Agricola Wind

Pre-Construction Sound Level Impact Assessement

OFFICE OF RENEWABLE ENERGY SITING AND ELECTRIC TRANSMISSION

§1100-2.8 EXHIBIT 7: NOISE AND VIBRATION

Prepared for:

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REDACTED VERSION

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EXHIBIT 7 NOISE AND VIBRATION

This Assessment will track the requirements of Noise and Vibration for Wind Facilities regulations from the New York State Office of Renewable Energy Siting and Electric Transmission (ORES) in accordance with Title 16 New York Codes Rules and Regulations (16 NYCRR Part 1100) Chapter XI §1100-2.8 which were issued final July 17, 2024. Agricola 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 Scipio and Venice in Cayuga County, New York (the Project). The proposed Project has an expected generating capacity of up to 99 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.

7(a) Name of Preparer

This Assessment includes a detailed analysis of the potential sound impacts associated with the construction and operation of the Project. Exhibit 7 was prepared by Mr. Christopher Hoyt of Epsilon Associates, Inc. (Epsilon). Mr. Hoyt has ten years of experience in the areas of community noise impacts, meteorological and sound level data collection and analyses. He is a full member of the Institute of Noise Control Engineering (INCE). The modeling performed by Epsilon for the Project is sufficiently conservative in predicting sound impacts, and includes all proposed wind turbines, the switchyard, collector substation plus ancillary equipment operating at their maximum capacities.

7(b) Noise Design Goals for the Facility

The design goals for this wind facility are described below.

i) A maximum noise limit of forty-five (45) dBA L_{eq} (8-hour), at the outside of any existing non-participating residence,[1] and fifty-five (55) dBA L_{eq} (8-hour) at the outside of any existing participating residence. The Project meets these limits as discussed in Section 7(l).

ii) Prominent tones are defined by using the constant level differences listed under ANSI/ASA S12.9-2005/Part 4 Annex C (sounds with tonal content) (see Section 1100-15.1(a)(1)(iii) of this Part), at the outside of any existing non-participating residence. Should a prominent tone occur, the broadband overall (dBA) noise level at the evaluated non-participating position shall be increased by 5 dBA for evaluation of compliance with subparagraphs (i) and (v) of this paragraph. None of the wind turbines under consideration for this Project currently produce a tone, as discussed in Section 7(e).

[1] For the purposes of this report, it is assumed that all residences and parcels located outside the Facility Site are “non-participating.” The Applicant is actively pursuing Good Neighbor Agreements with landowners located outside the Facility Site that may be impacted by sound (see Appendix 4-A). 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 abatement outlined in Exhibit 7(o).

iii) A maximum noise limit of sixty-five (65) dB L_{eq} (1-hour) at the full octave frequency bands of sixteen (16), thirty-one and a half (31.5), and sixty-three (63) Hertz (Hz) outside of any existing non-participating residence in accordance with Annex D of ANSI/ASA standard S12.9-2005/Part 4 Section D.2.(1) (Analysis of sounds with strong low-frequency content) (see section 1100-15.1(a)(1)(iii) of this Part). The Project meets these limits as discussed in Section 7(f).

iv) Not producing human perceptible vibrations inside any existing non-participating residence that exceed the limits for residential use recommended in ANSI/ASA Standard S2.71-1983 "Guide to evaluation of human exposure to vibration in buildings" (see section 1100-15.1(a)(1)(i) of this Part). The Project meets this limit as discussed in Section 7(g) and 7(m).

v) A maximum noise limit of forty (40) dBA L_{eq} (1-hour) at the outside of any existing non-participating residence from the collector substation equipment. The Project meets these limits as discussed in Section 7(l).

vi) A maximum noise limit of fifty-five (55) dBA L_{eq} (8-hour), short-term equivalent continuous average nighttime sound level from the facility across any portion of a non-participating property except for portions delineated as NYS-regulated wetlands pursuant to section 1100-1.3(e) of this Part and utility ROW. The applicant shall demonstrate compliance with this design goal through the filing of noise contour drawings and sound levels evaluated at the worst-case discrete locations. No penalties for prominent tones will be added in this assessment. The Project meets these limits as discussed in Sections 7(k) and 7(l).

With regards to local laws applicable to the proposed Project see below. These local laws are discussed further in Section 7(l).

Agricola Wind is located within the Towns of Scipio and Venice in Cayuga County, New York. The Town of Scipio addresses wind energy pursuant to Article XI Wind Energy Systems within their Zoning Ordinance. Article XI provides the regulations for the construction and operation of Wind Energy Facilities in the Town of Scipio. No quantitative sound level limits regulated by the Town of Scipio are identified in Article XI.

The Town of Venice addresses wind energy through their 2024 Wind Energy Facilities Law. The Wind Energy Facilities Law states their noise standards in Section 8-2.

Section 8-2 **Noise**.

A. The level of noise produced by or from the operation of the Wind Energy Conversion System shall not exceed the following:

i. 45dBA Leq 8-hour at non-participating residential or commercial structures[2].

[2] Commercial Structure is defined as "[a] structure which is occupied by humans for at least an average of 1,000 hours per year and does not fall under the definition of Residential Structure" in Section 4 of the Town of Venice 2024 Wind Energy Facilities Law. For conservatism, in this assessment all potential commercial structures identified in the Town of Venice have been evaluated against the Town of Venice noise standards. A final classification would require a further evaluation of occupancy and income related to each structure (as defined in the local law).

ii. 55 dBA Leq 8-hour at participating residential or commercial structures.
iii. 65 dBZ Leq 1-hour at 16 Hz, 31.5 Hz, and 63 Hz full octave bands.

B. In addition, the system shall not produce any audible prominent tones, as defined under ANSI (American National Standards Institute) S12.9, Part 4-2005 Annex C, as amended from time to time at any non-participating structures.

C. The system shall not produce human perceptible vibrations inside any non-participating structures that exceed the limits for residential use recommended in ANSI Standard S2.71-1983, as amended.

D. In the event that the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is not exceeded for more than six (6) minutes per hour. Ambient noise levels shall be measured at a distance of 1,000 feet from the base of the Wind Energy Conversion Unit. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind-generated noise at the microphone. Ambient noise level measurements may be performed when wind velocities at the proposed project Site are sufficient to allow Wind Turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.

E. Any noise level falling between two whole decibels shall be the greater of the two.

7(c) Radius of Evaluation

All sensitive receptors within at least a one (1)-mile radius from any wind turbine or substation proposed for the facility, were included in the analysis. Each of these sensitive receptors are visible in Figure 7-1.

A cumulative analysis requires noise modeling to include any wind turbine and substation existing and proposed by the time of the filing the application, and any existing sensitive receptors within a two (2)-mile radius from any wind turbine or substation proposed for the facility. There are no existing or proposed wind facilities within a two (2) mile radius of an Agricola Wind turbine or substation. As a result, no cumulative noise analysis was performed.

7(d) Modeling Standards, Input Parameters, and Assumptions

An estimate of the noise level to be produced by the Project was made using the following assumptions.

(1) Future sound levels associated with the Project were predicted using the Cadna/A noise calculation software developed by DataKustik GmbH. This software implements the ISO 9613-2 (1996) international standard for sound propagation (Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation) for full octave bands

from 31.5 Hertz (Hz) to 8000 Hz. As per ISO 9613-2 (1996), all calculations assumed favorable conditions for sound propagation, corresponding to a moderate, well-developed ground-based temperature inversion, as might occur on a calm, clear night, or equivalently downwind propagation. In addition, the ISO 9613-2 (1996) standard assumes all receptors are downwind of every sound source simultaneously. No meteorological correction (Cmet) was added to the results, pursuant to 16 NYCRR § 1100-2.8(d).

Elevation contours for the modeling domain were directly imported into Cadna/A, which allowed for consideration of terrain shielding where appropriate. 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.

In addition to modeling at discrete points, sound levels were also modeled throughout a large grid of receptor points, each spaced 20 meters apart to allow for the generation of sound level isolines. Tabular results and sound level isolines were calculated and generated for the entire Study Area (see Section 7(h)).

i) All sound sources were assumed to be operating simultaneously at maximum sound power levels. The collector substation was also modeled by itself operating at maximum sound power level.

The sound power levels for each source used in the modeling are discussed below.

Wind Turbines

The sound level analysis includes twenty-four (24) wind turbines as provided to Epsilon by the Applicant (Layout 20240808). The source location coordinates, ground elevations, and heights above ground are summarized in Appendix 7-A. There are three wind turbine models by two different manufacturers under consideration by the Applicant that were evaluated for this analysis. The list of wind turbine manufacturers, models, hub heights, and rotor diameters examined for this assessment are presented below in Table 7-1. Each of the turbines includes the low-noise blade option, sometimes referred to as serrated trailing edge, or low-noise trailing edge blades.

Table 7-1 Wind Turbine Analyzed for Sound Level Assessment

Manufacturer	Wind Turbine Model	Maximum Electrical Power (MW)	Hub Height (m)	Rotor Diameter (m)
Vestas	V150-4.5	4.5	120	150
Vestas	V162-6.8	6.8	119	162
Nordex	N149-4.X TS 108	4.X	108	149

Technical reports from Nordex and Vestas were provided by the Applicant, which document the expected sound power levels associated with each of the wind turbines. All technical documents provided are in Appendix 7-G. Of the three wind turbine options, the N149-4.X TS 108 has the highest broadband A-weighted sound power level, and therefore modeling results of this turbine result in the highest broadband sound levels. Table 7-2 shows the broadband sound power levels as a function of wind speed from these technical reports. <BEGIN CONFIDENTIAL INFORMATION> [redacted] <END CONFIDENTIAL INFORMATION> The maximum octave band sound power levels for each wind turbine type are presented in Table 7-3 (A-weighted) and Table 7-4 (unweighted). For each one-third octave band, the highest sound power level published by the manufacturer has been used and then was converted into whole octave bands as input to the Cadna/A software, regardless of the wind speed at which they occur. The sound power levels presented in both tables do not include an uncertainty factor. <BEGIN CONFIDENTIAL INFORMATION>

Table 7-2 [redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

Table 7-3 [redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 7-4 [redacted]

[redacted]										
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

<END CONFIDENTIAL INFORMATION>

Collector Substation

In addition to the wind turbines, there will be a collector substation located within the Facility Site. Two step-up transformers rated at 115 MVA (ONAF2) are proposed for the substation with a NEMA noise rating of 75 dBA. The 115 MVA transformers have not yet been manufactured and a test report with corresponding sound level data is not yet available. However, a design review plan of the expected collector substation has been supplied by the Applicant and is provided in Appendix 7-F. Epsilon has conservatively estimated the sound emissions for an individual 115 MVA transformer using the techniques in the Electric Power Plant Environmental Noise Guide (Edison Electric Institute). In addition to both transformers, a total of four HVAC units have been incorporated into the acoustic model of the collector substation and the adjacent switchyard along the proposed T-13 access road off Burns Road. One ground AC unit was incorporated into the acoustic model for the operation and maintenance (O&M) facility. Two of the HVAC units will be located at the switchyard control house and two of the HVAC units will be located at the substation control house. The manufacturer for the wall mounted HVAC units are expected to be Bard (W72AA) units or similar. The manufacturer for the ground AC unit is expected to be a LENNOX (MERIT Series ML14XC1) or similar. The modeling inputs of the transformers, HVAC units, and AC unit - coordinates, ground elevation, and height above ground - are summarized in Appendix 7-A. Table 7-5 summarizes the sound power level data used in the modeling.

Table 7-5 Collector Substation— Sound Power Levels

Sound Source	Broadband Sound Power Level [dBA]	Sound Power Levels per Octave-Band Center Frequency [Hz]								
		31.5	63	125	250	500	1k	2k	4k	8k
		dB	dB	dB	dB	dB	dB	dB	dB	dB
115 MVA Transformer	95[1,2]	91	97	99	94	94	88	83	78	71
Bard W72AA HVAC Unit[3]	78[4]	-	-	-	-	-	-	-	-	-
Air Conditioner Unit[5]	76	-	-	58	68	72	71	67	62	55

Notes:
[1] Sound levels estimated for a 115 MVA (ONAF2) transformer, NEMA Rating of 75 dBA, using the techniques in the EEI guide.
[2] Octave-band sound levels estimated, using the techniques in the EEI guide.
[3] Bard W72AA unit directly mounted with a standard supply air duct and a return air grille treatment. These will be located at the collector substation and switchyard.
[4] Octave-band sound levels not assumed, since the manufacturer did not provide octave band sound power levels.
[5] Lennox ML14XC1-036-230A01 single-phase ground unit. This will be located at the O&M Facility.

ii) For all modeling scenarios, the ground absorption factor (G) was set to 0.5 for the ground and 0 for water bodies.

iii) A temperature of 10 degrees Celsius and 70% relative humidity was used to calculate atmospheric absorption for the ISO 9613-2 (1996) model. These parameters were selected to minimize atmospheric attenuation in the 500 Hz and 1000 Hz octave bands where the human ear is most sensitive, and thus provide conservative results.

iv) The maximum A-weighted dBA L_{eq} (1-hour or 8-hour) sound pressure levels, and the maximum linear/unweighted/Z dB (L_{eq} 1-hour) sound pressure levels from the thirty-one and a half (31.5) Hz up to the eight thousand (8,000) Hz full-octave band, at all sensitive sound 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) within the radius of evaluation are discussed and presented in Section 7(l).

v) The maximum A-weighted dBA L_{eq} sound pressure levels (L_{eq} (8-hour)) at the most critically impacted external property boundary lines of the facility site (e.g., non-participating boundary lines) are shown in Figure 7-4.1.

vi) Summaries of the number of receptors exposed to sound levels greater than thirty-five (35) dBA are shown in Section 7(l) grouped in one (1)-dBA bins.

vii) Sound level contours as specified in 16 NYCRR § 1100-2.8(k) are shown in Figure 7-4.1.

(2) For this wind facility:

i) The maximum sound modeling L_{eq} (8-hour/1-hour) for the Facility was modeled using all three (3) of the wind turbine models in consideration with their highest broadband A-weighted apparent sound power level at any wind condition, if provided by the manufacturer. Summaries of the number of receptors exposed to sound levels greater than thirty-five (35) dBA are shown in Section 7(l) grouped in one (1)-dBA bins.

ii) The Cadna/A model used a one and half (1.5) meter assessment point above ground and the addition of an uncertainty factor of two (2) dBA.

(3) This subsection is applicable to solar projects and the Project is a wind facility.

7(e) Prominent Tones

ANSI/ASA S12.9-2013 Part 3, Annex B, section B.1 (informative) presents a procedure for testing for the presence of a prominent discrete tone. According to the standard, a prominent discrete tone is identified as present if the time-average sound pressure level in the one-third octave band of interest exceeds the arithmetic average of the time-average sound pressure level for the two adjacent one-third octave bands by any of the following constant level differences:

- 15 dB in low-frequency one-third-octave bands (from 25 up to 125 Hz);
- 8 dB in middle-frequency one-third-octave bands (from 160 up to 400 Hz); or,
- 5 dB in high-frequency one-third-octave bands (from 500 up to 10,000 Hz).

(1) Sound pressure level calculations using the Cadna/A modeling software which incorporates the ISO 9613-2:1996 propagation standard is limited to octave band sound levels; therefore, a quantitative evaluation of one-third octave band sound levels using the modeling software was not possible. Instead, one-third octave band sound pressure levels due to the closest wind turbines were calculated at the nearest ten (10) potentially impacted and representative receptor locations (both non-participants and participants) using equations accounting for hemispherical radiation and atmospheric absorption. The calculations at these locations were carried out for each of the individual wind turbine manufacturers being considered. No reference sound power level data below 6.3 Hz are available from any of the manufacturers. Therefore, sound power level data were extrapolated from each manufacturer's lowest published octave band down to 0.5 Hz. The extrapolation process assumed a 1 dB per octave increase in sound power levels from the lowest published value to 0.5 Hz. The results for all individual wind turbine manufacturers are presented in Tables 7-9.a to 7-9.c in Appendix 7-H.

The results presented show that received sound pressure levels due to the closest wind turbines at each of these locations for all wind turbine manufacturers analyzed are not predicted to result in any prominent discrete tones as defined in the ANSI standards.

(2) One-third octave band sound power levels for the collector substation transformers were not supplied by the vendor for the substation equipment; therefore, a quantitative evaluation of one-third octave band sound using the spreadsheet modeling approach was not possible. For this reason, the substation transformer was assumed to be tonal and prominent by default.

7(f) Low Frequency Noise for Wind Facilities

Low frequency noise from the operation of the wind facility was evaluated. The evaluation occurred for all three wind turbines currently in consideration for the Facility. The evaluations were based on the following:

(1) Computer noise modeling used the maximum sound power levels at the 31.5 and 63 Hz frequency bands at any wind speed among all turbines considered for each turbine location. All three wind turbine models are being considered for each turbine location.

(2) This alternative method was not explored, as all three individual wind turbine models were evaluated.

(3) The maximum linear/unweighted/Z L_{eq} (1-hour) sound pressure levels (dB) in a year at the 16, 31.5 and 63 Hz full octave bands for all receptors within the radius of evaluation are reported in tabular and spreadsheet compatible format in Appendix 7-D. A list of all sound receptors with sound pressure levels (SPLs) equal to or greater than 65 dB at 16, 31.5, or 63 Hz, are discussed further and provided in Section 7(l). The number of receptors exceeding 65 dB at 16, 31.5 or 63 Hz are reported and grouped below in 1-dB bins with Table 7-6 through Table 7-11. This encompasses all three wind turbine models, and each of their respective unmitigated and mitigated model runs.

Table 7-6 Receptors Modeled at 60 dB or Greater for Low Frequency Criteria– Total Sound L_{eq} (1-hour)- Unmitigated V150-4.5

Modeled Leq Sound Level [dB][1]	# of Receptors					
	16 Hz		31.5 Hz		63 Hz	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
75	0	0	0	0	0	0
74	0	0	0	0	0	0
73	0	0	0	0	0	0
72	0	0	0	0	0	0
71	0	0	0	0	0	0
70	0	0	0	0	0	0
69	0	0	0	0	0	0
68	0	0	0	0	0	0
67	0	0	0	0	0	0
66	0	0	0	0	0	0
65	0	1	0	0	0	0
64	0	1	0	0	0	0
63	1	2	0	0	0	0
62	0	5	0	0	0	0
61	2	18	0	2	0	0
60	4	31	1	2	0	2

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-7 Receptors Modeled at 60 dB or Greater for Low Frequency Criteria– Total Sound L_{eq} (1-hour)- Mitigated V150-4.5

Modeled Leq Sound Level [dB][1]	# of Receptors					
	16 Hz		31.5 Hz		63 Hz	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
75	0	0	0	0	0	0
74	0	0	0	0	0	0
73	0	0	0	0	0	0
72	0	0	0	0	0	0
71	0	0	0	0	0	0
70	0	0	0	0	0	0
69	0	0	0	0	0	0
68	0	0	0	0	0	0
67	0	0	0	0	0	0
66	0	0	0	0	0	0
65	0	0	0	0	0	0
64	0	0	0	0	0	0
63	1	0	0	0	0	0
62	0	5	0	0	0	0
61	2	17	0	0	0	0
60	4	28	1	0	0	0

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-8 Receptors Modeled at 60 dB or Greater for Low Frequency Criteria– Total Sound L_{eq} (1-hour)- Unmitigated V162-6.8

Modeled Leq Sound Level [dB][1]	# of Receptors					
	16 Hz		31.5 Hz		63 Hz	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
75	0	0	0	0	0	0
74	0	0	0	0	0	0
73	0	0	0	0	0	0
72	0	0	0	0	0	0
71	0	0	0	0	0	0
70	0	0	0	0	0	0
69	0	0	0	0	0	0
68	0	0	0	0	0	0
67	0	0	0	0	0	0
66	0	0	0	0	0	0
65	0	2	0	0	0	0
64	0	2	0	0	0	0
63	1	1	0	1	0	0
62	0	13	0	2	0	0
61	3	26	1	1	0	2
60	5	23	0	5	1	2

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-9 Receptors Modeled at 60 dB or Greater for Low Frequency Criteria– Total Sound L_{eq} (1-hour)- Mitigated V162-6.8

Modeled Leq Sound Level [dB][1]	# of Receptors					
	16 Hz		31.5 Hz		63 Hz	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
75	0	0	0	0	0	0
74	0	0	0	0	0	0
73	0	0	0	0	0	0
72	0	0	0	0	0	0
71	0	0	0	0	0	0
70	0	0	0	0	0	0
69	0	0	0	0	0	0
68	0	0	0	0	0	0
67	0	0	0	0	0	0
66	0	0	0	0	0	0
65	0	0	0	0	0	0
64	0	2	0	0	0	0
63	1	2	0	0	0	0
62	0	10	0	0	0	0
61	3	29	1	4	0	0
60	5	23	0	4	1	3

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-10 Receptors Modeled at 60 dB or Greater for Low Frequency Criteria– Total Sound L_{eq} (1-hour)- Unmitigated N149-4.X TS 108

Modeled Leq Sound Level [dB][1]	# of Receptors					
	16 Hz		31.5 Hz		63 Hz	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
75	0	0	0	0	0	0
74	0	0	0	0	0	0
73	0	0	0	0	0	0
72	0	0	0	0	0	0
71	0	0	0	0	0	0
70	0	0	0	0	0	0
69	0	2	0	0	0	0
68	0	1	0	0	0	0
67	1	1	0	0	0	0
66	0	11	0	0	0	0
65	2	28	0	1	0	0
64	6	22	0	2	0	0
63	1	26	1	1	0	0
62	0	17	0	7	0	1
61	2	35	2	28	0	1
60	0	58	5	25	1	2

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-11 Receptors Modeled at 60 dB or Greater for Low Frequency Criteria– Total Sound L_{eq} (1-hour)- Mitigated N149-4.X TS 108

Modeled Leq Sound Level [dB][1]	# of Receptors					
	16 Hz		31.5 Hz		63 Hz	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
75	0	0	0	0	0	0
74	0	0	0	0	0	0
73	0	0	0	0	0	0
72	0	0	0	0	0	0
71	0	0	0	0	0	0
70	0	0	0	0	0	0
69	0	0	0	0	0	0
68	0	0	0	0	0	0
67	0	0	0	0	0	0
66	0	0	0	0	0	0
65	1	5	0	0	0	0
64	3	33	0	0	0	0
63	4	27	0	0	0	0
62	2	20	0	0	0	0
61	1	25	1	5	0	0
60	1	38	2	28	0	0

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

7(g) Infrasound for Wind Facilities

Infrasound for the wind facility with levels at the 16 Hz full-octave band were based on extrapolated SPL data down to 16 Hz. The extrapolation estimates were examined for all three wind turbine models and were based on corrections applied to the sound pressure results at 31.5 Hz to obtain the sound pressure results at 16 Hz for each receptor as follows:

(1) If no information from the manufacturer is available for the 16 Hz full-octave frequency band for any turbine models considered for the Facility, at a minimum 4 dB shall be added to the SPLs at 31.5 Hz, to obtain SPLs at 16 Hz.

(2) This alternative method was not explored, as all three individual wind turbine models were evaluated on an individual basis and a single highest manufacturer's sound power level at 16 Hz and 31.5 Hz were not used for extrapolation purposes across all wind turbine models.

(3) If computer noise modeling uses only one wind turbine model across the Site, noise reduction operations are not used in the design, and the sound power level information at 16 Hz is available for some but not all turbines considered for the Facility, at a minimum 4 dB, or the difference between the maximum sound power level at 16 Hz at any wind speed known for any turbines considered for the Facility and the sound power level for the 31.5 Hz full-octave frequency band used for computer modeling, whichever is greater, shall be applied to the sound pressure results at 31.5 Hz to obtain the sound pressure results at 16 Hz. This difference between 16 and 31.5 Hz was used for all three individual wind turbine models that were analyzed.

(4) No additional corrections were applied by the Applicant to create more conservative (i.e., higher) SPLs at the receptors than obtained as indicated above.

7(h) Sound Study Area

Figure 7-1 is a map of the Sound Study Area showing the location of sensitive sound receptors within a two (2)-mile radius in relation to the Facility (including the collector substation and the point of interconnect).

(1) A modeling receptor dataset was developed and provided by Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR). 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 1,012 total receptors, 910 are non-participating residences and 12 are participating residences. Of the remaining 90 receptors, 42 are non-participating potential commercial structures in the Town of Venice, and 11 are participating potential commercial structures in the Town of Venice. The remaining 37 receptors are categorized as other structures or public structures (public structures and institutional structures). Of the 1,012 receptors, 27 were defined as participating and 985

were defined as non-participating, as defined in Section 7(h)(3) below. A detailed listing of all receptors including receptor ID, tax ID #, latitude/longitude, elevation, participation status, and receptor category are included as Appendix 7-B.

(2) All residences were included as sensitive sound receptors regardless of participation in the Facility (e.g., participating and non-participating residences) or occupancy (e.g., year-round, seasonal use)

(3) Only properties that have a signed contract with the Applicant prior to the date of filing the application were identified as "participating." Other properties were designated "non-participating." [3]

7(i) Evaluation of Ambient Pre-Construction Baseline Noise Conditions

An evaluation of ambient pre-construction baseline noise conditions was conducted for approximately 15 days in 2024 by using the L_{90} statistical and the L_{eq} energy-based noise descriptors, and by following the recommendations included in ANSI/ASA S3/SC 1.100 -2014-ANSI/ASA S12.100-2014 American National Standard entitled Methods to Define and Measure the Residual Sound in Protected Natural and Quiet Residential Areas. The full details of the ambient pre-construction sound level measurement program are found in Appendix 7-C.

7(j) Evaluation of Future Noise Levels during Construction

(1) Future construction noise modeling was performed for the main phases of construction and from activities at the proposed wind turbines, proposed temporary concrete batch plant/laydown area and proposed horizontal directional drilling (HDD) locations using the ISO 9613-2:1996 3-D sound propagation standard as implemented in the Cadna/A software package. Reference sound source information was obtained from either Epsilon's consulting files or the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM).

(2) The majority of the construction activity will occur across the Project area around each of the proposed wind turbine locations and at the temporary concrete batch plant. By its very nature, construction activity moves around the Project Site. Full construction activity will generally occur at one location at a time, although there will be some overlap at adjacent construction locations for maximum efficiency. For modeling conservatism, it was assumed that full activity was occurring at the closest locations to their surrounding receptors. There are generally three phases of construction for a wind energy project – excavation, foundation

[3] For the purposes of this report, it is assumed that all residences and parcels located outside the Facility Site are "non-participating." The Applicant is actively pursuing and/or has secured Good Neighbor Agreements with landowners located outside the Facility Site that may be impacted by sound (see Appendix 4-A). 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 abatement outlined in Exhibit 7(o).

work, and turbine erection. Table 7-12 presents the equipment sound levels for the louder pieces of construction equipment expected to be used at this site along with their phase of construction.

Table 7-12 Sound Levels for Noise Sources Included in Construction Modeling

Phase	Equipment	Sound Level at 50 feet [dBA]
Excavation	Roller	80
Excavation	Grader	85
Excavation	Bulldozer	82
Excavation	Front End Loader	79
Excavation	Backhoe	78
Excavation	Dump Truck	76
Excavation	Excavator	81
Foundation	Concrete Mix Truck	79
Foundation	Concrete Pump Truck	81
Turbine Erection	Large Crane #1	81
Turbine Erection	Component Delivery Truck	84
Turbine Erection	Air Compressor	78
HDD Entry	Excavator (168 hp)	85
HDD Entry	Auger Drill Rig	85
HDD Entry	Pickup Truck/ATV	55
Commissioning	(2) Pickup Truck/ATV	55

(3) The operational modeling requirements included Sections 7(d)(1)(i) through 7(d)(1)(iii), and 7(d)(2)(ii) of this Exhibit were also used for modeling of construction noise.

(4) Worst-case sound levels from construction activity are shown using sound level contours in Figure 7-j.1, Figure 7-j.2, and Figure 7-j.3 and sound levels at the most critically impacted receptors are shown in Table 7-12, Table 7-13, and Table 7-14.

Three areas within the Project Area were chosen to calculate worst case construction sound levels. The areas and assumed locations of simultaneous construction are:

- Area 1 – This area includes the closest receptor to a wind turbine site (ID# 484). Modeling assumed simultaneous construction activity at this wind turbine (T-7), along with an additional nine select wind turbines (T-1, T-4, T-9, T-12, T-14, T-18, T-20, T-23, and T-24) across the Project Site. Foundation work, excavation work, and erection work were modeled at T-7 and all additional nine locations.

- Area 2 – This area includes all receptors in the vicinity of the temporary concrete batch plant/laydown area. Modeling for this area assumed simultaneous construction activity at the concrete batch plant/laydown area, and at the three closest turbine sites (T-21, T-22, and T-23) to the concrete batch plant/laydown area. Foundation work was modeled at the batch plant and all three additional locations.

- Area 3 – This area includes all receptors in the vicinity of the closest HDD entry point to a receptor. Modeling assumed simultaneous construction activity at this HDD entry point. HDD work and commissioning work was modeled at this HDD entry point.

For each of the areas, construction sound levels at the ten closest receptors have been calculated. These receptors included non-participating receptors and participating receptors. The results are shown as maximum 1-second L_{eq} sound levels with all pieces of equipment for each phase operating at the locations. These results overstate expected real-world results, because under actual construction conditions, not all pieces of equipment will be operating at the exact same time, and the highest sound levels from every piece of equipment will not tend to occur at the same time as was assumed in the modeling. Tabular results at receptors for each phase of construction activity are presented in Appendix 7-I.

Area 1 Modeling Results

The cumulative impacts from each of the three main phases of construction (excavation work, foundation work, and turbine erection work) were calculated with the Cadna/A model for the ten closest receptors to construction activity within Area 1. The loudest phase of construction within this area will be excavation work. A sound contour figure of excavation work occurring at T-7, the closest wind turbine to a receptor, and the additional nine selected wind turbines (T-1, T-4, T-9, T-12, T-14, T-18, T-20, T-23, and T-24) across the Project Site, are presented in Figure 7-j.1.

The highest sound level at a non-participating receptor within this area, near T-7 is 51 dBA during foundation (Receptor #2484), 57 dBA during excavation (Receptor #484), and 54 dBA during turbine erection (Receptor #484). Modeling results of construction sound levels within this area are summarized in Table 7-13.

Table 7-13 Construction Noise Modeling Results – Area 1 Construction [dBA]

Receptor ID	Distance [m]	Participation Status	Foundation	Excavation	Erection	Worst-Case Total (All Phases)
484	302.4	Non-Participating	51	57	54	59
483	389.6	Non-Participating	49	55	52	57
482	926.5	Non-Participating	48	54	51	56
795	958.6	Non-Participating	39	47	43	49
794	987.5	Non-Participating	40	46	43	48
495	1008.1	Non-Participating	46	52	49	54
481	1047.3	Non-Participating	43	50	46	52
797	1081.0	Non-Participating	44	50	47	52
488	1083.3	Non-Participating	36	42	39	44
480	1113.5	Non-Participating	43	49	46	51

Area 2 Modeling Results

The cumulative impacts from foundation work were calculated with the Cadna/A model for the ten closest receptors to construction activity within Area 2. A sound contour figure of foundation work occurring simultaneously at the temporary concrete batch plant/laydown area and at the three closest turbine sites (T-21, T-22, and & T-23) to the concrete batch plant/laydown area are presented in Figure 7-j.2.

The highest sound level at a non-participating receptor within this area, near the temporary concrete batch plant, is 57 dBA during foundation work (Receptor #940). Modeling results of construction sound levels within this area are summarized in Table 7-14.

Table 7-14 Construction Noise Modeling Results – Area 2 Construction [dBA]

Receptor ID	Distance [m]	Participation Status	Foundation
940	68.5	Non-Participating	57
941	95.4	Non-Participating	57
939	153.8	Non-Participating	54
938	308.2	Non-Participating	50
839	316.2	Non-Participating	50
841	324.3	Participating	50
843	326.4	Participating	50
845	355.5	Participating	49
844	364.1	Participating	50
846	368.9	Participating	49

Area 3 Modeling Results

The cumulative impacts from HDD work and commissioning work were calculated with the Cadna model for the ten closest receptors to construction activity within Area 3. The loudest phase of construction within this area will be HDD work. A sound contour figure of HDD work occurring at the HDD entry point is presented in Figure 7-j.3.

The highest sound level at a non-participating receptor within this area is 72 dBA during HDD (Receptor #611) and 43 dBA during commissioning (Receptor #611). Modeling results of construction sound levels within this area are summarized in Table 7-15, and a sound contour figure of results is shown in Figure 7-j.3.

Table 7-15 Construction Noise Modeling Results – Area 3 Construction [dBA]

Receptor ID	Distance [m]	Participation Status	HDD	Commissioning	Worst-Case Total (All Phases)
611	38.3	Participating	72	43	72
612	48.9	Participating	70	42	70
610	85.6	Non-Participating	64	36	64
587	444.2	Participating	45	16	45
613	489.5	Non-Participating	49	21	49
633	553.2	Non-Participating	48	20	48
609	556.7	Non-Participating	48	20	48
614	595.3	Participating	47	19	47
608	619.8	Non-Participating	47	19	47
635	631.7	Non-Participating	47	18	47

Construction Noise Conclusions

Noise due to construction is an unavoidable outcome of construction. The major construction phases are excavation, foundation, turbine erection, and HDD. As stated in the ORES regulations §1100-6.4; construction and routine maintenance activities on the facility shall be limited to 7 AM to 8 PM Monday through Saturday and 8 AM to 8PM on Sunday and national holidays, with the exception of construction and delivery activities, which may occur during extended hours beyond this schedule on an as-needed basis. In some instances, concrete foundation work and turbine erection work could extend into the overnight hours depending on the weather and timing of a concrete pour, which must be continuous. Most of the construction will occur at significant distances to sensitive receptors; therefore, noise from most phases of construction is not expected to result in impacts to sensitive receptors. There are a few instances where construction will be close to residences (#611 #612, & #940) and coordination with these neighbors may be warranted. Construction noise will be minimized with best management practices (BMP).

7(k) Sound Levels in Graphical Format

(1) Figure 7-4.1 presents future L_{eq} (8-hour) sound contour lines showing expected sound levels during worst-case operation of the Project's wind turbines plus the collector substation using the methodology described above. Of the wind turbine models analyzed, the N149-4.X TS 108 wind turbine contained the highest broadband sound power level. As a result, the (Mitigated) future L_{eq} (8-hour) sound contour lines with the N149-4.X TS 108 are included with Figure 7-4.1. Figure 7-5.1 presents future L_{eq} (1-hour) sound contour lines showing expected sound levels during worst-case operation of the Project's collector substation-only using the methodology described above. No mitigation is expected at the collector substation; therefore, these sound contour lines are unmitigated for Figure 7-5.1. Figure 7-j.1 presents worst-case sound levels from construction activity L_{eq} (1-sec) sound contour drawings for Area 1, Area 2, and Area 3 using the methodology described in Section 7(j).

(2) The sound contour maps include all sensitive sound receptors, boundary lines (differentiating participating and non-participating), and all Project noise sources.

(3) Sound contours are rendered until the thirty (30) dBA noise contour is reached, in one (1)-dBA steps, with sound contour multiples of five (5) dBA differentiated.

(4) Full-size hard copy maps (22" x 34") of these figures in 1:12,000 scale or better will be submitted to the Office.

7(l) Sound Levels in Tabular Format

A tabular comparison between the maximum sound impacts and any design goals, noise limits, and local requirements for the facility, and the degree of compliance at all sensitive sound receptors and at the most impacted non-participating boundary lines within the Study Area are presented below.

<u>All Sources Running—Wind Turbines plus the Collector Substation</u>

Future L_{eq} (8-hour) sound levels during worst-case operation of the Project's wind turbines plus the collector substation have been calculated using the methodology described in Section 7(d). Appendix 7-D provides the predicted A-weighted (dBA) and unweighted L_{eq} (1-hour) full octave band frequency (16 Hz to 8,000 Hz) sound pressure levels at all sensitive receptors. The methodology for the extrapolation of the 16 Hz frequency octave band was elaborated upon in Section 7(g). The results are sorted by receptor ID and sorted by the broadband A-weighted sound level high to low, and then are broken down by wind turbine model (V150-4.5, V162-6.8, N149-4.X TS 108), mitigation mode (Unmitigated or Mitigated), receptor type (Residential, Public, Commercial, and Other) and participation (Non-Participating or Participating). All receptors in the Town of Venice are shown as the higher of the two decibel levels when predicted sound levels fell between two whole decibel values, per their Wind Energy Facilities Law. In total, there are 32 tables for each of the wind turbine models in Appendix 7-D.

1) V150-4.5, HH-120m

The first wind turbine analyzed is the Vestas V150-4.5 model. For the Unmitigated Total Project model run, the broadband sound levels range from 20 to 48 dBA across all discrete receptors.

Four non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 45 dBA L_{eq} (8-hour) if no noise mitigation is applied.

- Receptor ID# 483 and 484 - 48 dBA
- Receptor ID# 482 and 495 - 46 dBA

Zero participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 55 dBA L_{eq} (8-hour) if no noise mitigation is applied.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 65 dB L_{eq} (1-hour) at 16 Hz, 31.5 Hz or 63 Hz if no noise mitigation is applied.

The highest sound levels at residential receptors, under this Unmitigated scenario are:

- Non-Participating Receptor ID# 484 - 48 dBA
- Participating Receptor ID# 836 - 46 dBA

These sound levels are below the design goal of 55 dBA for a participating residence or potential commercial structure in the Town of Venice. The maximum noise limit of fifty-five (55) dBA L_{eq} (8-hour), short-term equivalent continuous average nighttime sound level from the facility across any portion of a non-participating property was evaluated and is satisfied across the Project.

To meet all design goals, the V150-4.5 wind turbine model would require noise mitigation to be placed on four wind turbines. Currently, the turbine manufacturer (Vestas) has provided technical noise mitigation mode documents for this specific model. While land negotiations are ongoing and the Applicant will continue to seek agreements with current non-participating landowners, one possible mitigation mode strategy is as follows: <BEGIN CONFIDENTIAL INFORMATION>

- [redacted]
- [redacted]

<END CONFIDENTIAL INFORMATION> Specific mitigation measures will be decided upon selection of a final wind turbine manufacturer and a finalized Project layout. The specific mitigation measures include, but are not limited to, having individual wind turbines programmed to operate at different sound optimized modes or noise-reduced operating modes based on any set of rules,

such as wind direction and/or wind speed. Therefore, if exceedances with regards to any noise limits, are only anticipated to occur under very specific conditions then the necessary sound optimized modes will be applied for these conditions and not all other conditions. Outside of the specified conditions, the individual wind turbines identified will be expected to operate under their respective normal operation mode and will remain in compliance with respect to all noise limits. The expected mitigation measures will be presented in a final compliance filing and will be based on technical documentation from the final wind turbine manufacturer.

With this noise mitigation in place, an additional Mitigated Total Project run occurred.

For the Mitigated Total Project model run, the broadband sound levels range from 19 to 45 dBA across all discrete receptors.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 45 dBA L_{eq} (8-hour), with the noise mitigation above applied.

Zero participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 55 dBA L_{eq} (8-hour), with the noise mitigation above applied.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 65 dB L_{eq} (1-hour) at 16 Hz, 31.5 Hz or 63 Hz, with the noise mitigation above applied.

Table 7-16 (Unmitigated) and Table 7-17 (Mitigated) below, present the number of sensitive noise receptors that have been modeled to experience a worst-case sound level of 35 dBA or greater. Modeled sound levels have been rounded to the nearest integer and are presented in 1 dBA increments by receptor participation status.

The highest sound levels at residential receptors, under this Mitigated scenario are:

- Non-Participating Receptor ID# 483 - 45 dBA
- Participating Receptor ID# 836 - 45 dBA

These sound levels are at or below the design goals of 45 dBA for a non-participating residence project wide and for a potential commercial structure in the Town of Venice and 55 dBA for a participating residence project wide and for a potential commercial structure in the Town of Venice. In addition, a maximum noise limit of fifty-five (55) dBA Leq (8-hour), short-term equivalent continuous average nighttime sound level from the facility across any portion of a non-participating property was evaluated and is satisfied. Thus, the Project complies with all design goals with respect to the V150-4.5.

Table 7-16 Receptors Modeled at 35 dBA or Greater – Total Sound L_{eq} (8-hour)- Unmitigated V150-4.5

Modeled Leq Sound Level [dBA][1]	# of Receptors							
	Residential		Public		Other		Commercial	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
55	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0
48	0	2	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0
46	1	2	0	0	0	0	2	0
45	0	3	0	0	0	2	1	0
44	2	9	0	1	1	0	1	0
43	2	19	0	1	1	2	4	1
42	3	22	0	1	0	0	2	7
41	2	20	0	1	0	0	1	2
40	0	20	1	0	0	0	0	5
39	0	15	1	2	0	0	0	5
38	1	28	0	1	0	0	0	7
37	1	38	0	3	0	1	0	2
36	0	41	0	6	0	0	0	2
35	0	25	0	1	0	0	0	1

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-17 Receptors Modeled at 35 dBA or Greater – Total Sound L_{eq} (8-hour)- Mitigated V150-4.5

Modeled Leq Sound Level [dBA][1]	# of Receptors							
	Residential		Public		Other		Commercial	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
55	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0
46	1	0	0	0	0	0	2	0
45	0	5	0	0	0	2	1	0
44	1	6	0	1	1	0	1	0
43	3	19	0	1	1	2	3	1
42	3	24	0	0	0	0	3	7
41	1	18	0	2	0	0	1	2
40	1	20	1	0	0	0	0	4
39	0	16	1	2	0	0	0	6
38	1	22	0	1	0	0	0	7
37	1	36	0	2	0	1	0	2
36	0	40	0	6	0	0	0	1
35	0	32	0	2	0	0	0	2

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

2) V162-6.8, HH-119m

The second wind turbine analyzed is the Vestas V162-6.8 model. For the Unmitigated Total Project model run, the broadband sound levels range from 19 to 47 dBA across all discrete receptors.

Four non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 45 dBA L_{eq} (8-hour) if no noise mitigation is applied.

- Receptor ID# 483 and 484 - 47 dBA;
- Receptor ID# 482 and 495 - 46 dBA;

Zero participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 55 dBA L_{eq} (8-hour) if no noise mitigation is applied.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 65 dB L_{eq} (1-hour) at 16 Hz, 31.5 Hz or 63 Hz, if no noise mitigation is applied.

The maximum noise limit of fifty-five (55) dBA L_{eq} (8-hour), short-term equivalent continuous average nighttime sound level from the facility across any portion of a non-participating property was evaluated and is satisfied across the Project.

In order to meet all design goals, the V162-6.8 wind turbine model would require noise mitigation to be placed on three wind turbines. At this time, the turbine manufacturer (Vestas) has provided technical noise mitigation mode documents for this specific model. While land negotiations are ongoing and the Applicant will continue to seek agreements with current non-participating landowners, one possible mitigation mode strategy is as follows: <BEGIN CONFIDENTIAL INFORMATION>

[redacted]

<END CONFIDENTIAL INFORMATION> Specific mitigation measures will be decided upon selection of a final wind turbine manufacturer and a finalized Project layout. The specific mitigation measures include, but are not limited to, having individual wind turbines programmed to operate at different sound optimized modes or noise-reduced operating modes based on any set of rules, such as wind direction and/or wind speed. Therefore, if exceedances with regards to any noise limits, are only anticipated to occur under very specific conditions then the necessary sound optimized modes will be applied for these conditions and not all other conditions. Outside of the specified conditions, the individual wind turbines identified will be expected to operate under their respective normal operation mode and will remain in compliance with respect to all noise limits. The expected mitigation measures will be presented in a final compliance filing and will be based on technical documentation from the final wind turbine manufacturer.

With this noise mitigation in place, an additional Mitigated Total Project run occurred.

For the Mitigated Total Project model run, the broadband sound levels range from 19 to 45 dBA across all discrete receptors.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 45 dBA L_{eq} (8-hour), with the noise mitigation above applied.

Zero participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 55 dBA L_{eq} (8-hour), with the noise mitigation above applied.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 65 dB L_{eq} (1-hour) at 16 Hz, 31.5 Hz or 63 Hz, with the noise mitigation above applied.

Table 7-18 (Unmitigated) and Table 7-19 (Mitigated) below, present the number of sensitive noise receptors that have been modeled to experience a worst-case sound level of 35 dBA or greater. Modeled sound levels have been rounded to the nearest integer and are presented in 1 dBA increments by receptor participation status.

The highest sound levels at residential receptors, under this Mitigated scenario are:

- Non-Participating Receptor ID# 484 - 45 dBA
- Participating Receptor ID# 836 - 45 dBA

These sound levels are at or below the design goals of 45 dBA for a non-participating residence or potential commercial structure in the Town of Venice and 55 dBA for a participating residence or potential commercial structure in the Town of Venice. In addition, a maximum noise limit of fifty-five (55) dBA L_{eq} (8-hour), short-term equivalent continuous average nighttime sound level from the facility across any portion of a non-participating property was evaluated and is satisfied. Thus, the Project complies with all design goals with respect to the V162-6.8.

Table 7-18 Receptors Modeled at 35 dBA or Greater – Total Sound L_{eq} (8-hour)- Unmitigated V162-6.8

Modeled Leq Sound Level [dBA][1]	# of Receptors							
	Residential		Public		Other		Commercial	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
55	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0
47	0	2	0	0	0	0	0	0
46	0	2	0	0	0	0	0	0
45	1	1	0	0	0	1	3	0
44	0	4	0	0	0	1	1	0
43	2	15	0	2	2	1	1	0
42	4	23	0	0	0	1	4	5
41	2	21	0	2	0	0	2	4

Table 7-18 Receptors Modeled at 35 dBA or Greater – Total Sound L_{eq} (8-hour)- Unmitigated V162-6.8 (Continued)

Modeled Leq Sound Level [dBA][1]	# of Receptors							
	Residential		Public		Other		Commercial	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
40	1	20	0	0	0	0	0	5
39	0	14	2	1	0	0	0	6
38	1	27	0	1	0	0	0	2
37	1	32	0	3	0	0	0	6
36	0	44	0	5	0	1	0	2
35	0	31	0	3	0	0	0	1

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-19 Receptors Modeled at 35 dBA or Greater – Total Sound L_{eq} (8-hour)- Mitigated V162-6.8

Modeled Leq Sound Level [dBA][1]	# of Receptors							
	Residential		Public		Other		Commercial	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
55	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0
45	1	4	0	0	0	1	3	0
44	0	5	0	0	0	1	1	0
43	2	15	0	2	2	1	1	0
42	4	21	0	0	0	1	4	5
41	2	23	0	2	0	0	2	4
40	1	17	0	0	0	0	0	5
39	0	17	2	1	0	0	0	6
38	1	20	0	1	0	0	0	1
37	1	32	0	2	0	0	0	7
36	0	45	0	4	0	1	0	2
35	0	34	0	5	0	0	0	1

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

3) N149-4.X TS 108, HH-108m

The third wind turbine analyzed is the Nordex N149-4.X TS 108 model. For the Unmitigated Total Project model run, the broadband sound levels range from 19 to 49 dBA across all discrete receptors.

Seven non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 45 dBA L_{eq} (8-hour) if no noise mitigation is applied.

- Receptor ID# 484 and 483 – 49 dBA.
- Receptor ID# 482 and 495 – 46 dBA.
- Receptor ID# 511, 480, and 481 – 46 dBA.

Zero participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 55 dBA L_{eq} (8-hour) if no noise mitigation is applied.

Eleven non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 65 dB L_{eq} (1-hour) at 16 Hz, 31.5 Hz or 63 Hz if no noise mitigation is applied.

- Receptor ID# 483 and 484 - 69 dB @ 16Hz.
- Receptor ID# 495 - 68 dB @ 16Hz.
- Receptor ID# 482 - 67 dB @ 16Hz.
- Receptor ID# 480, 481, 793, 795, 796, 797, and 802 – 66 dB @ 16 Hz.

Additionally, the maximum noise limit of fifty-five (55) dBA L_{eq} (8-hour), short-term equivalent continuous average nighttime sound level from the facility across any portion of a non-participating property was evaluated and is not satisfied to the east of T-2. In order to meet all design goals, the N149-4.X TS 108 wind turbine model would require noise mitigation to be placed on thirteen wind turbines. At this time, the turbine manufacturer (Nordex) has provided technical noise mitigation mode documents for this specific model. While land negotiations are ongoing and the Applicant will continue to seek agreements with current non-participating landowners, one possible mitigation mode strategy is as follows: <BEGIN CONFIDENTIAL INFORMATION>

- T-2, T-20, and T-21 must have Mode 1.b applied, down to a broadband sound power level of 105.7 dBA.
- T-5 must have Mode 2.a applied, down to a broadband sound power level of 105.2 dBA.
- T-12 must have Mode 3.b applied, down to a broadband sound power level of 104.8 dBA.

- [redacted]
- [redacted]
- [redacted]
- [redacted]

<END CONFIDENTIAL INFORMATION> Specific mitigation measures will be decided upon selection of a final wind turbine manufacturer and a finalized Project layout. The specific mitigation measures include, but are not limited to, having individual wind turbines programmed to operate at different sound optimized modes or noise-reduced operating modes based on any set of rules, such as wind direction and/or wind speed. Therefore, if exceedances with regards to any noise limits, are only anticipated to occur under very specific conditions then the necessary sound optimized modes will be applied for these conditions and not all other conditions. Outside of the specified conditions, the individual wind turbines identified will be expected to operate under their respective normal operation mode and will remain in compliance with respect to all noise limits. The expected mitigation measures will be presented in a final compliance filing and will be based on technical documentation from the final wind turbine manufacturer.

With this noise mitigation in place, an additional Mitigated Total Project run occurred.

For the Mitigated Total Project model run, the broadband sound levels range from 17 to 45 dBA across all discrete receptors.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice would be over the maximum noise limit of 45 dBA L_{eq} (8-hour), with the noise mitigation above applied.

Zero participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 55 dBA L_{eq} (8-hour), with the noise mitigation above applied.

Zero non-participating residential receptors project wide and zero potential commercial structures in the Town of Venice are over the maximum noise limit of 65 dB L_{eq} (1-hour) at 16 Hz, 31.5 Hz or 63 Hz, with the noise mitigation above applied.

Table 7-20 (Unmitigated) and Table 7-21 (Mitigated) below, present the number of sensitive noise receptors that have been modeled to experience a worst-case sound level of 35 dBA or greater. Modeled sound levels have been rounded to the nearest integer and are presented in 1 dBA increments by receptor participation status.

The highest sound levels at residential receptors, under this Mitigated scenario are:

- Non-Participating Receptor ID# 484 - 45 dBA
- Participating Receptor ID# 836 - 44 dBA

These sound levels are at or below the design goals of 45 dBA for a non-participating residence or potential commercial structure in the Town of Venice and 55 dBA for a participating residence or potential commercial structure in the Town of Venice. In addition, a maximum noise limit of fifty-five (55) dBA L_{eq} (8-hour), short-term equivalent continuous average nighttime sound level from the facility across any portion of a non-participating property is satisfied, as evident with the sound contours shown in Figure 7-4.1. Figure 7-4.1 shows the sound contours produced by the total Project with regards to the mitigated N149-4.X TS 108 model run, as it produces the highest broadband sound power level of all the wind turbine models in consideration. Thus, the Project complies with all design goals with respect to the N149-4.X TS 108.

Table 7-20 Receptors Modeled at 35 dBA or Greater – Total Sound L_{eq} (8-hour)- Unmitigated N149-4.X TS 108

Modeled Leq Sound Level [dBA][1]	# of Receptors							
	Residential		Public		Other		Commercial	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
55	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
49	0	2	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0
47	1	2	0	0	0	0	1	0
46	0	3	0	0	0	2	2	0
45	0	4	0	0	0	0	1	0
44	2	17	0	2	2	1	3	1
43	4	25	0	0	0	1	2	5
42	2	18	0	2	0	0	2	3
41	1	18	0	0	0	0	0	5
40	0	14	2	0	0	0	0	6
39	0	24	0	2	0	0	0	2
38	2	24	0	2	0	0	0	6
37	0	39	0	2	0	1	0	2
36	0	36	0	6	0	0	0	1
35	0	18	0	1	0	0	0	3

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

Table 7-21 Receptors Modeled at 35 dBA or Greater – Total Sound L_{eq} (8-hour)- Mitigated N149-4.X TS 108

Modeled Leq Sound Level [dBA][1]	# of Receptors							
	Residential		Public		Other		Commercial	
	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating	Participating	Non-Participating
55	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0
45	1	5	0	0	0	0	1	0
44	1	3	0	0	0	1	3	0
43	4	22	0	1	2	1	3	1
42	2	19	0	1	0	2	2	5
41	0	21	0	1	0	0	2	4
40	2	18	1	1	0	0	0	5
39	0	23	1	2	0	0	0	7
38	1	20	0	1	0	0	0	6
37	1	32	0	0	0	1	0	1
36	0	37	0	8	0	0	0	1
35	0	27	0	2	0	0	0	1

Notes: 1. Fractions for the Town of Venice were rounded up to the next higher whole decibel. All others were rounded to the nearest whole decibel.

<u>Collector substation only</u>

Future L_{eq} (1-hour) sound levels during worst-case operation of the Project's collector substation only have been calculated using the methodology described above. Appendix 7-E provides the predicted A-weighted (dBA) and full octave band frequency (31.5 Hz to 8,000 Hz) sound pressure levels at all discrete receptors. The results are sorted by receptor ID and sorted by A-weighted sound level from high to low for all receptor types (Residential, Public, Commercial, and Other) and participation (Non-Participating or Participating). In total, there are sixteen tables from Table 7-5.1a to 7-5.1p found in Appendix 7-E. Sound level contours from the collector substation generated from the modeling grid are presented in Figure 7-5.1.

The highest sound level under this scenario is 27 dBA at a non-participating residence (Receptor ID #796). This sound level meets the design goal of 35 dBA, assuming the 5 dBA tonal penalty, which is likely for the substation transformer.

Local Requirements

Agricola Wind is located within the Towns of Scipio and Venice in Cayuga County, New York. The Town of Scipio addresses wind energy through their Zoning Ordinance, of which there are no quantitative noise level limits regulated by the Town applicable to the Project.

The Town of Venice addresses wind energy through their 2024 Wind Energy Facilities Law. The Wind Energy Facilities Law states their noise standards in Section 8-2, Section 8-2A, enforces noise limits on the Project, which are evaluated at non-participating residential or potential commercial structures within the Town of Venice. Quantitatively these noise limits implemented by the Town of Venice, generally align with the Article VIII noise design limits ((16 NYCRR Part 1100) Chapter XI Section 1100-2.8), of which the Facility is designed to comply with. However, the noise limits implemented by the Town of Venice not only are evaluated at residential structures throughout the town, as seen project wide with the Article VIII noise design limits, but also potential commercial structures as well. The proposed Facility is designed to comply at potential commercial structures within the Town of Venice as well. In addition, Section 8-2B and Section 8-2C of the Wind Energy Facilities Law in the Town of Venice, each address audible prominent tones and human perceptible vibrations due to the operation of the Facility. Once again, these noise limits by the Town of Venice generally align with the Article VIII noise design limits (16 NYCRR Part 1100) Chapter XI §1100-2.8), of which the Facility is designed to comply with. These items are addressed further in Section 7(e) and Section 7(m).

Section 8-2D of the Wind Energy Facilities Law in the Town of Venice is not applicable to the Facility. As it is shown that the ambient noise level across the proposed Facility does not exceed the Town's noise standards, and subsequently, the Town's noise standards remain unchanged for the proposed Facility. An evaluation of ambient pre-construction baseline noise conditions was conducted across the proposed Project earlier in 2024 using the L_{90} statistical and the L_{eq} energy-based noise metrics. The full details of the ambient pre-construction sound level measurement program are found in Appendix 7-C.

Lastly, Section 8-2E of the Wind Energy Facilities Law in the Town of Venice requests that any noise level falling between two whole decibels shall be the greater of the two. As stated earlier in Section 7(l), the results for all three wind turbine models for the proposed Facility have been rounded up to a whole integer for evaluation purposes within the Town of Venice.

As a result, the proposed Agricola Wind Facility will comply with all local noise regulations within the Town of Venice, as exemplified throughout this Exhibit with compliance being shown with regards to all Article VIII noise design limits.

7(m) Community Noise Impacts

(1) Hearing Loss for the Public

The Project's potential to result in hearing loss to the public was evaluated against the 1999 "Guidelines for Community Noise" published by the World Health Organization (WHO). According to the WHO Guidelines, the threshold for hearing impairment is 70 dBA L_{eq} (24-hour), 110 dBA (L_{max}, fast) or 120/140 dBA (peak at the ear) for children/adults. Operational noise will always be less than 55 dBA L_{eq} (8-hour) at any residence. This is well below the 70 dBA limit. The only construction noise source for this Project capable of exceeding the WHO hearing impairment threshold is blasting. To avoid any exceedances of the WHO standard, the contractor responsible for blasting will follow the requirements in the Blasting Plan (Appendix 10-A of the Article VIII Application). All other construction activities will produce noise below the WHO hearing impairment threshold. Therefore, no Project activities have the potential to cause hearing loss to the public.

(2) Potential for Structural Damage

The potential for structural damage is low, due to the lack of structures near major Project components. If any blasting is required, the contractor responsible for blasting will follow the requirements in the Blasting Plan (Appendix 10-A of the Article VIII Application.). The Blasting Plan will follow U.S. Bureau of Mines standards that limit vibration magnitudes to prevent damage to above and below-ground structures.

(3) Potential for Human Perceptible Vibrations

While not studied nearly as extensively as airborne vibration, the potential for wind turbines to create adverse ground-borne vibration has been investigated. Measurement of ground-borne vibration associated with wind turbine operations can be detectable with instruments, but is below the threshold of perception, even within a wind farm.

Gastmeier & Howe measured vibration at a residence 325 meters (1,066 feet) from several 1.8 MW wind turbines and found vibration levels were well below the perception limits found in ISO 2631-2 ("*Evaluation of human exposure to whole-body vibration*", Part 2). [4]

The Massachusetts Department of Environmental Protection (MA DEP) and the Massachusetts Department of Public Health commissioned an expert panel who found that seismic motion from wind turbines is so small that it is difficult to induce any physical or structural response. [5] Two reports cited in the MA DEP review (*Styles 2005* [6]*; Schofield 2010* [7]*)* indicate that at 100 meters from a wind turbine the maximum motion that is induced is 120 nanometers (at about 1 Hz). A nanometer is 10^{-9} meter, which is equivalent to 1.2×10^{-7} meter of ground displacement. To put

4 Recent Studies of Infrasound from Industrial Sources, W. Gastmeier & B. Howe, Canadian Acoustics, 36(3), 2008.

5 *Wind Turbine Health Impact Study: Review of Independent Expert Panel,* Massachusetts Department of Environmental Protection and Massachusetts Department of Public Health, January 2012.

6 Microseismic and Infrasound Monitoring of Low Frequency Noise and Vibration from Windfarms, P. Styles et al, Keele University, 18 July 2005.

7 Seismic Measurements at the Stateline Wind Project, R. Schofield, University of Oregon, 2010.

the motion in perspective, the diameter of a human hair is on the order of 10^{-6} meter. Extremely sensitive measuring devices were required to detect this slight motion. The Schofield measurements were conducted on a Vestas V-47 with a maximum rotational rate of 29 rpm (blade pass frequency of 1.47 Hz).

Ground-borne vibration measurements were made by Epsilon from Siemens 2.3 and GE 1.5sle wind turbines in Texas.[8] The maximum ground-borne vibration root-mean square (RMS) particle velocities were 0.071 mm/second (0.71×10^{-4} meters/second) in the 8 Hz one-third octave band. This was measured 1,000 feet downwind from a GE 1.5sle WTG under maximum power output and high wind at the ground. The background ground-borne vibration RMS particle velocity at the same location was 0.085 mm/sec. Both of these measurements meet ANSI S2.71-1983[9] recommendations for perceptible vibration in residences during nighttime hours of 1.0×10^{-4} meters/second at 8 Hz. Soil conditions were soft earth representative of an active agricultural use. No perceptible vibration was felt from the operation of the wind turbines. The GE 1.5sle has a maximum rotation rate of 20 rpm (blade pass frequency of 1 Hz), and the Siemens 2.3 has a maximum rotation rate of 15.4 rpm (blade pass frequency of 0.77 Hz).

ANSI S2.71-1983 presents recommendations for magnitudes of ground-borne vibration which humans will perceive and possibly react to within buildings. A basic rating is given in Table 1 of the standard for the most stringent conditions, which correspond to the approximate threshold of perception of the most sensitive humans. From the base rating, multiplication factors should be applied according to the location of the receiver; for continuous sources of vibration in residences at nighttime, the multiplication factor is 1.0 – 1.4. For spaces in which the occupants may be sitting, standing, or lying at various times, the standard recommends using a combined axis rating which is obtained from the most stringent rating for each axis. Measurements in each of the 3 axes should be compared to the combined axis rating. Table 1 of the standard presents the base response RMS velocity ratings for the combined axis.

The Ministry for the Environment, Climate and Energy of the Federal State of Baden-Wuerttemberg, Germany published a detailed study on infrasound and vibration from wind turbines.[10] The results found that vibration velocity levels from a 2.4 MW Nordex N117 wind turbine at distances of less than 300 meters (~1,000 feet) were less than 0.1×10^{-4} meters/sec.

[8] A Study of Low Frequency Noise and Infrasound from Wind Turbines, Epsilon Associates, Inc., prepared for NextEra Energy Resources, LLC, July 2009.

[9] Guide to the Evaluation of Human Exposure to Vibration in Buildings, ANSI/ASA S2.71-1983 (R June 19, 2020).

[10] Low-frequency sound noise incl. infrasound from wind turbines and other sources, LUBW Ministry for the Environment, Climate and Energy of the Federal State of Baden-Wuerttemberg, Germany, November 2016.

In summary, studies on ground-borne vibration have found that vibration produced by wind turbines can be detected by extremely sensitive instruments, but is not perceptible by humans and is not fundamentally different than background vibration that is ever-present in the natural environment. These studies have found that this ground-borne vibration potentially associated with the operation of wind turbines is not a concern.

The nearest operating wind turbine for the Agricola Wind project to a non-participating residence (#484) is approximately 992 feet (302 meters). <BEGIN CONFIDENTIAL INFORMATION> [redacted] <END CONFIDENTIAL INFORMATION> Based on the literature findings presented above, where ground-borne vibration was below perceptible thresholds at comparable distances and frequency of rotation, ground-borne vibrations from the operation of the Facility will be below the thresholds as recommended in ANSI S2.71-1983 at non-participating residences.

7(n) Noise Abatement Measures for Construction Activities

(1) Noise Abatement Measures

Noise due to construction is an unavoidable outcome of construction. The Applicant will communicate with the public to notify them of the beginning of construction of the Facility. Most of the construction will occur at significant distances to sensitive receptors, and therefore noise from most phases of construction is not expected to result in impacts to sensitive receptors. Nonetheless construction noise will be minimized using BMP such as those listed below.

- Blasting may be necessary at specific turbine sites. As needed, blasting will be conducted in accordance with the Agricola Wind Preliminary Blasting Plan.
- Pile driving is not anticipated at this site.
- Pursuant to 16 NYCRR Section 1100-6.2(k)(1), utilizing construction equipment fitted with exhaust systems and mufflers that have the lowest associated noise whenever those features are available and maintaining functioning mufflers on all transportation and construction machinery.
- Maintaining equipment and surface irregularities on construction sites to prevent unnecessary noise.
- Configuring, to the extent feasible, the construction in a manner that keeps loud equipment and activities as far as possible from noise-sensitive locations.
- Using back-up alarms with a minimum increment above the background noise level to satisfy the performance requirements of the current revisions of Standard Automotive Engineering (SAE) J994 and OSHA requirements.

- Developing a staging plan that establishes equipment and material staging areas away from sensitive receptors when feasible.
- Contractors shall use approved haul routes to minimize noise at residential and other sensitive noise receptors.

(2) Complaint Management Plan

Complaints due to construction or operation of the Project have the potential to occur. If complaints do arise, the Complaint Management Plan will follow as described in 16 NYCRR § 10.2(e)(7) of the Article VIII regulations. In accordance with 16 NYCRR § 6.2(a), (c) and (d), the Applicant will provide notice of commencement of construction and completion of construction. The notice will include the procedure and contact information for registering a complaint. To minimize noise impacts during construction, the Applicant will comply with 16 NYCRR § 6.2(k)(2), which includes responding to noise and vibration complaints according to the complaint resolution protocol approved by the Office.

(3) Compliance with Local Laws

Pursuant to 16 NYCRR § 6.2(k)(3), the Applicant will comply with the requirements set in place by the Towns of Scipio and Venice, as discussed in Section 7(l).

7(o) Noise Abatement Measures for Facility Design and Operation

(1) Wind Facilities

(i) Adverse noise impacts will be avoided or minimized through careful siting of Project components. Noise-reduced operations are expected to occur on various wind turbines to varying degrees, in order to demonstrate compliance. The amount of mitigation and the necessary NRO modes were discussed at greater length in prior sections 7(d) and 7(l). All tabular results for the modeled Project sound levels L_{eq} (8-hour) in Appendix 7-D have been reported as either "Unmitigated" or "Mitigated." No mitigation is required for the substation under the current design, therefore, all tabular results presented in Appendix 7-E are "Unmitigated."

(ii) Specific mitigation measures will be decided upon selection of a final wind turbine manufacturer and a finalized Project layout. The specific mitigation measures include, but are not limited to, having individual wind turbines programmed to operate at different sound optimized modes or noise-reduced operating modes based on any set of rules, such as wind direction and/or wind speed. Therefore, if exceedances with regards to any noise limits, are only anticipated to occur under very specific conditions then the necessary sound optimized modes will be applied for these conditions and not all other conditions. Outside of the specified conditions, the individual wind turbines identified will be expected to operate under their respective normal operation mode and will remain in compliance with respect to all noise limits. The expected mitigation measures will be presented in a final compliance filing and will be based on technical documentation from the final wind turbine manufacturer. The mitigation and wind turbine NRO's will be implemented at the start date of operations.

(2) Solar Facilities

This subsection is not applicable to the proposed Project.

7(p) Software Input Parameters, Assumptions, and Associated Data for Computer Noise Modeling

1) GIS files used for the computer noise modeling, including noise source and receptor locations and heights, topography, final grading, boundary lines, and participating status have been submitted to the Office by digital means.

2) The Cadna/A computer noise modeling files have been submitted to the Office by digital/electronic means.

3) Site plan and elevation details of the substation, as related to the location of all relevant noise sources are presented in Appendix 7-F.

4) (i) Sound power level from the turbines in consideration for the Facility have been documented with information from the manufacturers following the IEC 61400-11 standard and IEC TS 61400-14 to the extent possible in Appendix 7-G.

   (ii) To the extent possible based on manufacturer, in Appendix 7-G the sound power level information has been reported with associated wind speed magnitudes, angular speed of the rotor, and rated power.

   (iii) As provided by the individual manufacturers to the extent possible, all sound power level information in Appendix 7-G addresses normal operations, noise reduced operations, and low-noise or serrated trailing edge blade noise reduction measures.

5) This subsection is not applicable to the proposed Project.

7(q) Miscellaneous

(1) A glossary of terminology, definitions, and abbreviations used throughout this Exhibit are included as Appendix 7-J. The references mentioned in the application are found in Appendix 7-K.

(2) All information has been reported in tabular, spreadsheet compatible or graphical format as follows:

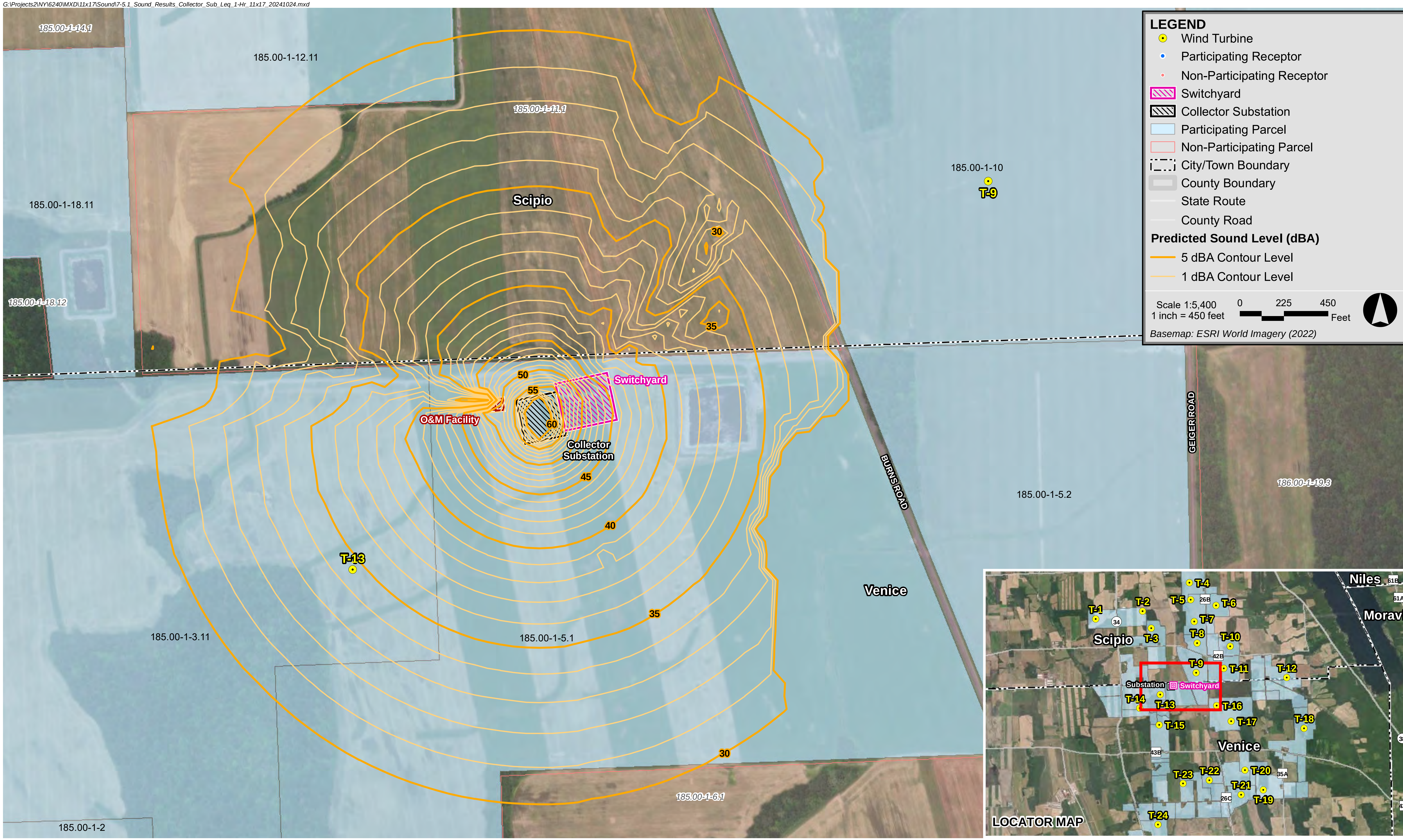
   (i) All data reported in tabular format has been clearly identified to include headers and summary footer rows. Headers include identification of the information contained in each column, such as noise descriptors; weighting; duration of evaluation; time of the day, whether the value is a maximum or average value and the corresponding time frame of evaluation.

(ii) Table titles identify whether the tabular or graphical information corresponds to the "unmitigated" or "mitigated" results, if any mitigation measures are evaluated, and “cumulative” for cumulative noise assessments.

(iii) Columns or rows with results related to a specific design goal, noise limit or local requirement, identify the requirement to which the information relates.

(iv) Tables include rows at the bottom summarizing the results to report maximum and minimum values of the information contained in the columns. Sound receptors are separated into different tables according to their use (e.g., participating residences, potentially participating residences, non-participating residences, public, commercial, unknown, etc.).

(v) This Exhibit reports estimates of the absolute number of sensitive sound receptors that will be exposed to noise levels that exceed any design goal or noise limit (in total as well as grouped in one (1)-dBA bins).



Agricola Wind Cayuga County, NY

Epsilon ASSOCIATES INC.

Figure 7-5.1

Collector Substation Leq (1-Hr) Sound Level Modeling Results

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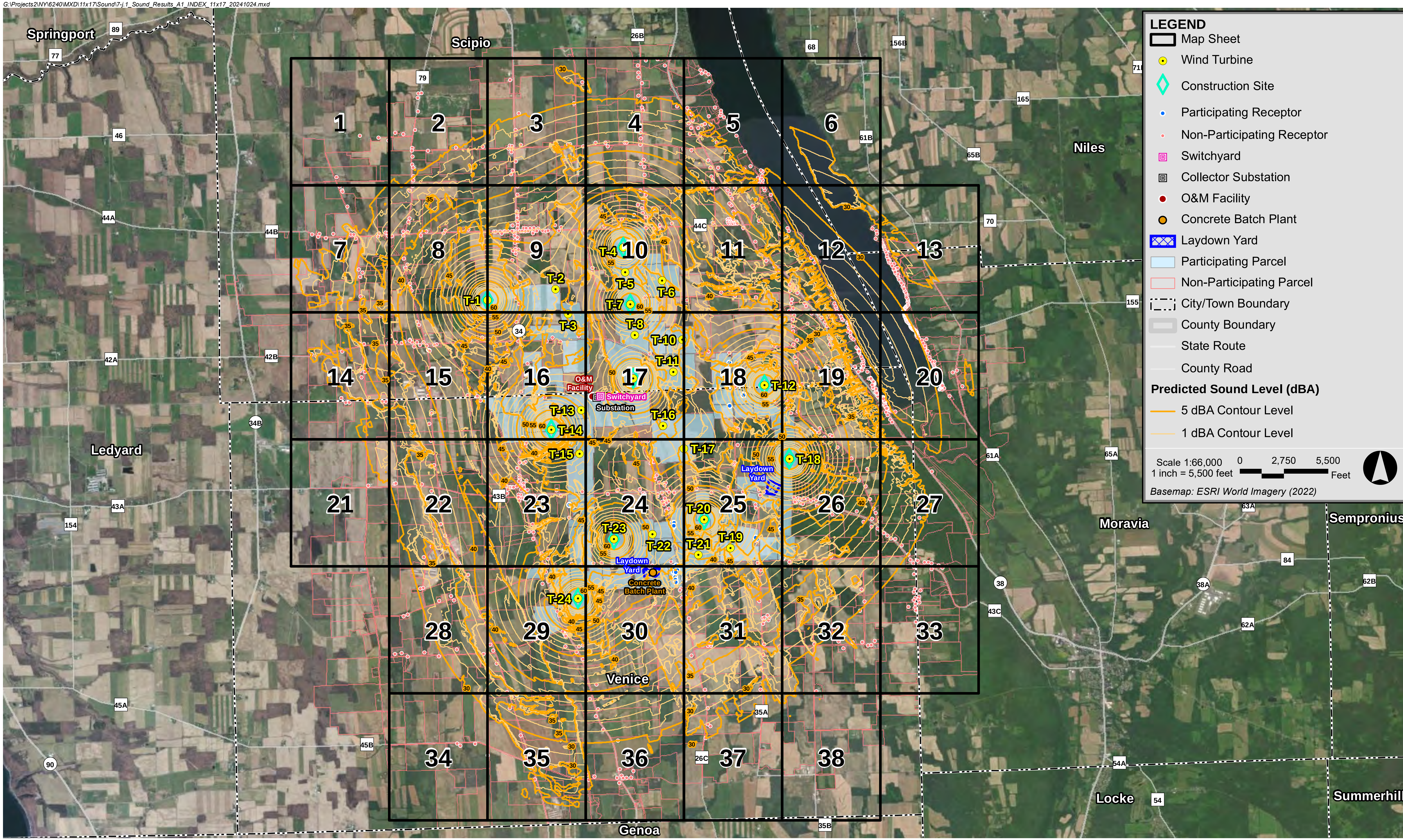

Agricola Wind Cayuga County, NY

Epsilon

Figure 7-j.1, Index

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

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LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 1 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind Cayuga County, NY

Epsilon Associates Inc.

Figure 7-j.1, Map 2 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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

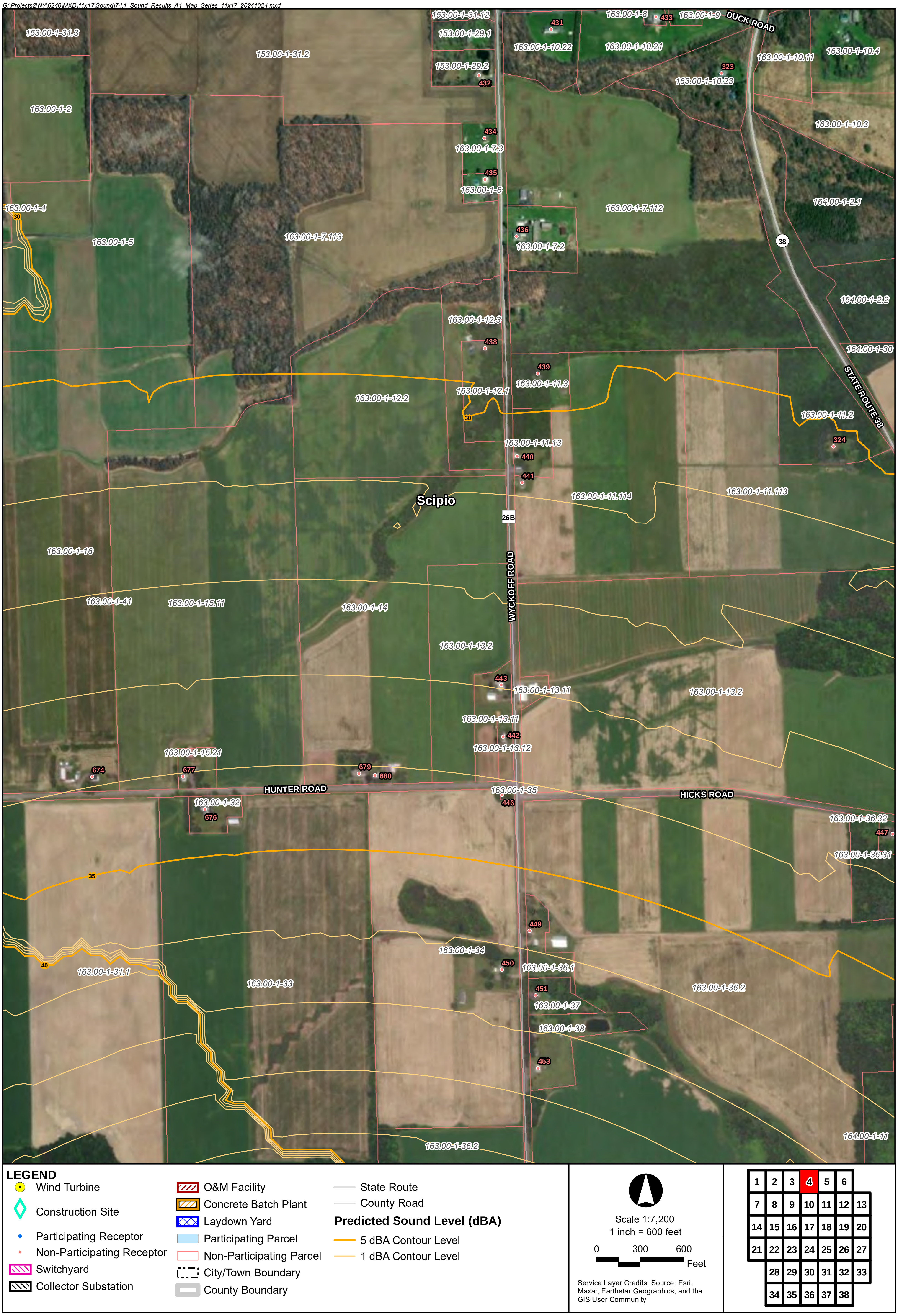
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
	28	29	30	31	32	33
	34	35	36	37	38	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 3 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

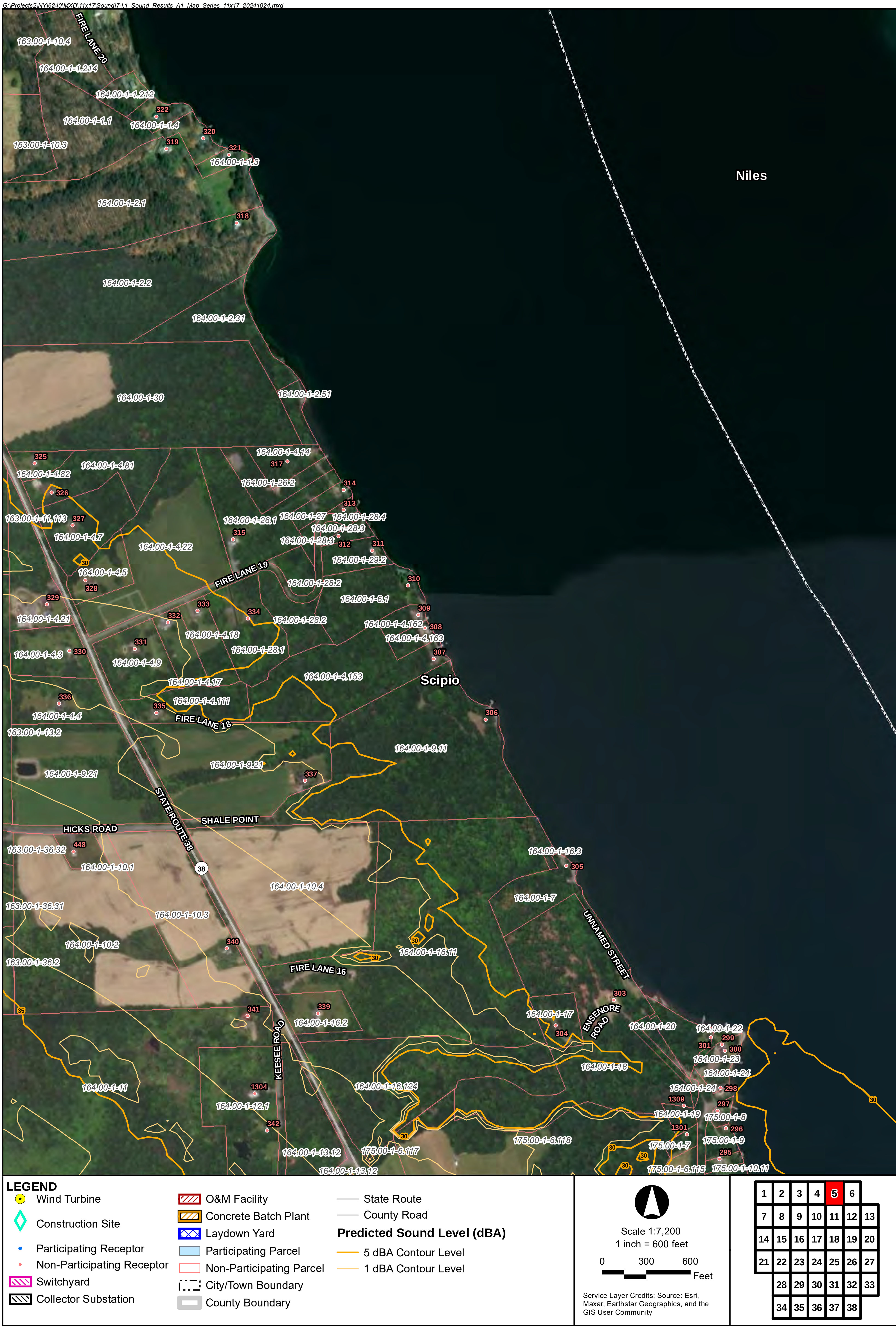


Agricola Wind **Cayuga County, NY**

Figure 7-j.1, Map 4 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 5 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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

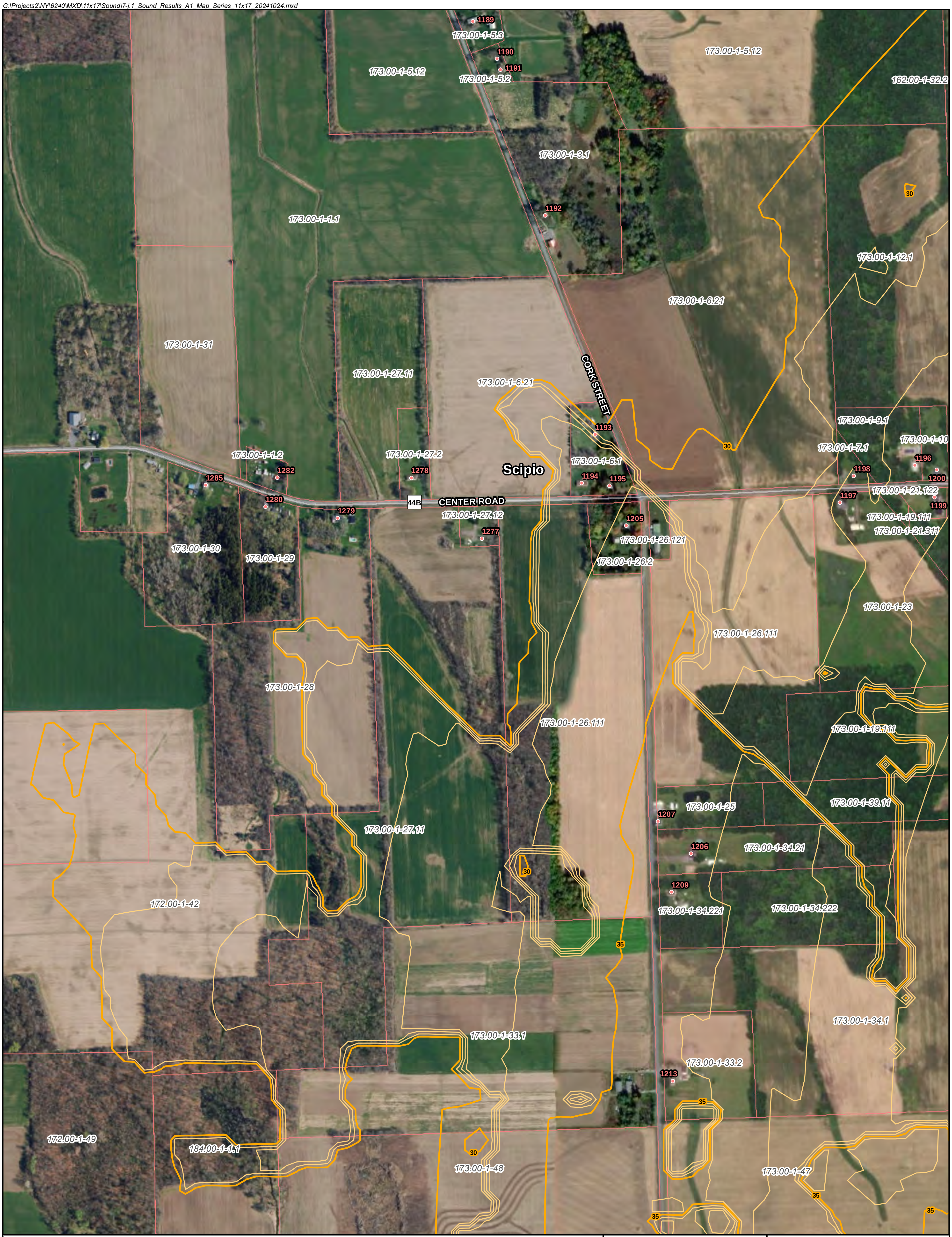
Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 6 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind Cayuga County, NY

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 7 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

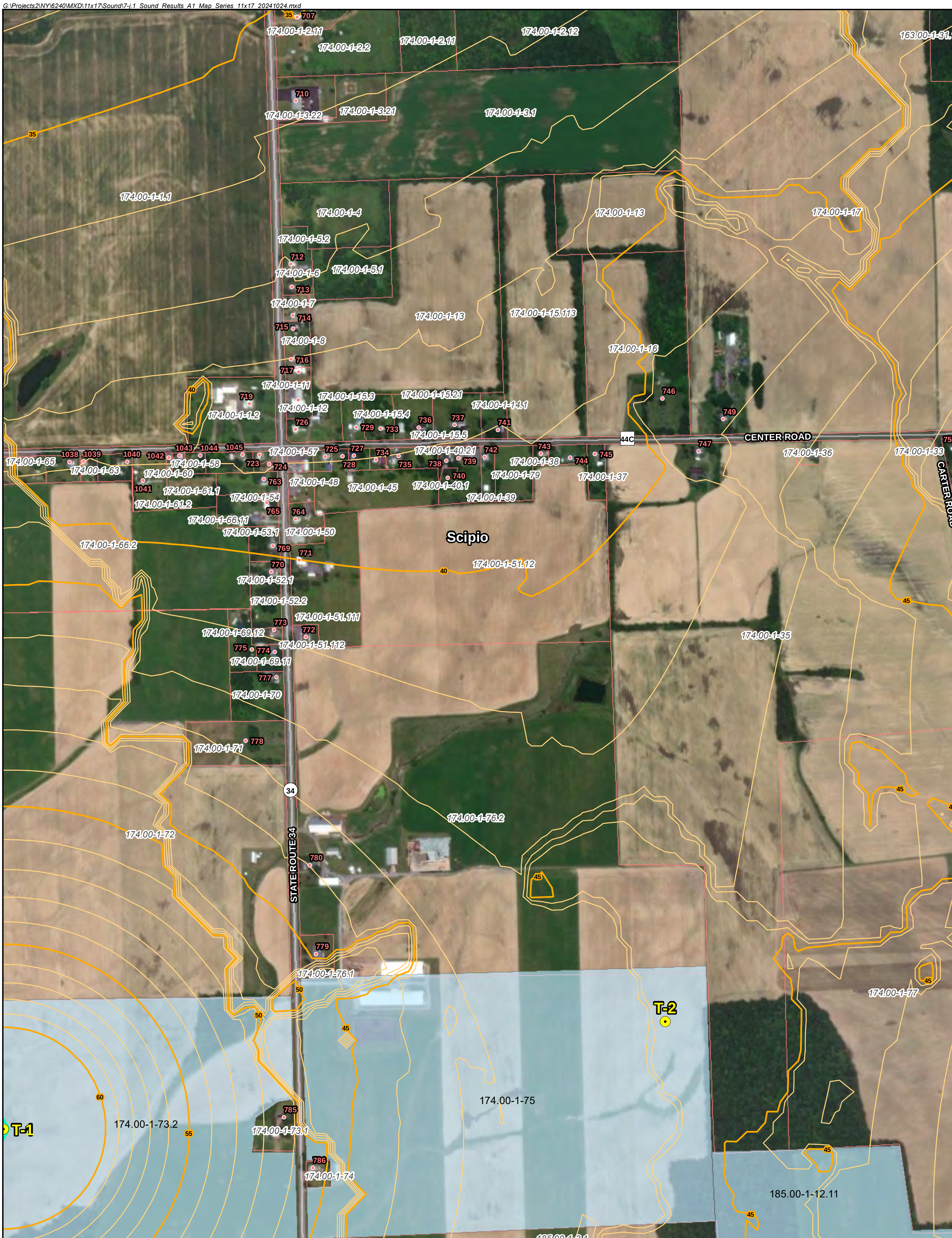
Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 8 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND
- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)
- 5 dBA Contour Level
- 1 dBA Contour Level

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

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 9 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND
- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)
- 5 dBA Contour Level
- 1 dBA Contour Level

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	

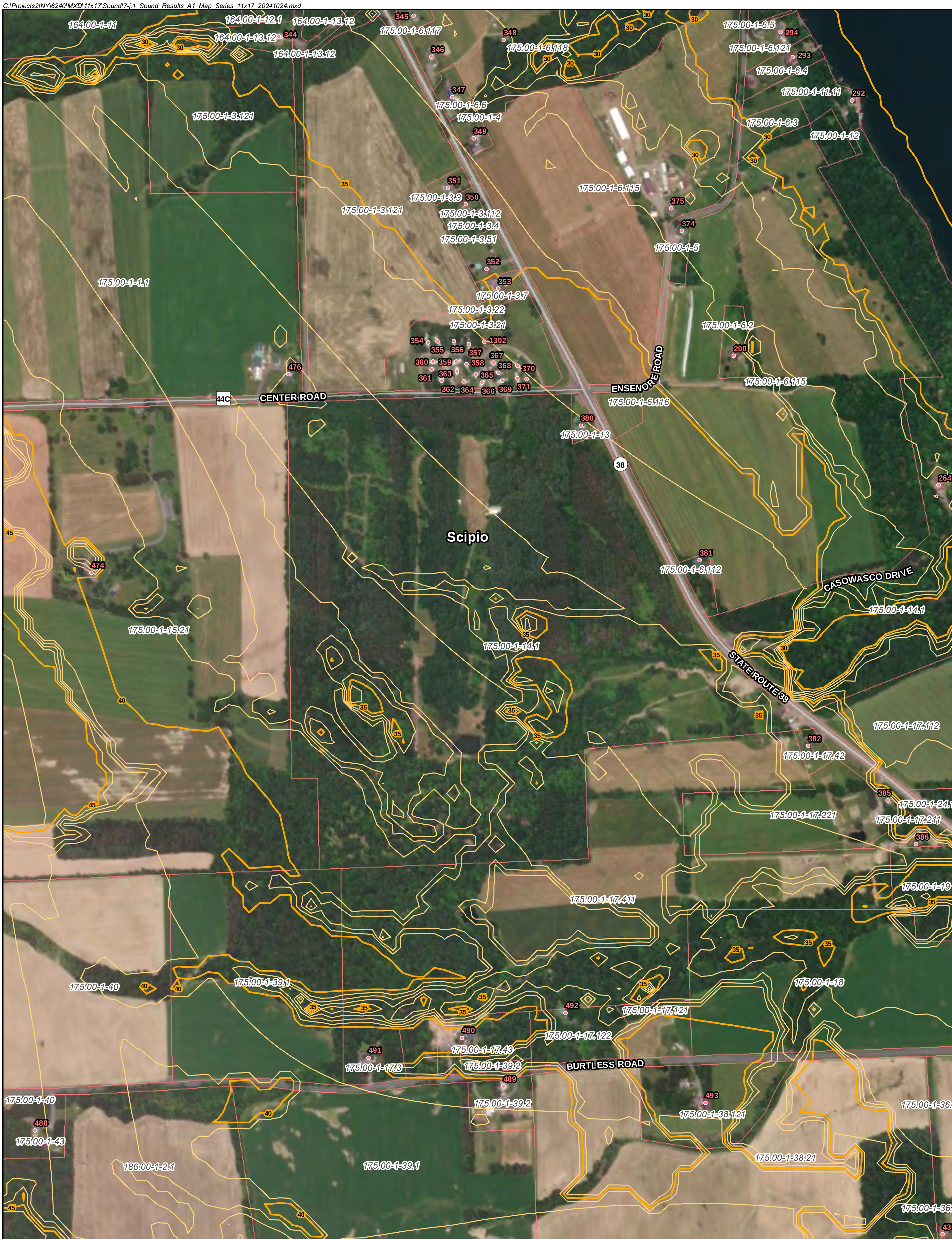
Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 10 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc

Figure 7-j.1, Map 11 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

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Figure 7-j.1, Map 12 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND
- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)
- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind Cayuga County, NY

Epsilon Associates Inc.

Figure 7-j.1, Map 13 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

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Figure 7-j.1, Map 14 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

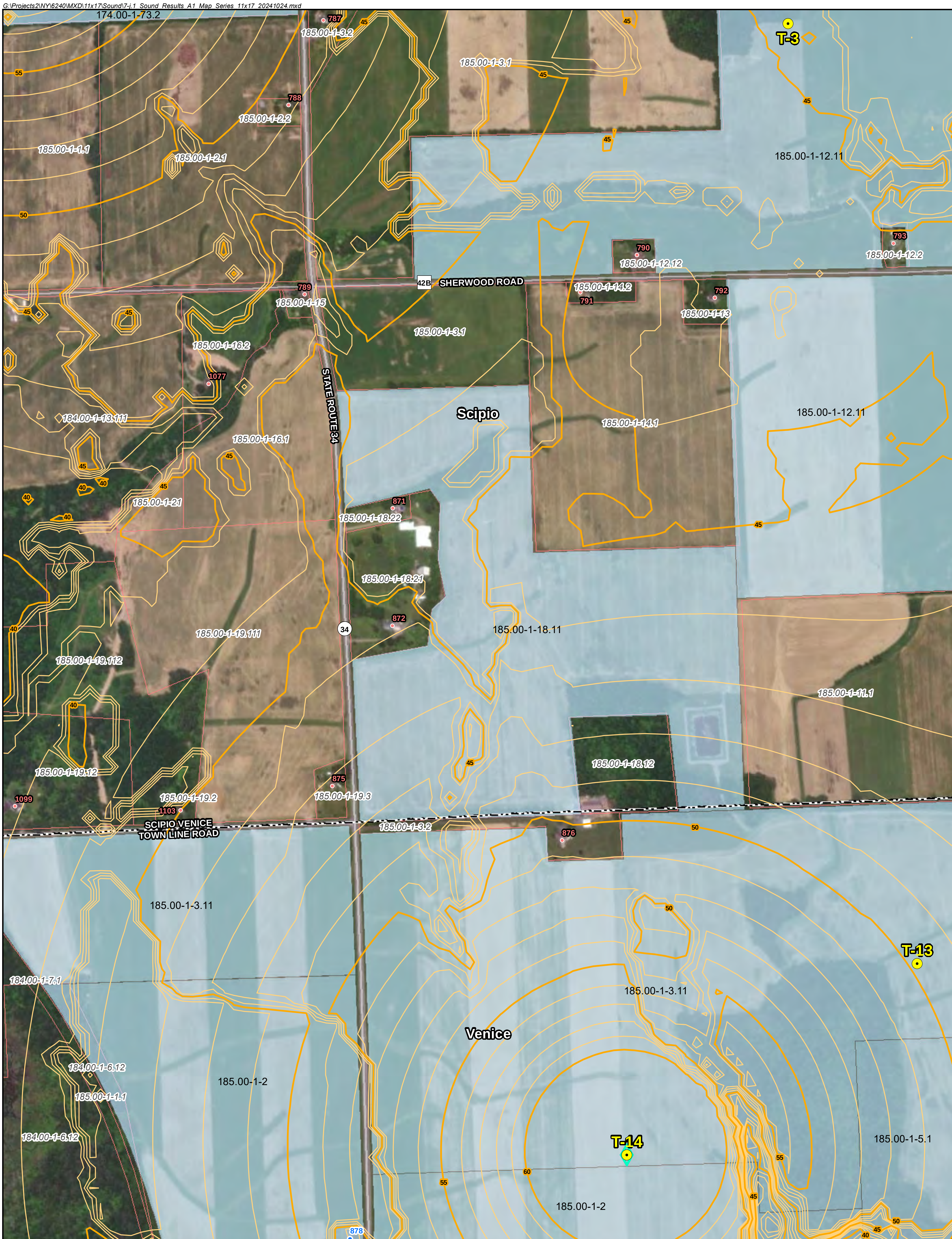
Agricola Wind Cayuga County, NY

Epsilon Associates Inc.

Figure 7-j.1, Map 15 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

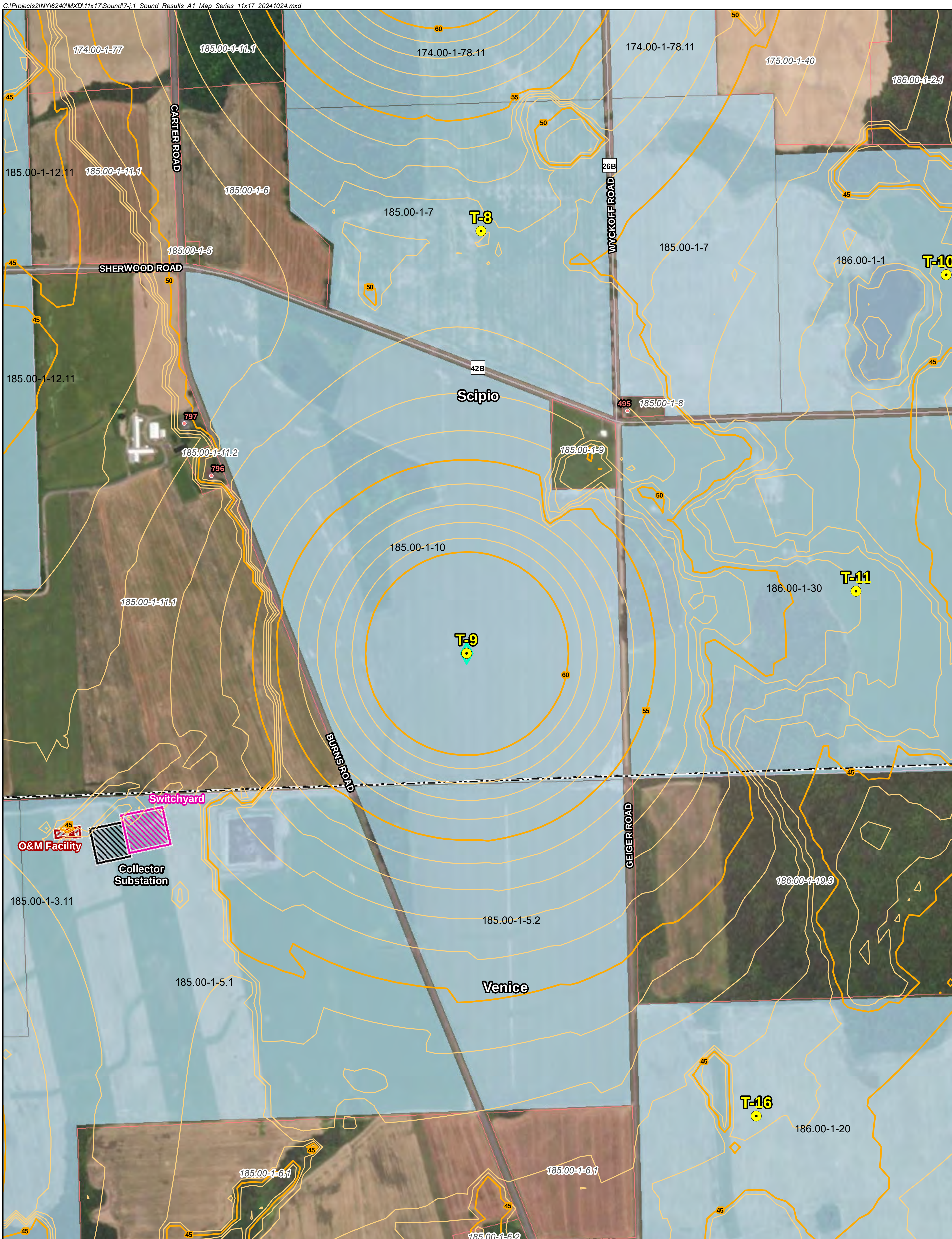
Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 16 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Figure 7-j.1, Map 17 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 18 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

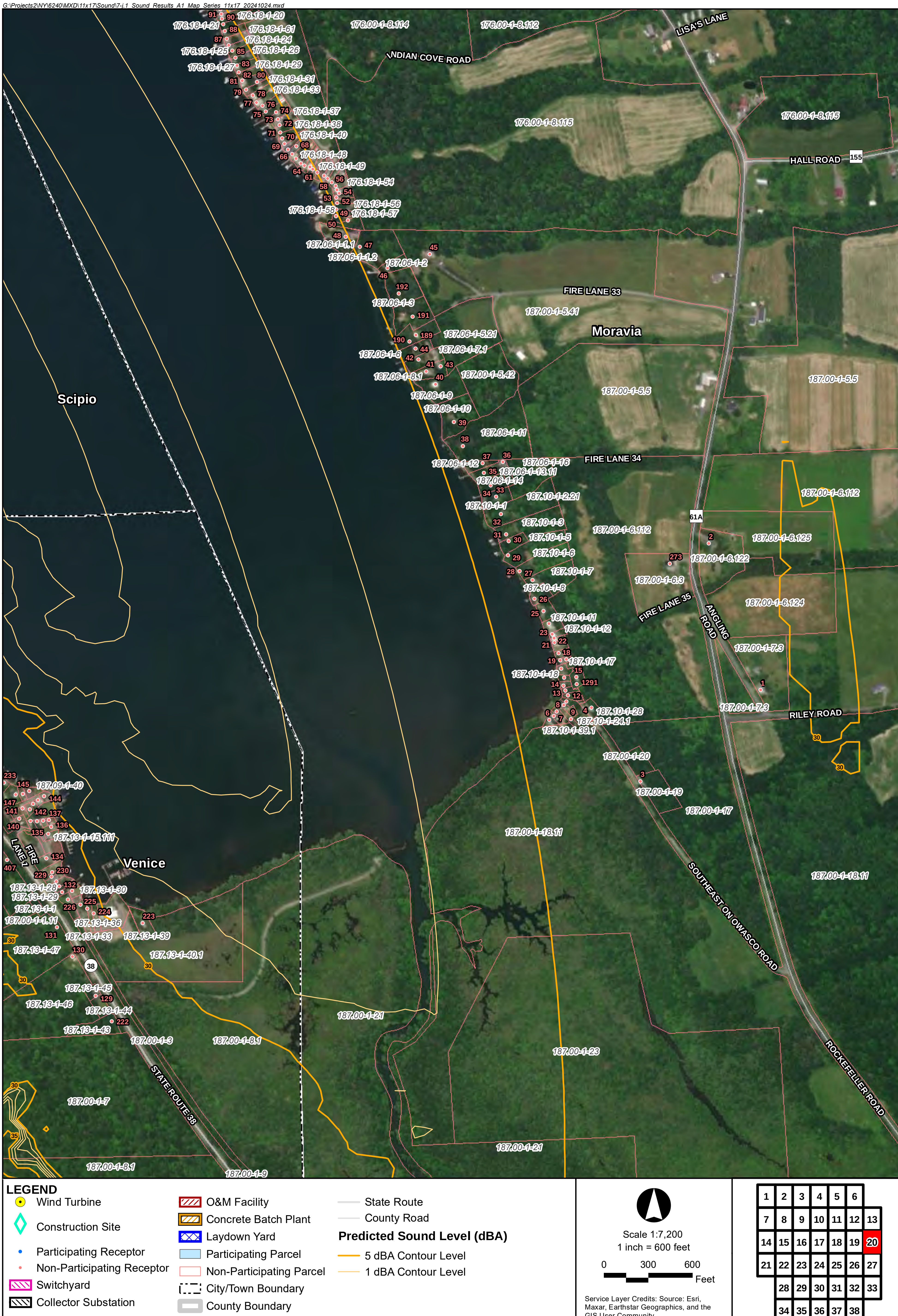
Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 19 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



Agricola Wind Cayuga County, NY

Figure 7-j.1, Map 20 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 21 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 22 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind Cayuga County, NY

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 23 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

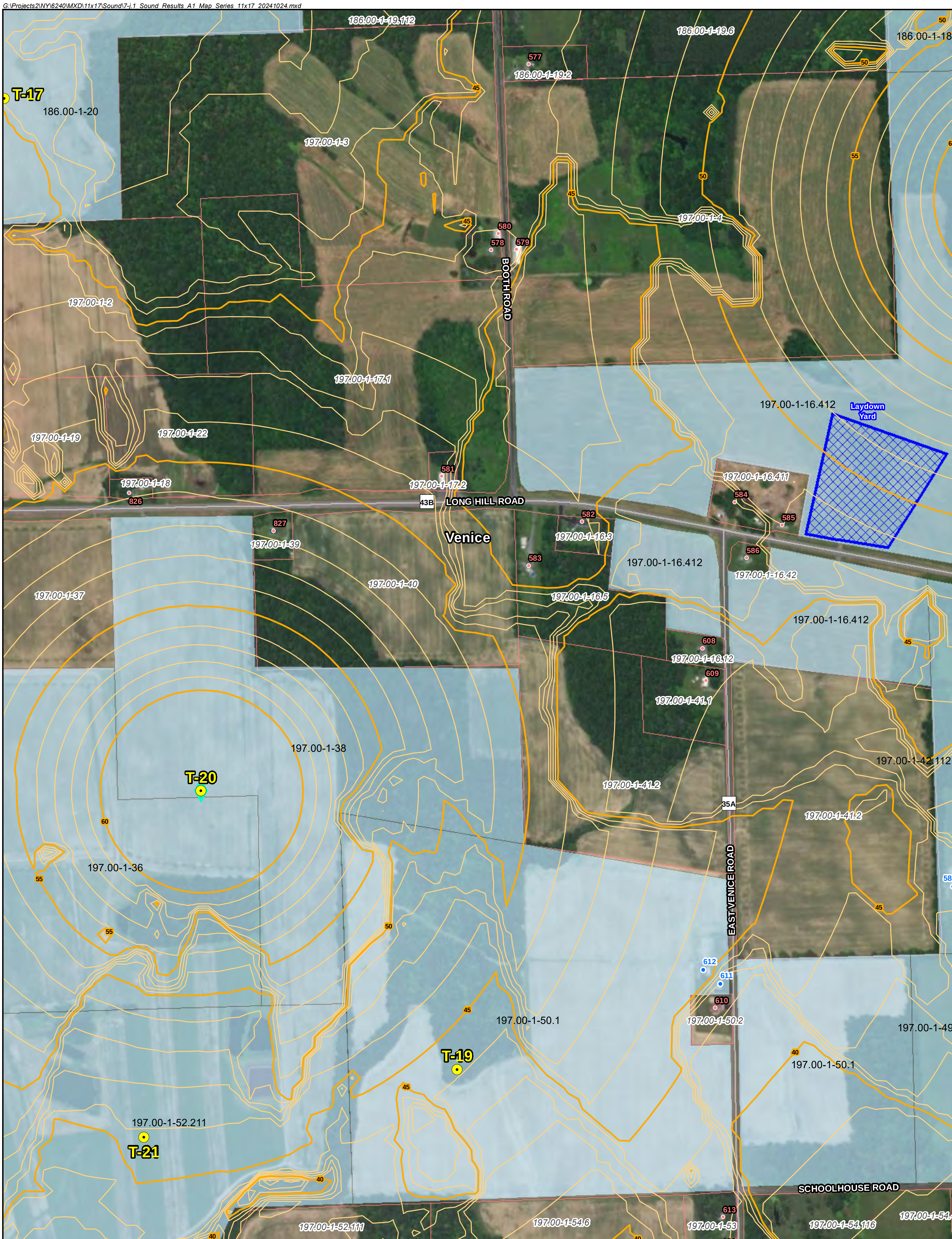
Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 24 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 25 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

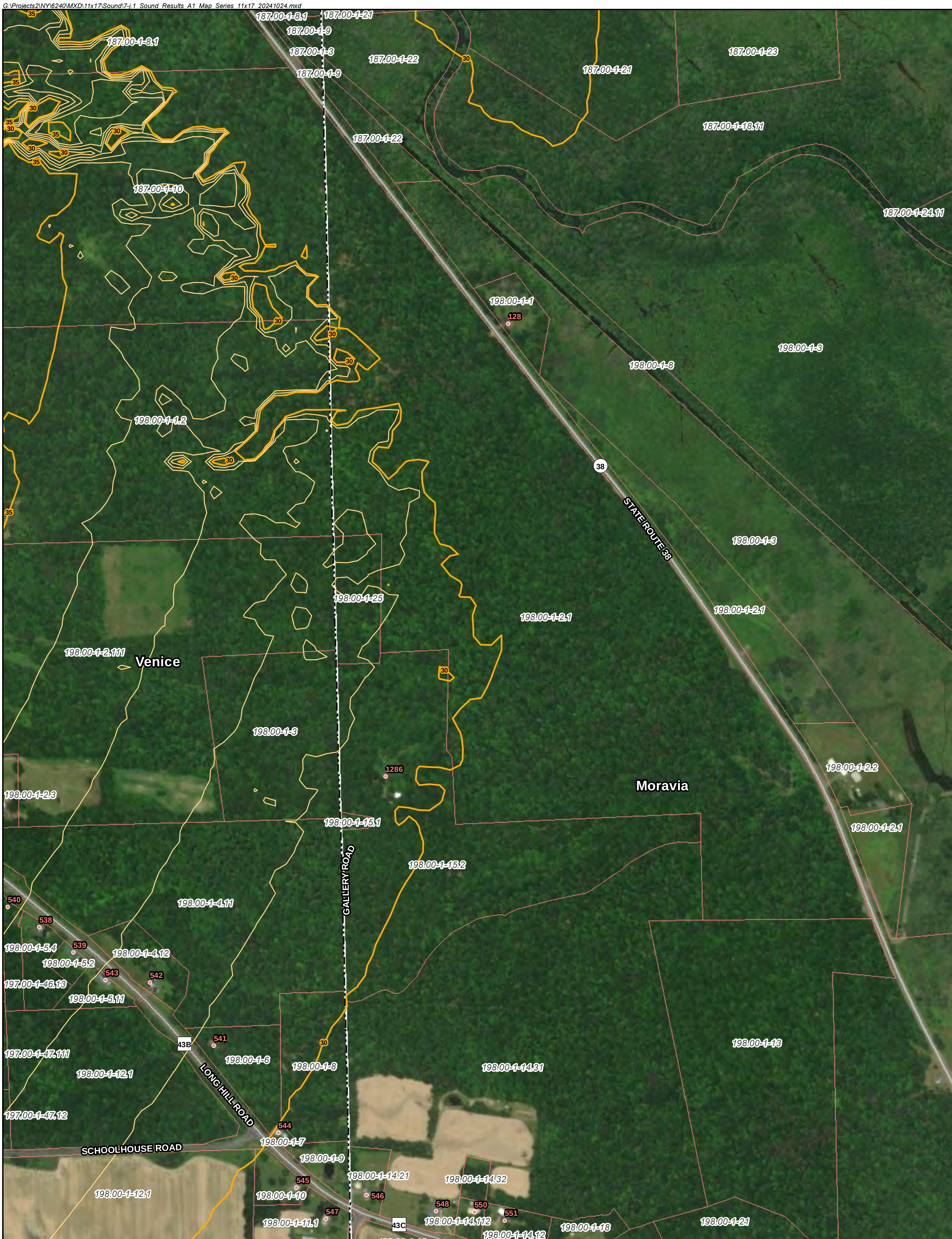
Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 26 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

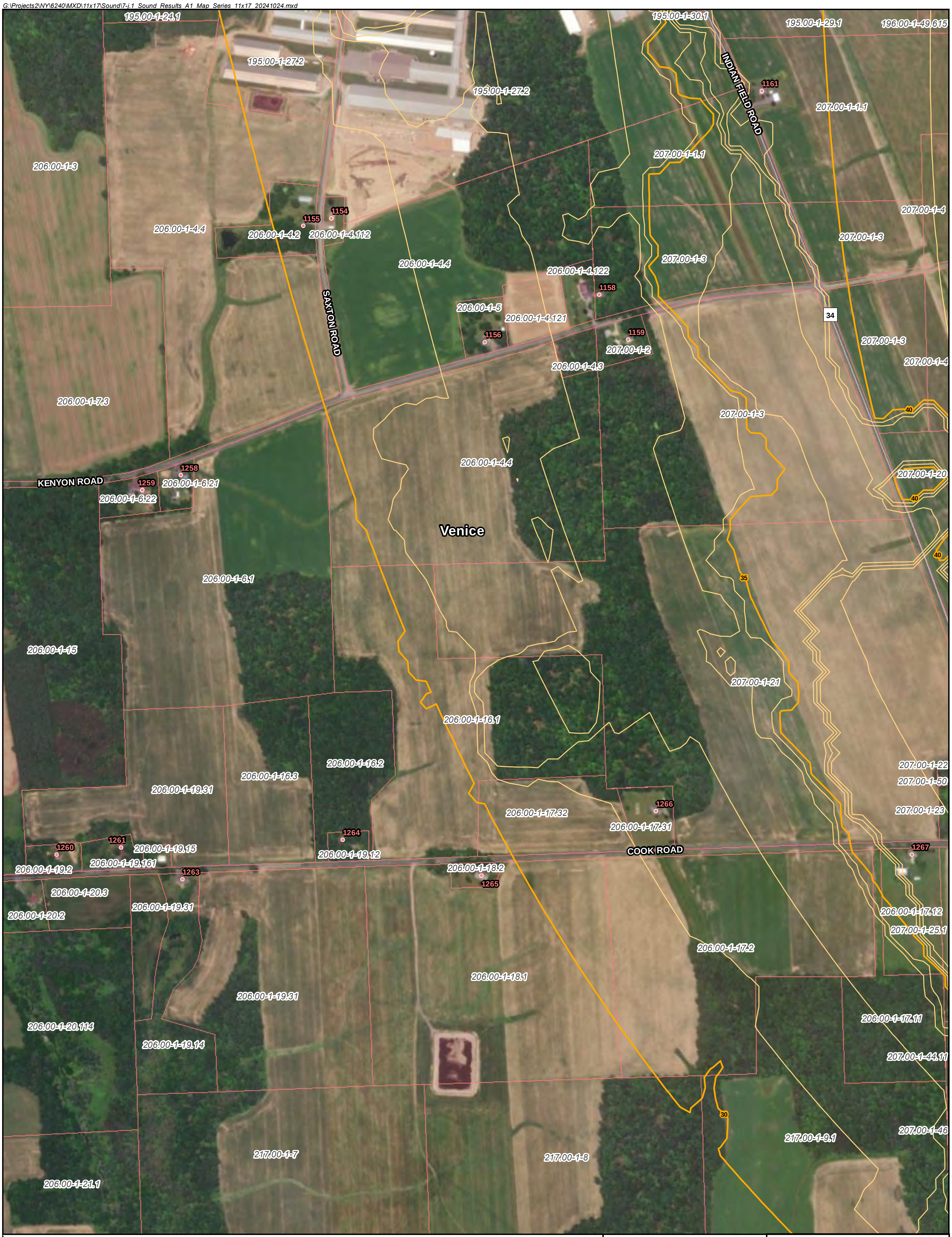
Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 27 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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		

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 28 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 29 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

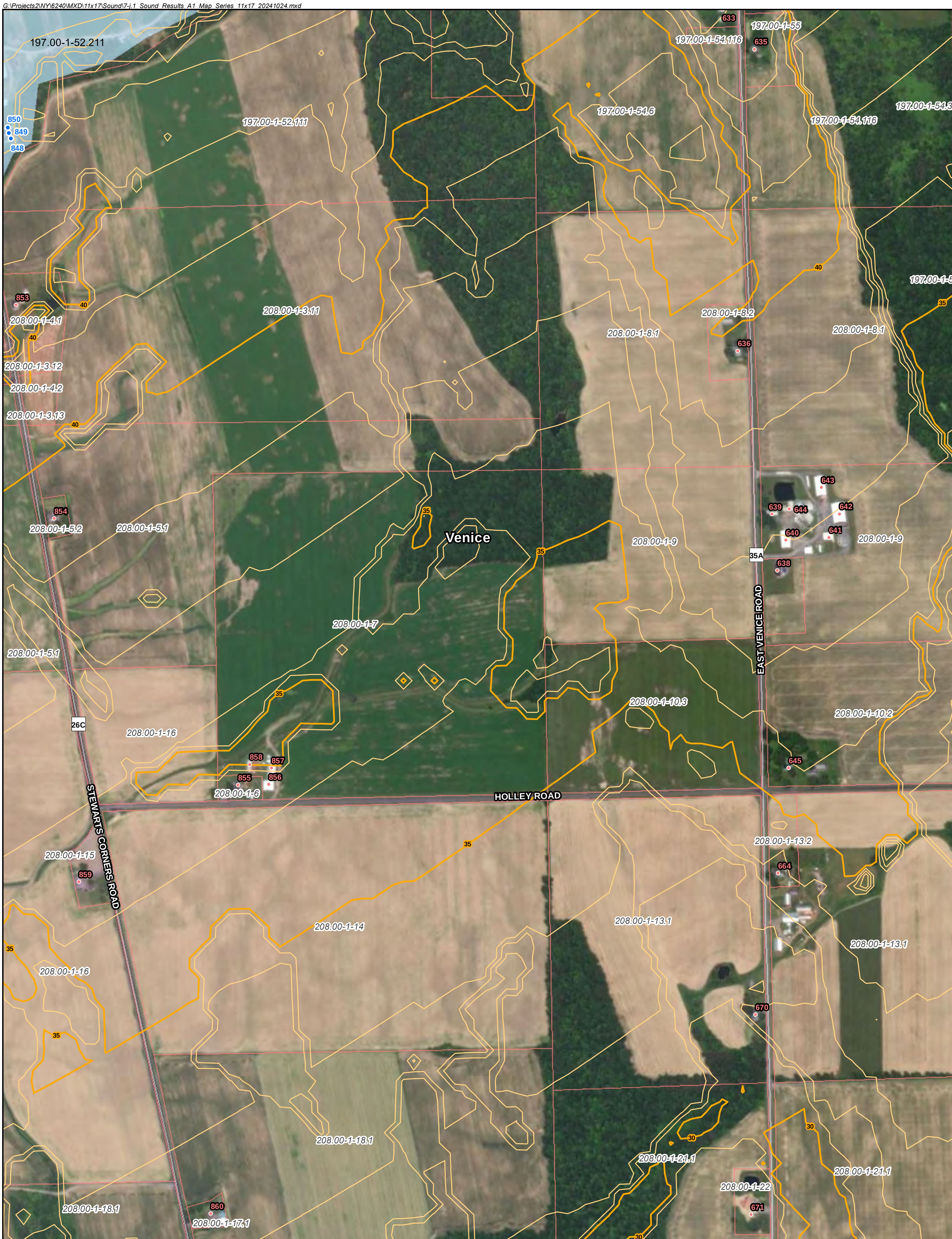
Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 30 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd



LEGEND

Wind Turbine
Construction Site
Participating Receptor
Non-Participating Receptor
Switchyard
Collector Substation
O&M Facility
Concrete Batch Plant
Laydown Yard
Participating Parcel
Non-Participating Parcel
City/Town Boundary
County Boundary
State Route
County Road

Predicted Sound Level (dBA)

5 dBA Contour Level
1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Figure 7-j.1, Map 31 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

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Figure 7-j.1, Map 32 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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		

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 33 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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		

Agricola Wind **Cayuga County, NY**

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Figure 7-j.1, Map 34 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 35 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.1, Map 36 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.1, Map 37 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.1_Sound_Results_A1_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

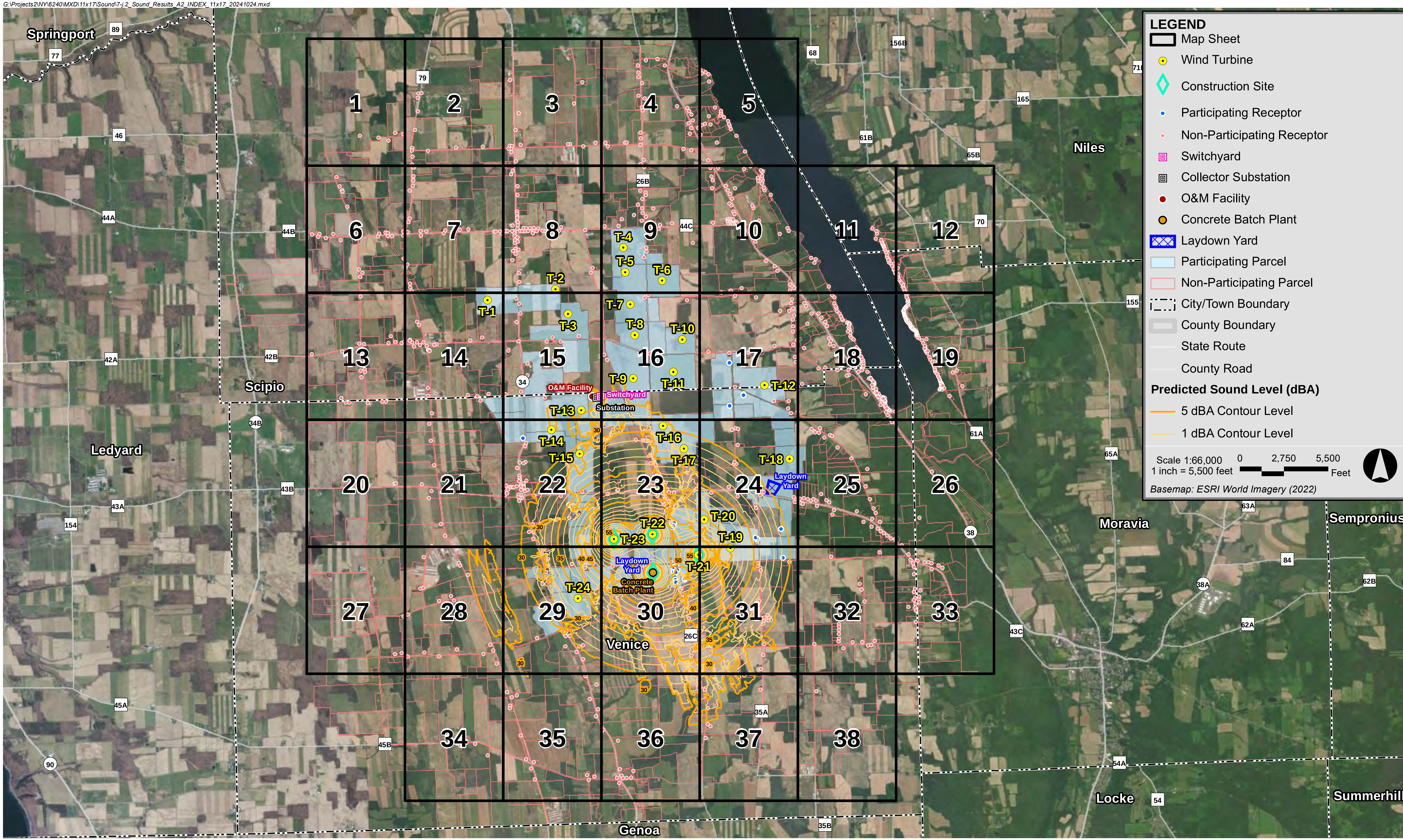
Agricola Wind Cayuga County, NY

Epsilon Associates Inc.

Figure 7-j.1, Map 38 of 38

Construction Sound Level Modeling Results – Area 1: Cumulative Construction Sound Levels (Excavation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_INDEX_11x17_20241024.mxd



Agricola Wind Cayuga County, NY

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Figure 7-j.2, Index

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND
- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)
- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.2, Map 1 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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		

Agricola Wind Cayuga County, NY

Epsilon Associates Inc.

Figure 7-j.2, Map 2 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.2, Map 3 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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

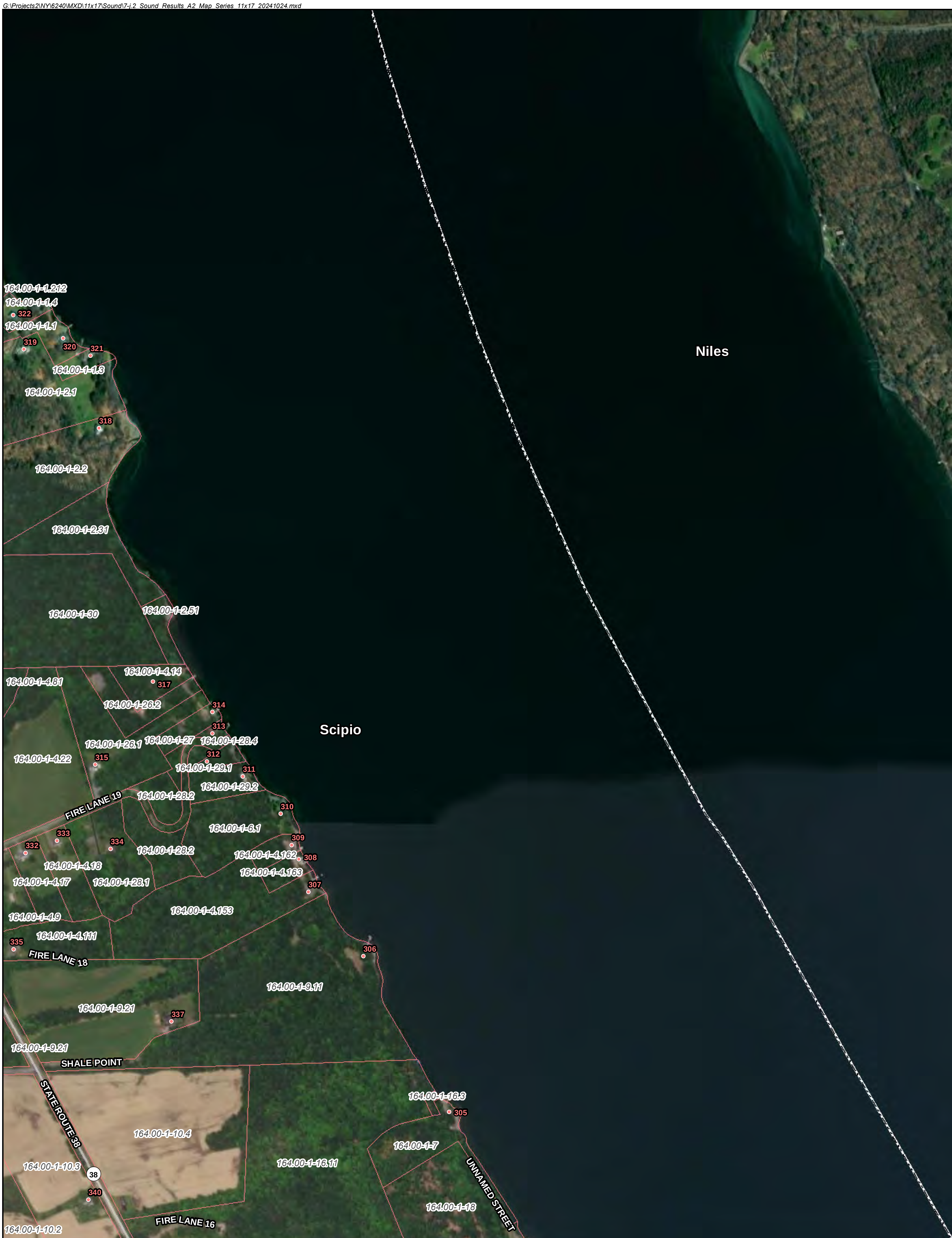
1	2	3	4	5		
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	32	33
	34	35	36	37	38	

Agricola Wind **Cayuga County, NY**

Figure 7-j.2, Map 4 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon ASSOCIATES INC.

Figure 7-j.2, Map 5 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.2, Map 6 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

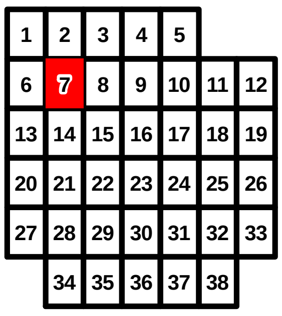
Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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



Agricola Wind **Cayuga County, NY**

Epsilon Associates Inc.

Figure 7-j.2, Map 7 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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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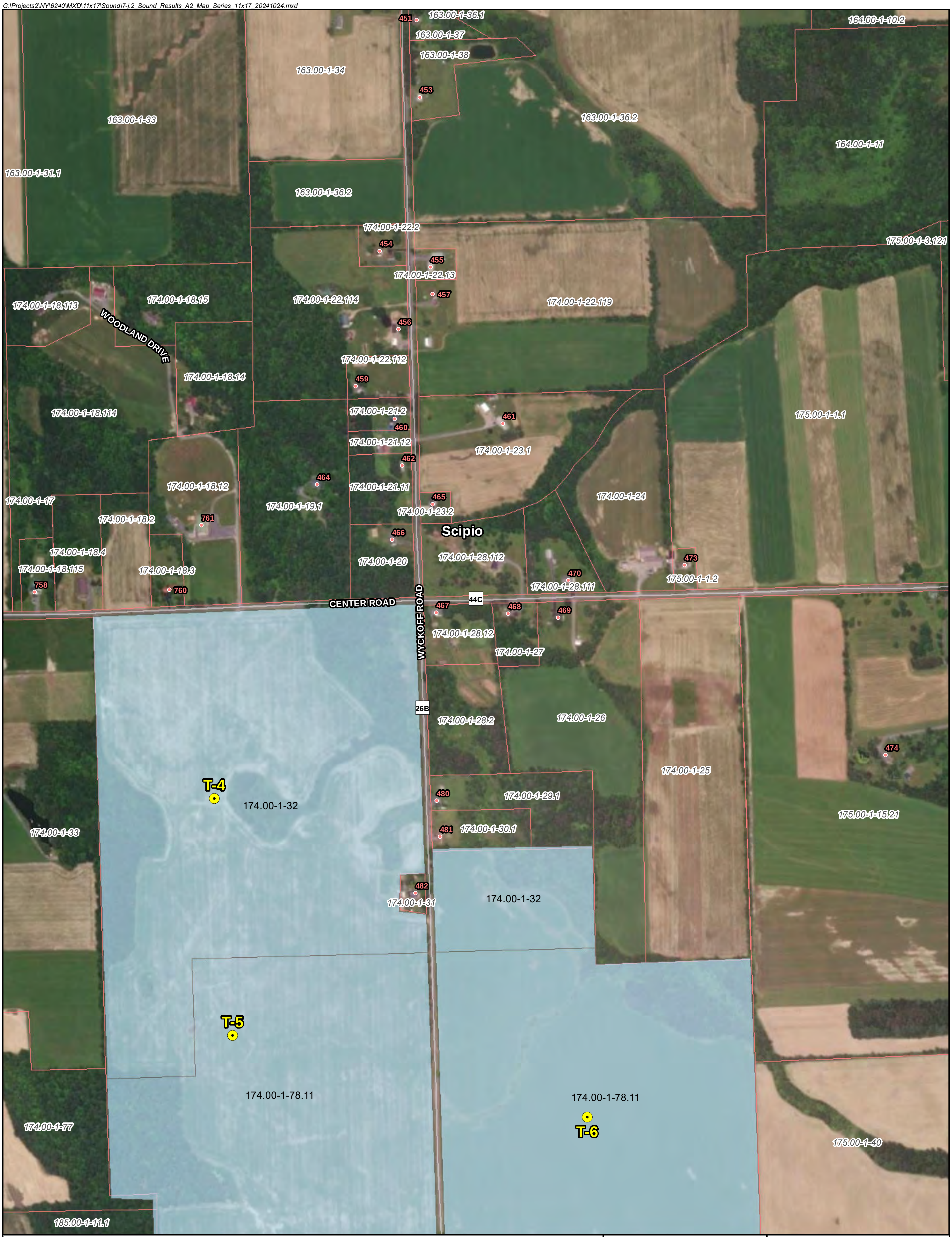
Figure 7-j.2, Map 8 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind Cayuga County, NY

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Figure 7-j.2, Map 9 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

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Figure 7-j.2, Map 10 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

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Figure 7-j.2, Map 11 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

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Figure 7-j.2, Map 12 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

Figure 7-j.2, Map 13 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind Cayuga County, NY

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Figure 7-j.2, Map 14 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

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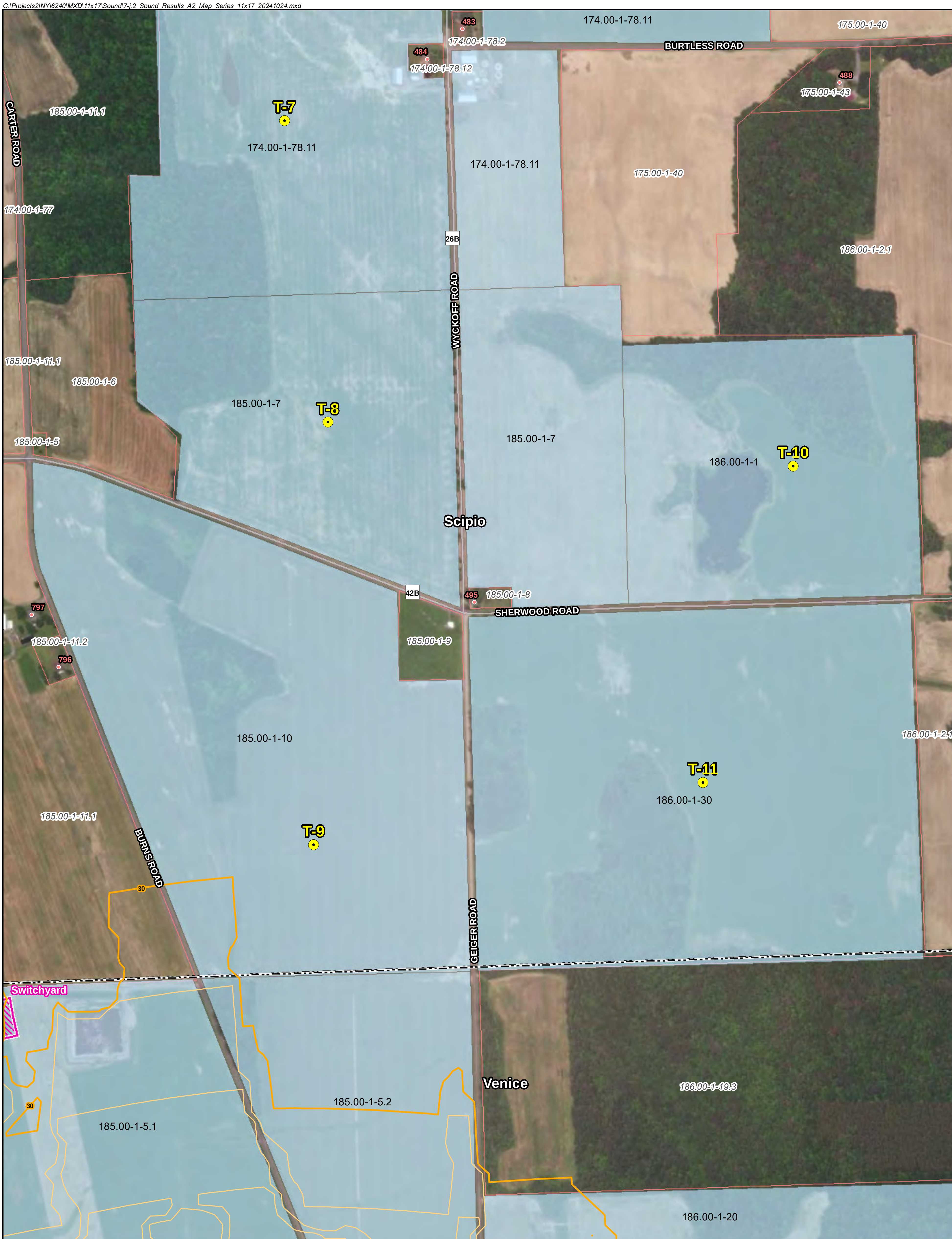
Epsilon Associates Inc.

Figure 7-j.2, Map 15 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd



LEGEND
- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)
- 5 dBA Contour Level
- 1 dBA Contour Level

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	

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Figure 7-j.2, Map 16 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

Agricola Wind Cayuga County, NY

Figure 7-j.2, Map 17 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND
- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)
- 5 dBA Contour Level
- 1 dBA Contour Level

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	

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Figure 7-j.2, Map 18 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

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Figure 7-j.2, Map 19 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

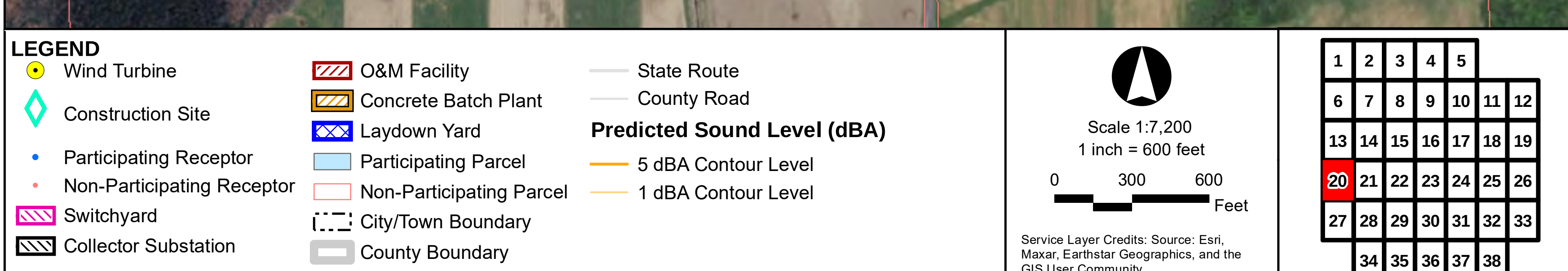

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Figure 7-j.2, Map 20 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

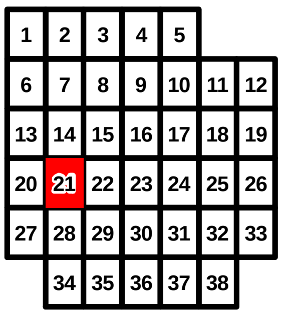
G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd

LEGEND
- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)
- 5 dBA Contour Level
- 1 dBA Contour Level

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



Agricola Wind **Cayuga County, NY**

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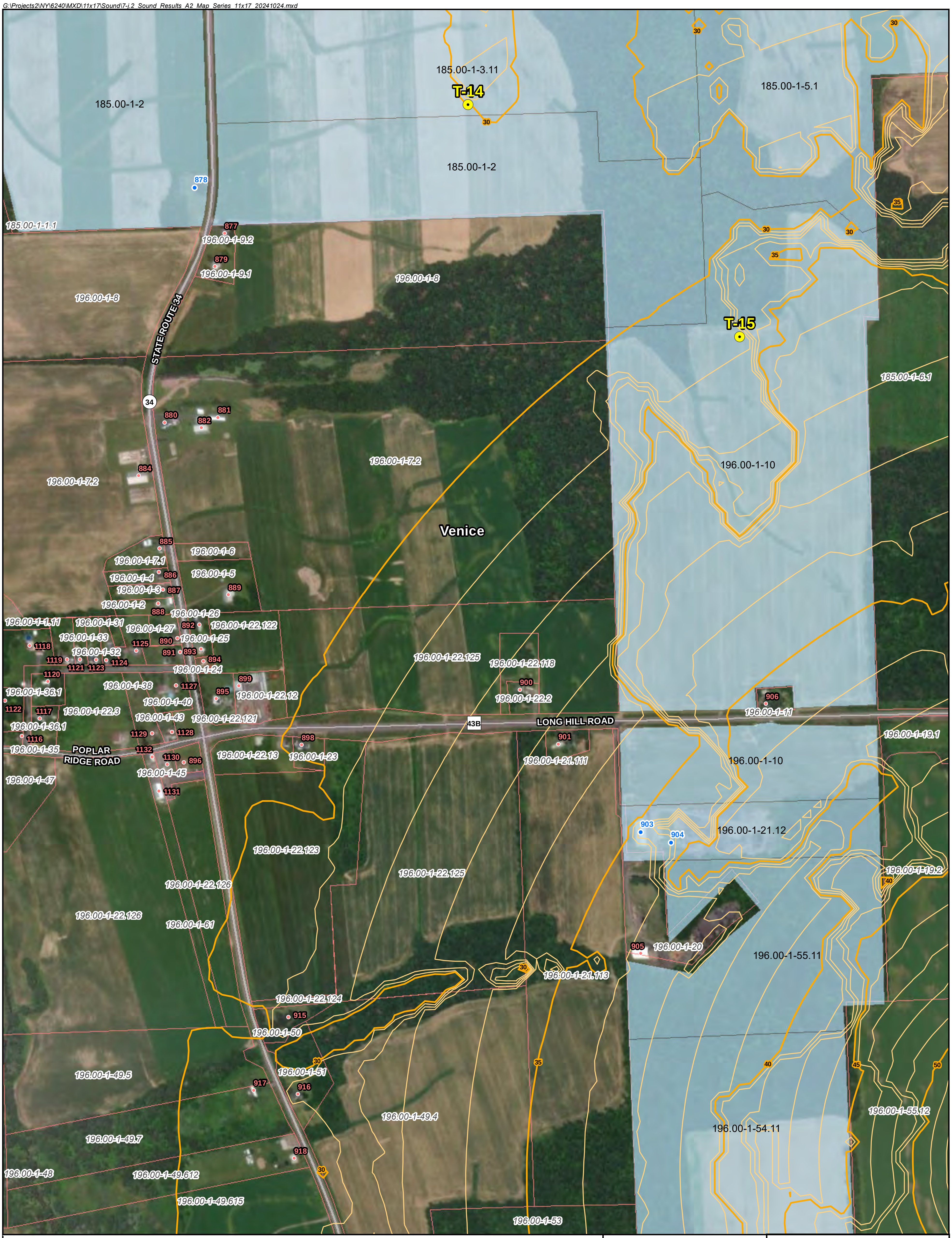
Figure 7-j.2, Map 21 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)

G:\Projects2\NY\6240\MXD\11x17\Sound\7-j.2_Sound_Results_A2_Map_Series_11x17_20241024.mxd



LEGEND

- Wind Turbine
- Construction Site
- Participating Receptor
- Non-Participating Receptor
- Switchyard
- Collector Substation
- O&M Facility
- Concrete Batch Plant
- Laydown Yard
- Participating Parcel
- Non-Participating Parcel
- City/Town Boundary
- County Boundary
- State Route
- County Road

Predicted Sound Level (dBA)

- 5 dBA Contour Level
- 1 dBA Contour Level

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	

Agricola Wind **Cayuga County, NY**

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Figure 7-j.2, Map 22 of 38

Construction Sound Level Modeling Results – Area 2: Cumulative Construction Sound Levels (Foundation)