buildings and vegetation were excluded from the analysis though, in practical terms, such obstacles may significantly mitigate or eliminate the flicker effect depending on their size, type, and location. Adopting the "bare earth" scenario ensures the model results are conservative. In addition, shadow flicker durations were calculated only when the angle of the sun was at least 3° above the horizon.

Monthly sunshine probability values were included for each month from January to December. These numbers were obtained from the most recent publicly available historical dataset for Syracuse, New York, from the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information (NCEI).[5] Table 5-1 shows the percentage of sunshine hours by month used in the shadow flicker modeling. These values are the percentages that the sun is expected to be shining during daylight hours.

The number of hours the wind turbines are expected to operate for the 16 cardinal wind directions was also considered in the model. Ten-minute wind speed and direction were provided by the Applicant for one year of on-site meteorological data from the year 2022 at a height of 120 meters, representing the tallest of the proposed wind turbine hub heights. Epsilon processed the data into a joint frequency distribution of wind speed and wind direction, which allowed for the determination of operational hours per wind direction sector. These hours per wind direction sector are used by WindPRO to estimate the "wind direction" and "operation time" reduction factors. Based on this dataset, the wind turbines would be expected to operate at some level approximately <BEGIN CONFIDENTIAL INFORMATION> [redacted] <END CONFIDENTIAL INFORMATION> due to cut-in and cut-out specifications of the proposed wind turbines. Table 5-2 shows the distribution of operational hours for the 16 wind directions. The reduction factors in Tables 5-1 and 5-2 are only applied to the expected hours per year of shadow flicker calculations. The worst-case shadow flicker hours per year and the maximum shadow flicker minutes per day are both calculated as if the sun is always shining, and the wind is always blowing above cut-in speed and below cut-out speed. These are conservative estimates.

[5] NCEI (formerly NCDC), https://www1.ncdc.noaa.gov/pub/data/ccd-data/pctpos15.dat. Accessed in June 2023.

Table 5-1 Monthly Percent of Possible Sunshine

Month	Possible Sunshine
January	34%
February	39%
March	46%
April	53%
May	53%
June	54%
July	60%
August	57%
September	51%
October	40%
November	25%
December	23%

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Table 5-2 [redacted]

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Sullivan
Lincoln
Smithfield
Fenner
Stockbridge
Augusta
Madison
Eaton
Nelson
Cazenovia

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

Collector Substation
Proposed Switchyard

T-1 T-2 T-3 T-4 T-5 T-6 T-7 T-8 T-9 T-10 T-11 T-12 T-13 T-14 T-15 T-16 T-17 T-18 T-19 T-20 T-21 T-22 T-23 T-24

LEGEND

- Map Sheets
- Switchyard
- Collector Substation
- Participating Receptor
- Non-Participating Receptor
- Proposed Wind Turbine
- City/Town Boundary
- County Boundary
- Participating Parcel
- Non-Participating Parcel
- State Route
- County Road

Scale 1:62,400
1 inch = 5,200 feet
0 2,600 5,200 Feet

Basemap: ESRI World Imagery (2022)

Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Index
Shadow Flicker Modeling Locations

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LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Map 1 of 46
Shadow Flicker Modeling Locations

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LEGEND

- Proposed Wind Turbine
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- Switchyard
- Collector Substation
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- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
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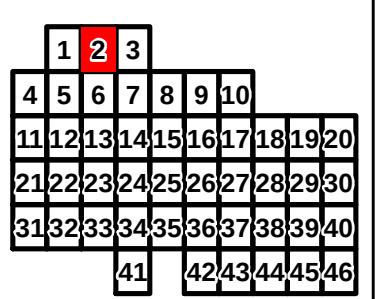
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Map 2 of 46
Shadow Flicker Modeling Locations

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LEGEND

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Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Map 3 of 46
Shadow Flicker Modeling Locations

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Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Map 4 of 46
Shadow Flicker Modeling Locations

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Hoffman Falls Wind Madison County, NY

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Figure 5-1, Map 5 of 46
Shadow Flicker Modeling Locations

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Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Map 6 of 46
Shadow Flicker Modeling Locations

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Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Map 7 of 46
Shadow Flicker Modeling Locations

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Hoffman Falls Wind **Madison County, NY**

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Figure 5-1, Map 8 of 46
Shadow Flicker Modeling Locations

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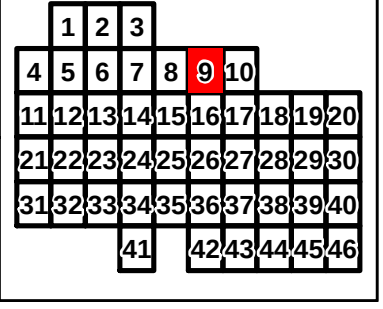
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 9 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 10 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

	1	2	3							
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 11 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 12 of 46
Shadow Flicker Modeling Locations

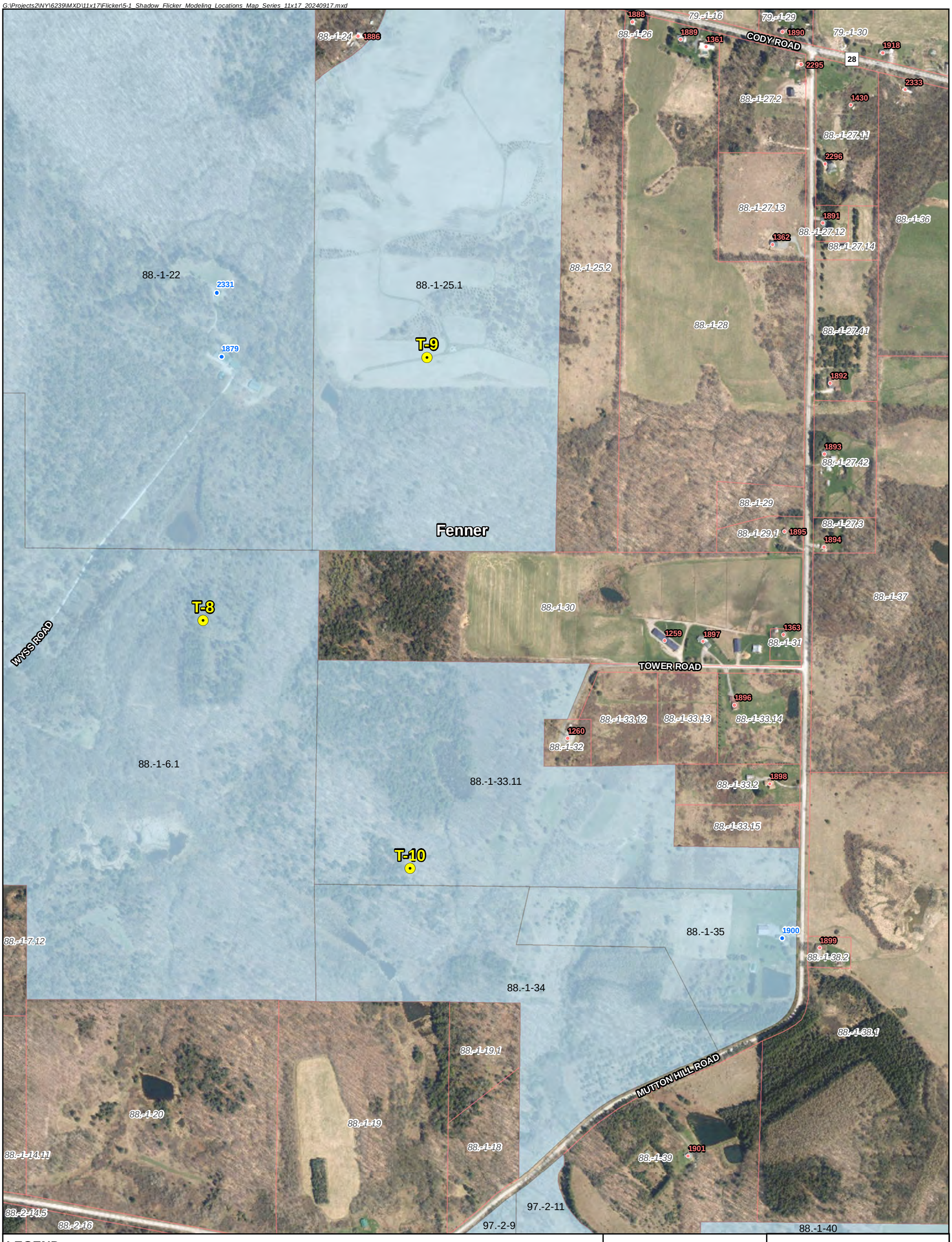
G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 13 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd



LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 14 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 15 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 16 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 17 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 18 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 19 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 20 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 21 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

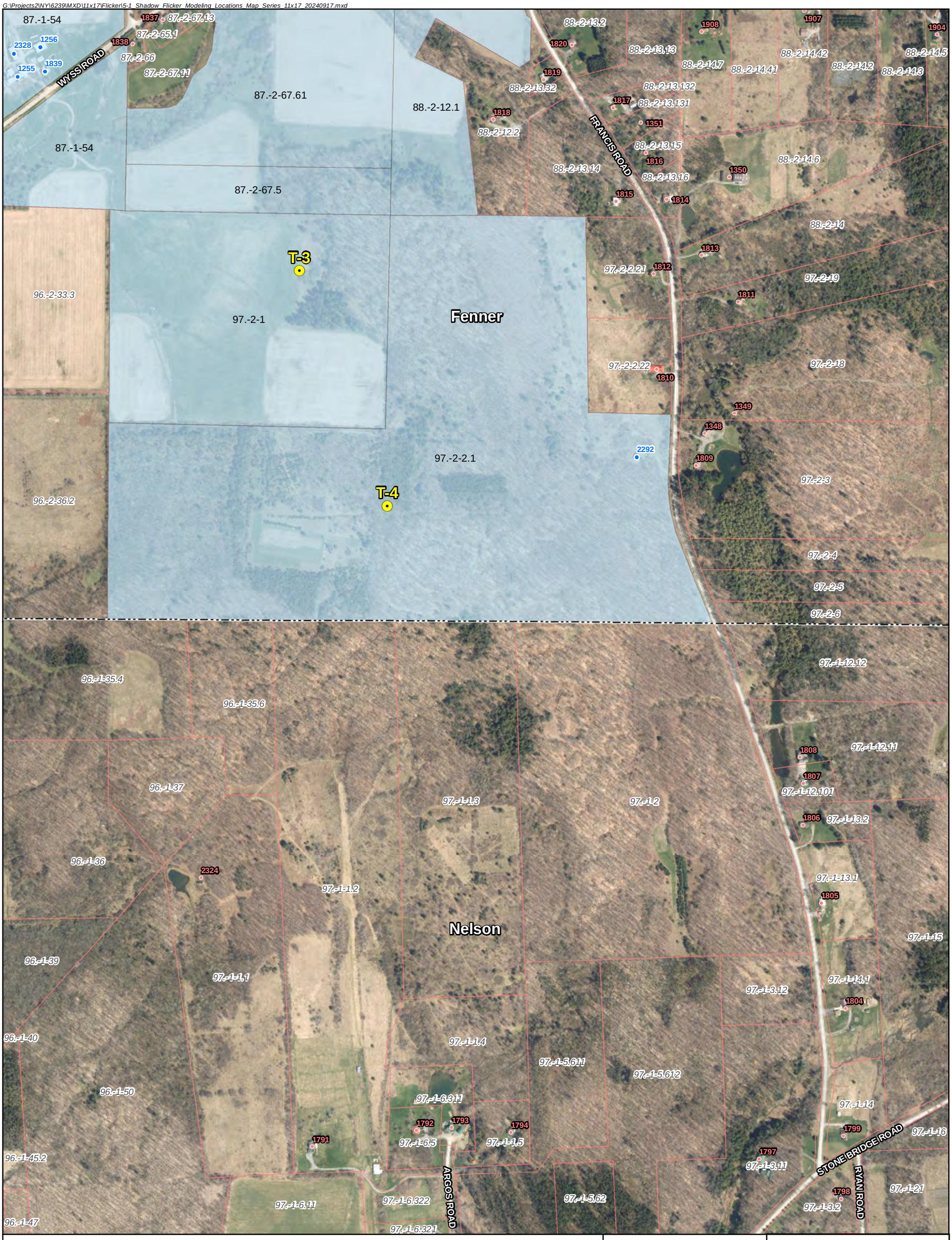
		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 22 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

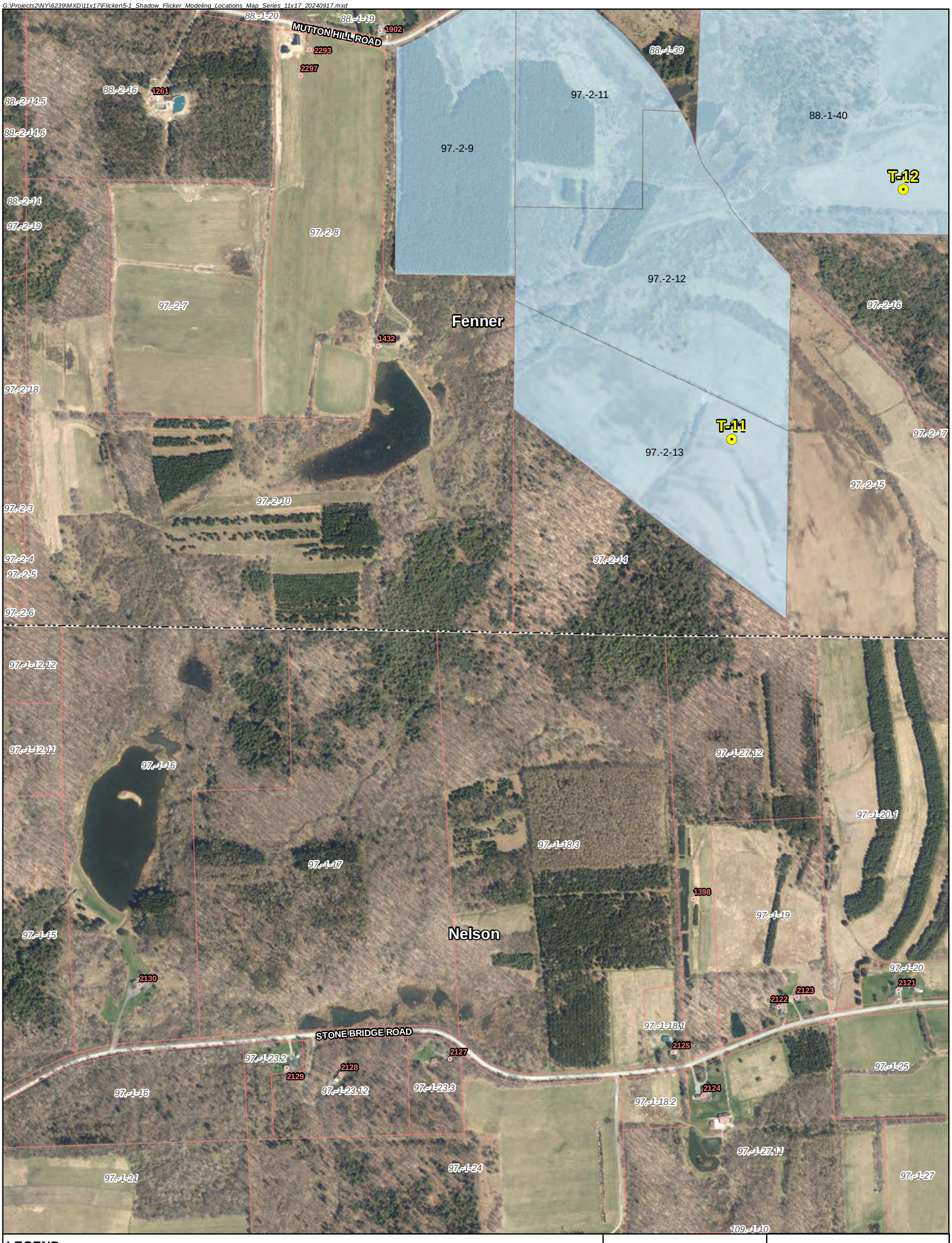


Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 23 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd



LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 24 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	**25**	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 25 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 26 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	**27**	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 27 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 28 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 29 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind Madison County, NY

Epsilon Associates Inc.

Figure 5-1, Map 30 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

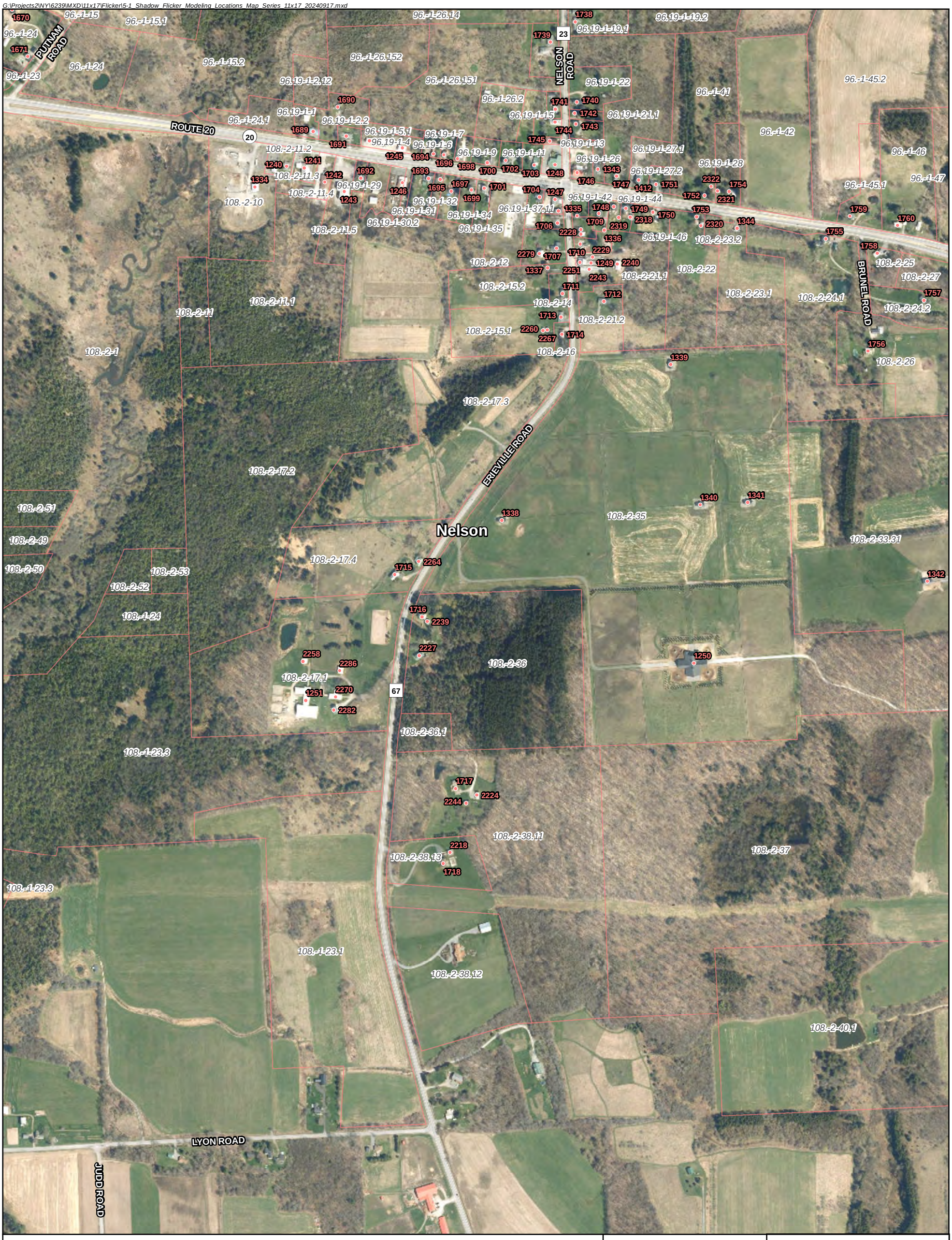
		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 31 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd



Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 32 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 33 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 34 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 35 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 36 of 46
Shadow Flicker Modeling Locations

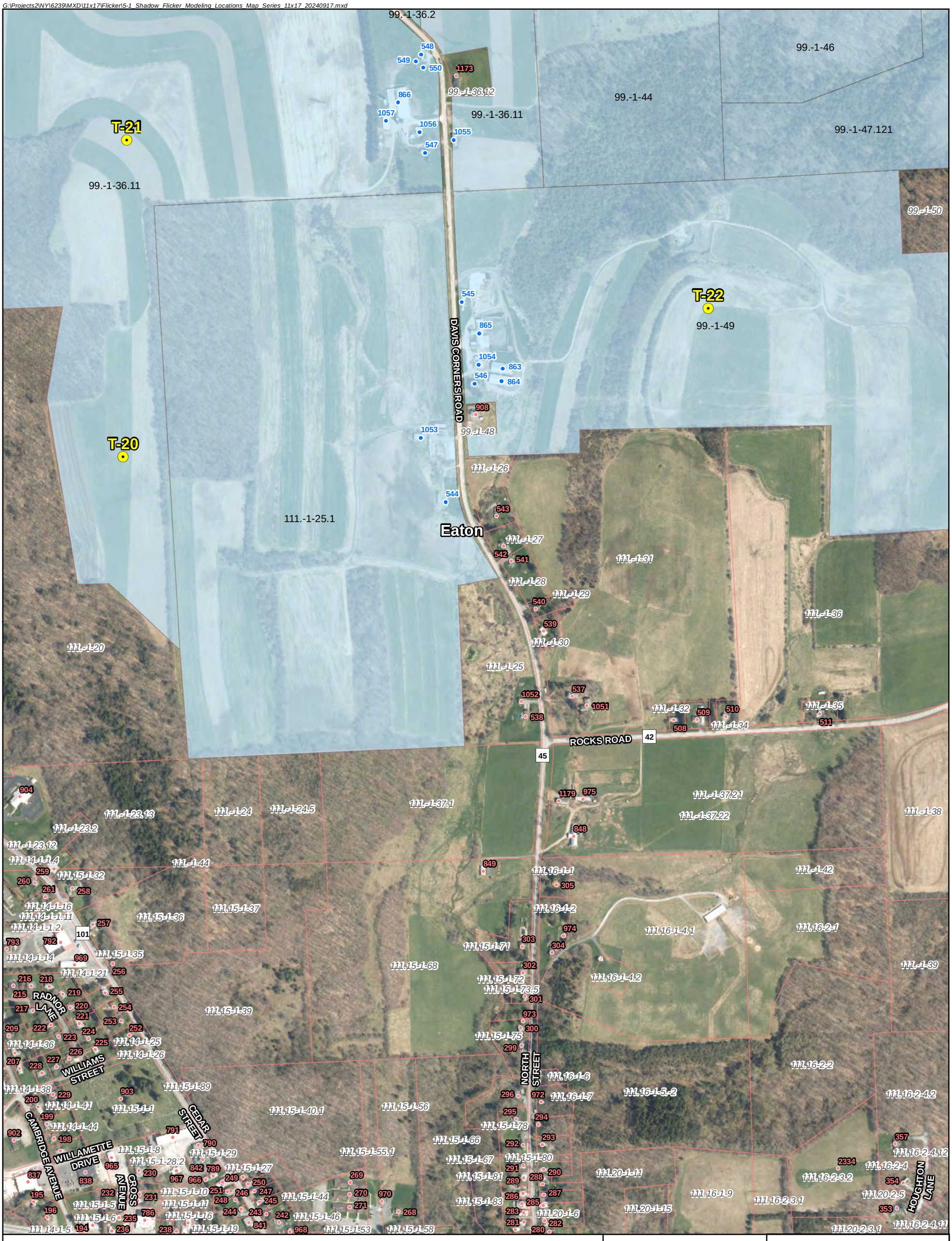
G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 37 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd



LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 38 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 39 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 40 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3						
4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
			41		42	43	44	45	46	

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 41 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

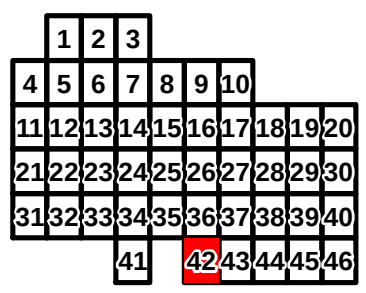
LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet

0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 42 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

LEGEND

- Proposed Wind Turbine
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- Participating Parcel
- Non-Participating Parcel
- County Boundary
- City/Town Boundary
- State Route
- County Road

Scale 1:7,200
1 inch = 600 feet
0 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

		1	2	3					
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
			41		42	43	44	45	46

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 43 of 46
Shadow Flicker Modeling Locations

G:\Projects2\NY\6239\MXD\11x17\Flicker\5-1_Shadow_Flicker_Modeling_Locations_Map_Series_11x17_20240917.mxd

Hoffman Falls Wind **Madison County, NY**

Epsilon Associates Inc.

Figure 5-1, Map 44 of 46

Shadow Flicker Modeling Locations