Intended for
Stream Data Centers

Date
June 29, 2026

PROJECT DOUBLE REED STAMP SITE GENESEE COUNTY, NY

NOISE MODELING RESULTS

Bright ideas.
Sustainable change.

Project Double Reed
STAMP Site
Genesee County, NY
Noise Modeling Results

Project name	**Project Double Reed – STAMP Site - Noise Modeling Results**
Recipient	**Bradley Wells – Stream Data Centers**
Date	**2026-06-29**
Description	**Noise Modeling Results**

Contents

Executive Summary

This report presents the environmental noise assessment for the proposed Project Double Reed within the Science Technology and Advanced Manufacturing Park (STAMP) site located in the Town of Alabama, Genesee County, New York. The STAMP site is a Project initiated and controlled by the Genesee County Economic Development Center (GCEDC). This assessment includes a summary of the proposed data center, site configuration, relevant acoustic criteria, noise sensitive receptors, noise model results and presents the conservative, worst-case evaluation.

Central to the analysis was the noise conditions and thresholds established by the Generic Environmental Impact Statement (GEIS) for the STAMP site as well as the Town of Alabama's zoning ordinance. Relying on the New York State Department of Environmental Conservation's (NYSDEC) noise policy, the GEIS determined that a property line requirement of 65 dBA during the day and 45 dBA at night will ensure that development within the STAMP site would not result in a significant adverse impact to the surrounding area. Under the Town code, noise of a character or magnitude that would be considered "noxious" is prohibited.

Noise was a primary consideration in Project design. The primary noise source will be the Project's air-cooled chillers which will operate simultaneously with transformers, rooftop units and condensing units. Stream therefore selected state-of-the-art chillers that are anticipated to have lower noise levels than existing options commonly being used at other facilities today and has integrated further noise mitigation into the design of the buildings and cooling systems. Following a comprehensive review of Project needs and an analysis of emerging technical options, Stream proactively optimized the design to further reduce the Project's need for emergency generators. Rather than the initial plan to utilize upwards of twelve emergency generators, the Project will incorporate only three smaller emergency generators for use only during emergency power outages.

Although the Project's chillers have not yet been manufactured in their final configuration, to model anticipated sound levels, the manufacturer used actual measured noise levels from the chillers' noise producing parts and components to model the overall unit's sound power. All other sound data for the Project was manufacturer provided. Using this sound data, Ramboll modeled noise for all potential operating scenarios. Both daytime and nighttime conditions were assessed, and additional analysis also was conducted for less conservative conditions to reflect weather conditions throughout the year. A number of representative noise receptors were selected – eight of which represented residential receptors, three on the boundary of the Tonawanda Reservation and four on the property boundary locations for the north and south campuses respectively. One receptor location is within the site boundary and was included for information purposes only.

The results of Ramboll's noise study establish that, even when assuming the worst case ambient temperatures and server operations conditions, the Project meets the conditions and thresholds established in the GEIS for noise and confirm that the Project will not result in a significant adverse impact to the surrounding area or cause any noise that would be considered noxious. The cumulative impact from noise from the Project in conjunction with the existing ambient noise levels, is well below 65 dBA during daytime hours and 45 dBA at nighttime hours at the property line. This holds true applying the GEIS thresholds as a property line requirement at the boundaries of the north and south campus (as opposed to the full STAMP site boundary). More importantly, these sound levels are generally even lower at sensitive receptors and the

Tonawanda Reservation boundary. In no event would noise levels be increased to 65 dBA or above in accordance with NYSDEC's noise policy.

Ramboll also conducted a tonality analysis and considered potential impacts from low frequency noise. Tonality considers whether one dominant frequency band exists and stands out against adjacent levels. Ramboll performed this analysis based on ANSI 12.9, and used comparative tonality data using comparable chillers with identical fans and compressors. No tones exceeding the applicable criteria were identified. Ramboll went further and applied a 5 dB(A) reduction to the GEIS thresholds at all residential and reservation receptors, which is an acceptable and approved methodology to pure tones and tonal sounds. Additionally, Ramboll conducted a low-frequency analysis (dBC-dBA Analysis) and found that the noise from the site, inclusive of all equipment, does not possess significant low-frequency components.

As a result, this report demonstrates that the Project would not result in a significant adverse impact to the area or cause or create noise of a character or magnitude that would be considered "noxious."

1. Introduction

Ramboll has completed an environmental noise assessment for the proposed Project Double Reed within the Science Technology and Advanced Manufacturing Park (STAMP) site located in the Town of Alabama, Genesee County, New York. The STAMP site is a project initiated and controlled by the Genesee County Economic Development Center (GCEDC). This assessment includes a summary of the proposed data center, site configuration, relevant acoustic criteria, noise sensitive receptors, noise model results and presents the conservative, worst-case evaluation. The following documents present our key findings and comments.

2. Subject Site and Data Center Description

2.1 Site Description and Surrounding Area

The site is located in the Town of Alabama, Genesee County, New York. The site is divided into two campuses, with both campuses located directly west of Crosby Road, and approximately 600 feet south of Highway 77 and 2600 feet north of Judge Road, respectively.

The site and surrounding parcels are zoned Technology District 1 by the town. Other nearby land uses include Agricultural Residential to the north and south, Technology District 2 and Technology District 3 to the east. The Tonawanda Reservation is located to the south-west of the site. However, no zoning determination is applicable for the Reservation.

Nearby noise sensitive receivers include various scattered residences to north and south of the site. The nearest of which is approximately 450 feet from the northern property boundary of the project property line to the residential dwelling.

Figure 1 below presents the approximate site location and county land zoning classifications.

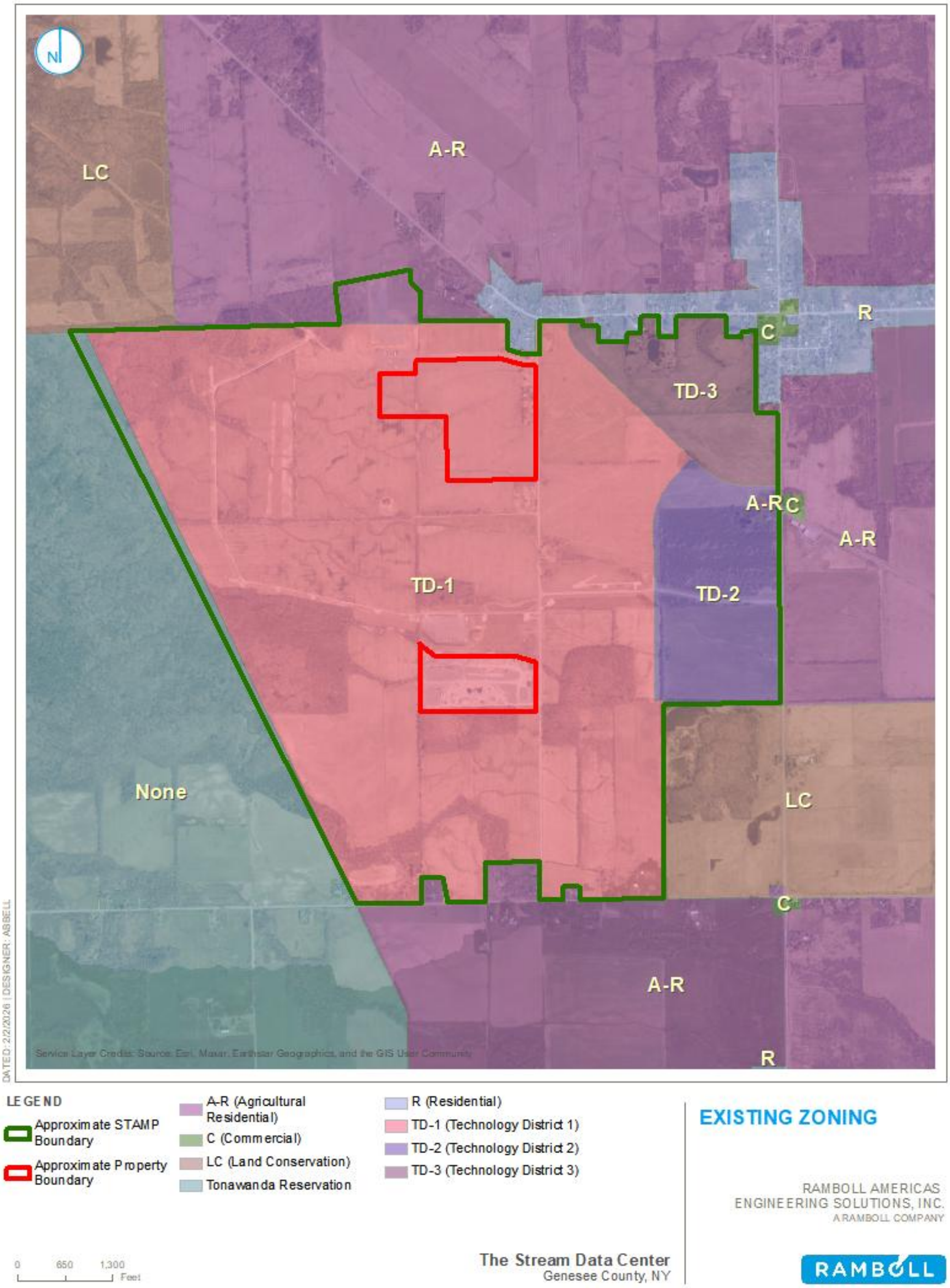


Figure 1: Site Location and County Zoning

2.2 Data Center Description

The site is proposed to include 2 data center buildings in the northern campus and 1 data center building in the southern campus. Each building will include 60 air-cooled chillers and 1 generator per building. Additional mechanical equipment located on site consists of transformers, condensing units, and rooftop units.

The data center will operate 24 hours a day, 7 days a week. It is likely all air-cooled chillers will operate simultaneously with transformers, rooftop units and some of the condensing units. Each building will also require periodic generator maintenance testing. Specific operating details on quantity and testing configurations have been provided and are discussed below. Additionally, emergency power generators are likely to be used during emergency power outages only, which is expected to be infrequent given the projects two independent connections to transmission level power infrastructure.

Even under the unlikely worst-case of coincident peak temperature and maximum load, the criteria are satisfied; typical operating conditions involve lower temperatures and loads, resulting in reduced fan speeds and lower noise.

The proposed site plan is presented below in Figure 2.

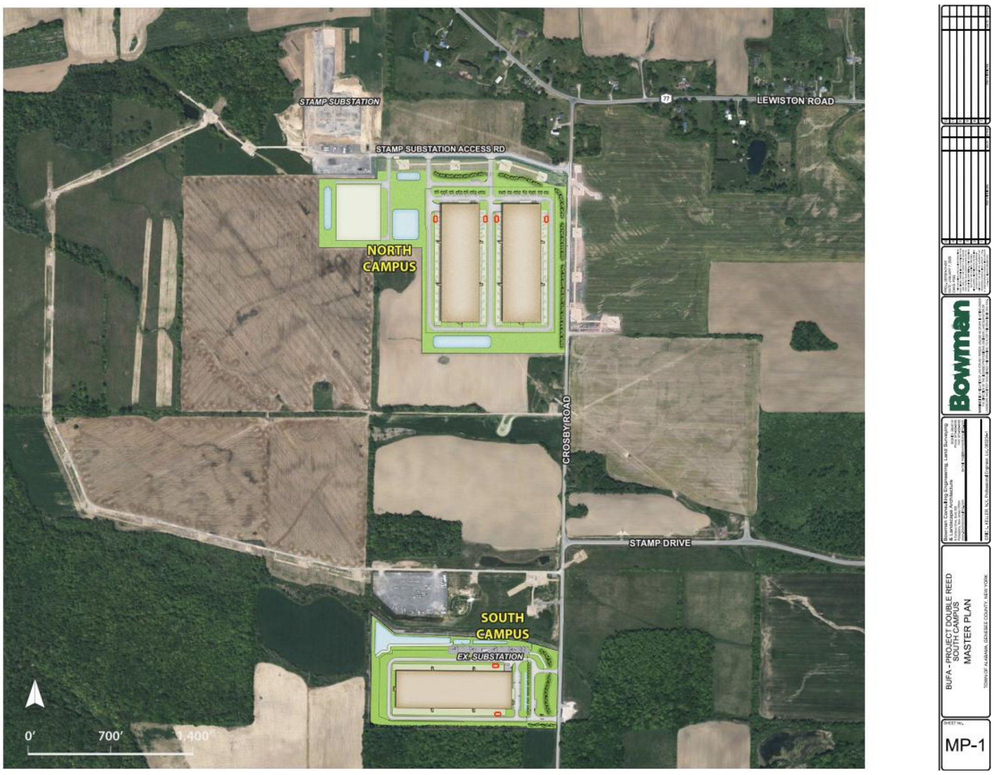


Figure 2: Proposed Site Plan

3. Acoustical Criteria

3.1 State of New York

No state-specific mandatory noise requirements applicable to the Site were identified. However, compliance with the State Environmental Quality Review Act will be required for any discretionary state or local approvals, which is anticipated to include an assessment of potential noise impact.

The GEIS/Findings for (STAMP) Project evaluated noise limits at the STAMP boundary to an Leq of 65 dBA during the day and 45 dBA at night. As noted there, these property line requirements of 65 dBA during the day and 45 dBA at night will ensure that the 65 NYSDEC guidelines for non-industrial areas are not exceeded. According to the GEIS/Findings, these levels are also "consistent with other technology manufacturing sites, including the Luther Forest Technology Campus in Malta, NY. It should also be noted that given the 65 dBA / 45 dBA (day/nighttime) limit proposed at the property line, lower levels would be realized at receptors which are not located immediately adjacent to the property boundary."

Ramboll understands the day period to be 7am-10pm and the night period to be 10pm to 7am.

3.2 Genesee County

No county-specific noise requirements applicable to the Site were identified.

3.3 Town of Alabama

The Town of Alabama Zoning law provides non-quantifiable noise requirements:

> *'Section 104 Application of Regulations*
>
> *No building shall be erected, constructed, moved, altered, rebuilt or enlarged, nor shall any land, water or building be used, designed or arranged to be used for any purpose except in conformity with this Local Law. No buildings, structure, or premises shall be used, and no building or other structure shall be erected which is intended, arranged or designed to be used for any trade, industry, business or purpose of any kind, that is noxious by reason of the emission of odor, dust refuse matter, garbage, smoke, fumes, gas, noise or vibration, or that is dangerous to the health or safety of the community.'*
>
> Town of Alabama Zoning Law

There are no quantifiable noise requirements applicable to the Site from the Town of Alabama.

4. Noise Modeling

The following subsections present a summary of the noise model methodology, operating scenarios and equipment sound levels, assessment locations, and a modeling results summary.

4.1 Methodology

The noise emissions assessment for the STAMP site has been completed using a sound prediction software package, Cadna/A (2026), published by Datakustik GmbH, which is configured to implement the ISO 9613-2 (2024) environmental sound propagation algorithms and has an accuracy of ±1 dB for propagation over distances up to 100m and ±3 dB for distances over 100m for a mean source-receiver height of 5 to 30m. It allows for the creation of complex acoustic models and predicts sound pressure levels due to sound emissions from a specific source(s). Modelling considers the following factors:

- Source sound level and directivity,
- Distance attenuation,
- Source-receptor geometry, including heights and elevations,
- Barrier effects of buildings and topography,
- 3 Order of Reflection,
- 0.4 Ground absorption,
- 50° F and 70% humidity,
- Receptor height of 5 ft above ground level, and
- Buildings and barriers include smooth façade and reflective barrier settings.

In addition to the above, ground topography outside the site has been sourced via publicly available data (United States Elevation Data (NED) WGS84). Based on discussions with the client, inside the site topography has been determined to be 674-676 for the northern campus and 677 for the southern campus.

4.1.1 Tonality/dBC - dBA Analysis

Low-frequency balance of sound can be evaluated using the difference between C-weighted and A-weighted sound levels (dBC–dBA). This approach compares overall sound levels calculated using C-weighting, which retains low-frequency energy, to those calculated using A-weighting, which attenuates low frequencies. The resulting difference provides a useful screening indicator of the relative contribution of low-frequency sound. While there is no specific regulatory criterion applicable to this project, a commonly cited benchmark is the Botsford Criterion, which suggests that a difference exceeding approximately 10 dB may indicate potential low-frequency dominance. While not specifically defined by any standard, it is widely accepted across the industry that differences greater than 15 dB may be associated with increased potential for adverse community response. Ramboll performed a dBC–dBA analysis and found that no receptor exhibited a difference greater than 8 dB, with no residential receptor exceeding a difference of 6 dB, indicating a well-balanced sound spectrum with no evidence of low-frequency dominance.

A detailed summary of this analysis can be found in Section 5.4.

4.1.2 Indoor Sources

Indoor noise sources within data centers, such as IT equipment and server racks, are generally contained within the building envelope and do not meaningfully contribute to environmental noise levels at nearby receptors. The building structure provides substantial attenuation of interior sound before it can propagate outdoors. As a result, exterior noise levels are dominated by outdoor and rooftop mechanical equipment (e.g., cooling systems, air handling units, and generators), which are explicitly modeled in the assessment, while indoor sources are not considered a significant contributor to off-site noise. There are no forced air ventilation openings in the building that are not represented in the model.

4.1.3 Traffic

Employee vehicle traffic was not included in the noise model, as it's limited and intermittent in nature and results in negligible, transient contributions that do not meaningfully affect steady-state sound levels. Exclusion of this source does not materially influence the predicted results or conclusions of the assessment.

4.1.4 Construction

Acoustic impacts associated with the construction of the Project will be temporary, localized, and systematically managed through a comprehensive combination of spatial planning, strict operational controls, and containment. Construction of the Project will be executed in three distinct phases over an approximately four-year duration.

The phased construction approach serves as a primary mitigation measure by limiting the intensity and geographic extent of impacts at any one time. By sequencing work and confining activities to designated areas, the Project ensures that environmental impacts remain temporary, localized, and effectively managed throughout the duration of construction.

The Project's acoustic footprint is highly transient and front-loaded, with peak noise-generation periods strictly confined to the initial open-air site preparation and heavy earthwork phase. Once the building envelopes reach the milestone of being weathertight, the structural facades and roofing assemblies will function as permanent acoustic enclosures; subsequent high-noise interior fit-outs and mechanical, electrical, and plumbing (MEP) installations will be physically contained within the buildings, reducing off-site sound propagation to negligible levels.

In addition, noise impacts associated with construction will be mitigated through a combination of operational controls and equipment management. Construction activities will be limited to allowable working hours in accordance with local ordinances unless otherwise approved. Equipment will be properly maintained and equipped with manufacturer-recommended mufflers to reduce noise emissions. Where construction activities occur near sensitive receptors, additional mitigation measures, such as temporary noise barriers or strategic sequencing of work, will be implemented to minimize exposure. High-noise activities will be scheduled to reduce duration and avoid prolonged impacts.

Heavy construction vehicle noise will be heavily insulated from nearby residential receptors via a strict Construction Traffic Management Plan (CTMP) that routes the peak daily volume of traffic exclusively along high-capacity regional industrial corridors before accessing the site via Stamp Drive and Crosby Road. Furthermore, by utilizing centralized interior staging, material laydown, and soil stockpiling zones, the project maximizes physical buffer distances to external property lines and sensitive environmental resources.

4.2 Operating Scenarios

The site is proposed to include 2 data center buildings in the northern campus, and 1 data center building in the southern campus. Each building will include 60 air-cooled shrouded chillers positioned on platforms 6 and 12 feet above roof level for the northern and southern campuses respectively. The generators are located at ground level.

The data center buildings are understood to be 45.73 feet high (ridge level) and include a full perimeter rooftop screen extending up to 20.65 above the roof ridge level for the northern campus buildings and 18.65 feet above roof ridge level for the southern campus building. A 3 feet rooftop screen undercut is to be provided at the eastern end of the data center building associated with the south campus. No undercut is included for the northern campus buildings. 5.94 feet parapets are provided at one end of each building.

For the purposes of the assessment, the rooftop screens and parapets have been assumed to be solid (minimum 4 lbs. per square foot) and containing sufficient enough density to prevent noise transmission through the barrier. We note that the specific details of the rooftop screen may change as the design progresses. Including provision of absorptive treatment on the inside face for additional noise mitigation for the northern campus buildings. Accordingly, no reflection settings have been included for these rooftop barriers.

The generator yards are to include full perimeter solid noise barriers, extending 30 feet high. Additionally, smaller building transformers are to also include 10 feet high solid noise barriers along the outside (west and east) facades for the northern campus buildings, and along both façades for the south campus building. All barriers are to contain a minimum 4 lbs. per square foot.

A schematic markup of the rooftop screen (yellow), generator yard barriers (blue), 3 feet undercut (green), parapet (red), transformer barrier (purple) and 14 feet substation barrier (orange) locations are presented below in Figure 3. Note, some rooftop units have been removed from the image to provide clarity and clearer image of the noise barrier extents.

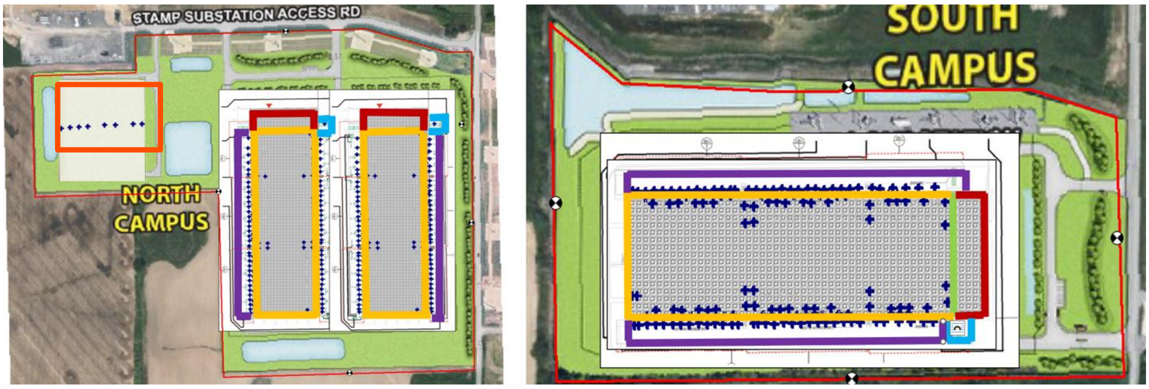


Figure 3: Barrier Details

Figures 4 and 5 below present an image of the data center building's rooftop mechanical plan, as well as a 3D image of the noise model.

Figure 4: Data Center Building Roof Plan

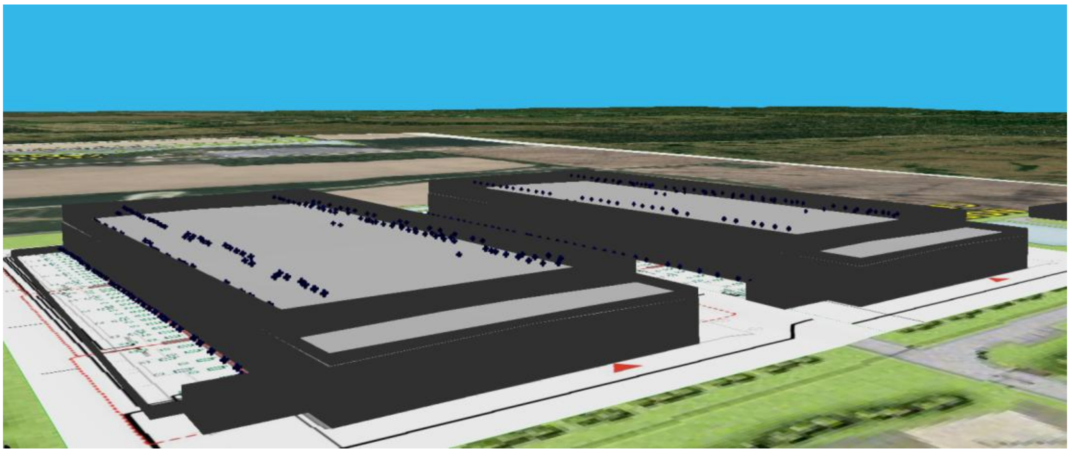


Figure 5: 3D View of North Campus

Based on discussions with the client and design team, the data center will operate under 3 typical scenarios.

The operation of the site is designed to comply with established noise limits even in extreme scenarios, ensuring that sound emissions remain well below thresholds that would be considered harmful, disruptive or noxious. The use of advanced noise modeling techniques and adherence to both quantitative and qualitative regulatory standards prevents the generation of excessive or unpleasant noise. Additionally, the combination of physical site features and operational controls further mitigates sound levels, supporting a healthy and comfortable environment for the surrounding community.

The 3 operating scenarios are summarized below:

4.2.1 Constant Mechanical

Under the Constant Mechanical operating scenario, all air-cooled chillers will operate simultaneously with some of the transformers, condensing units and rooftop units. Based on discussions with the client, it is understood that 70 of the 100 condensing units per building would operate at any one time. This is considered the typical operating scenario, 24 hours per day, 7 days per week.

Air-cooled chiller equipment specifications use two distinct atmospheric data scenarios representing the highest thermal stress the equipment will face during its respective time periods. The temperatures and associated fan speeds have been based on day (7am-10pm) peak 50-year and night peak hourly average 20-year returns (10pm-7am) respectively:

- Daytime 100% Load / 97.2 °F Ambient / 70% Fan Speed, and
- Nighttime 100% Load / 78.2 °F Ambient / 50% Fan Speed.

Both daytime and nighttime conditions have been assessed and are very conservative worst-case scenarios. This assessment considers two infrequent and unassociated events occurring simultaneously: a 50 or 20-year high ambient temperature, and 100% IT load (server use). Even if these two infrequent scenarios were to occur simultaneously, the building and mechanical systems are designed to provide the necessary cooling at 70% and 50% fan speeds for daytime and nighttime, respectively.

Additional analysis has also been conducted for less conservative conditions which are more reflective of corresponding weather conditions throughout the year. The temperatures and associated fan speeds are presented below.

- High Winter Average 100% Load / 32.1 °F Ambient / 30% Fan Speed,
- High Spring Average 100% Load / 58.2 °F Ambient / 40% Fan Speed,
- High Summer Average 100% Load / 72.0 °F Ambient / 45% Fan Speed,
- Max Fall Average 100% Load / 64.4 °F Ambient / 40% Fan Speed,
- Extreme Annual Mean Maximum 100% Load / 90.8 °F Ambient / 60% Fan Speed, and
- 5 Year Return (Day) 100% Load / 92.6 °F Ambient / 65 % Fan Speed.

4.2.2 Generator Maintenance

Under the periodic Generator Maintenance operating scenario, 1 generator at a time will operate in conjunction with the equipment associated with a Constant Mechanical operating scenario. We note that generator maintenance is to be limited to daytime hours only. For the purposes of this assessment, we have modeled all three of the campus's generators running maintenance schedule simultaneously.

4.2.3 Emergency Generator

Emergency power generators are likely to be used during emergency power outages. However, the air-cooled chillers would not be powered by the generators during an emergency, and only the fire pumps would be powered. In the rare event of an emergency power outage, the chillers would ramp down as the generators power up. Therefore, periods where all chillers and generators operate simultaneously are unlikely to occur.

All generators are to be Generac G14.2L SG/MG300 type and have a rated capacity of 300 kW.

4.3 Equipment Sound Levels

4.3.1 Equipment Sound Sources

A summary of the operating scenarios and associated equipment for each scenario is presented below[1]. The summary includes source sound level data provided by the client. Full details, including octave-band source levels are included in the Appendix.

[1] The operating scenarios presented below reflect the use of 3 total emergency generators, which accurately reflects the anticipated worst-case operation of the project. On March 30, 2026, Stream Data Centers submitted an Air State Facility Permit Application package to the New York State Department of Environmental Conservation for the proposed Project covering a total of 12 Kohler KD2500-A emergency generators. Since the time of that original application, Stream has proactively optimized the design and intends to proceed with no emergency generators or, assuming worst-case, three emergency generators, one per data center. To account for the worst-case scenario, the site plan has been revised such that only 3 emergency generators—1 per data center building across 3 buildings—will be installed and utilized at the facility. Accordingly, the noise modeling results presented in this report are based on the operation of 3 emergency generators, consistent with the current site plan and the equipment that will be actually deployed. Further, because a specific generator has not yet been selected, this analysis uses a basis of design based on the loudest of three potential generator models. Should the Project proceed with the use of emergency generators, it will select one that is equal to or less than the modeled standard of performance.

Table 1: Operating Scenarios and Equipment Source Sound Levels

<table>
<tr><th>Operating Scenario</th><th>Noise Source / Height / Make & Model/ Acoustic Model ID Tag</th><th>Sound Level, dBA</th><th>Quantity (in operation) and Location</th></tr>
<tr><td rowspan="12">Constant Mechanical</td><td rowspan="8">Air-cooled Chillers /

734-736 ft north
743 ft south (absolute) /

Geoclima TMA 4D C28 13 1W

Chiller !02000203!
Chiller !02010203!
Chiller !03000203!</td><td>Day @ 70% - 96 Lw</td><td rowspan="8">60 Rooftop chillers per building (180 total)</td></tr>
<tr><td>Night @ 50% - 91 Lw</td></tr>
<tr><td>High Winter Average @ 30% - 89 Lw</td></tr>
<tr><td>High Spring Average @ 40% - 90 Lw</td></tr>
<tr><td>High Summer Average @ 45% - 90 Lw</td></tr>
<tr><td>Max Fall Average @ 40% - 90 Lw</td></tr>
<tr><td>Extreme Annual Mean Maximum @ 60% - 92 Lw</td></tr>
<tr><td>5 year Return @ 65% - 95 Lw</td></tr>
<tr><td>Building Service Transformers /
6.79 ft (relative)
Transformer!02000205!
Transformer!02010205!
Transformer!03000205!</td><td>2500 kVA 79 Lw</td><td>84 ground transformers per building (252 total)</td></tr>
<tr><td>Condensing Units /
7.5 ft (roof) /
Daikan DCSA Series
ACCU !02000200!
ACCU !02010200!
ACCU !03000200!</td><td>85 Lw</td><td>70 Condensing units per building (210 total)</td></tr>
<tr><td>Rooftop Units /
6.47 ft (roof) /
Daikan DPSA Series
RTU !02000201!
RTU !02010201!
RTU !03000201!</td><td>90 Lw (Standard)
79 Lw (Low Noise)</td><td>15 Rooftop units per building (45 total)</td></tr>
<tr><td>Substation Transformers /
12.6 ft (relative)
Transformer !04!</td><td>86 Lw</td><td>8 in substation</td></tr>
<tr><td>Generator Maintenance (Includes Constant Mechanical Noise Sources)</td><td>Generator[1] /
16.9 ft (relative) /
Generac G14.2L SG/MG300 w/ Sound Enclosure

Generator !02000204!
Generator !02010204!
Generator !03000204!</td><td>72 dBA @ 7m Lp</td><td>1 Generator per building
(3 total)</td></tr>
<tr><td>Emergency (only generators)</td><td>Generator /
16.9 ft (relative) /
Generac G14.2L SG/MG300 w/ Weather & Sound Enclosure

Generator !02000204!
Generator !02010204!
Generator !03000204!</td><td>72 dBA @ 7m Lp</td><td>1 Generator per building
(3 total)</td></tr>
<tr><td colspan="4">Notes:
1 – See appendix for full manufacturer data including sound level data.
2 – All equipment modeled as point sources.</td></tr>
</table>

Chiller Sound Levels

The chiller sound levels are based on a calculation methodology that incorporates measured sound power data for the primary noise-generating components, including fans and compressors. Compressor sound power levels are determined in accordance with ISO 3745, while fan sound power levels are determined in accordance with ISO 13347. The overall chiller sound power level is calculated as the logarithmic sum of these individual sources.

Additional Mitigation

In addition to the acoustic barrier walls throughout the campuses, additional mitigation measures will be applied to individual noise sources. All chillers, along with select ACCUs and RTUs will be treated with further mitigation.

A total of eight RTUs on the north campus (4 per building) will be outfitted with the available low-noise package. The specific units to be treated are highlighted in Figure 6. The noise levels of the standard and low-noise RTUs can be found in Appendix D.

Each chiller across the north and south campus will be outfitted with noise absorption panels around the fans with a barrier height of 60”. The insertion loss of these barrier panels is listed in Table 2. A conceptual graphic of the treatment is shown in Figure 7.

A similar treatment, through with a height of 48” will be installed on ~60% of the rooftop ACCUs at the North campus. The specific units to be treated are highlighted in Figure 6. The insertion loss of these barrier panels is listed in Table 2. A conceptual graphic of the treatment is shown in Figure 7.

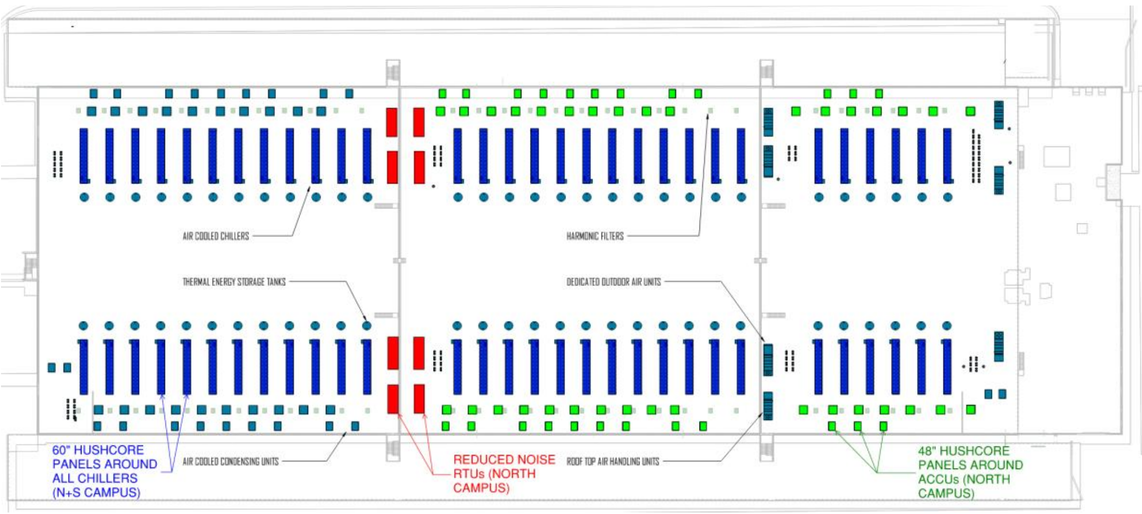


Figure 6 – Rooftop Mechanical Noise Mitigation Plan (Typ of both North Campus Buildings)

Table 2 – Insertion Loss [dB] of Chiller/ACCU-top absorption panels

	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
48” Height	5	4	4	4	6	5	6	4
60” Height	5	5	5	5	7	6	7	5

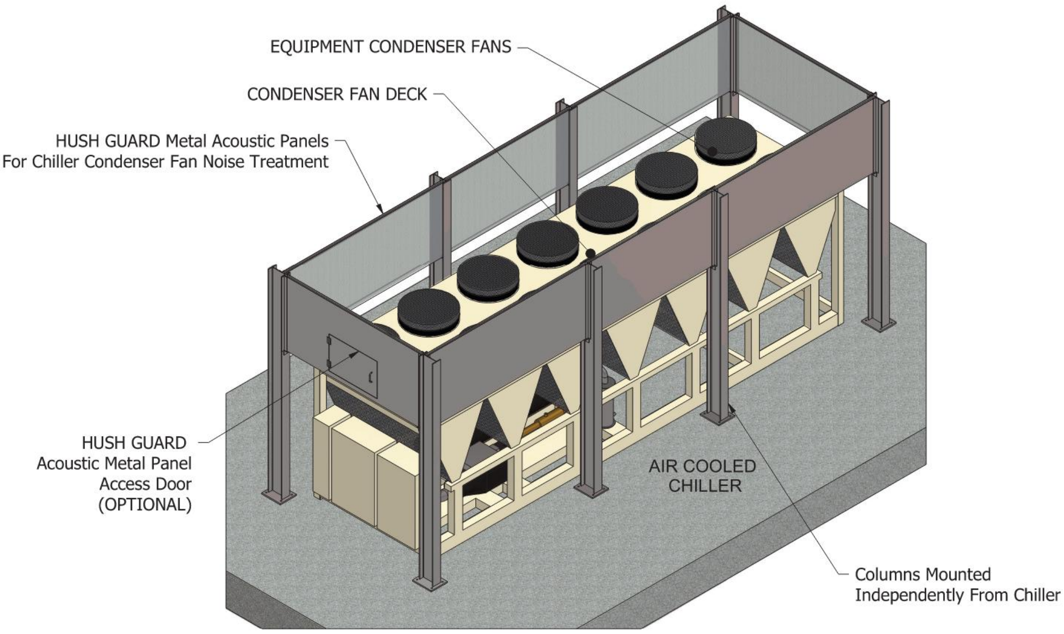


Figure 7 – Isometric View of Mitigation
Provided for illustration purposes only. Figure does not depict actual equipment.

Due to the adjacent installation of the chillers and the acoustic rooftop barriers, the dominant rooftop noise source is the fan assemblies, which are located at the tops of the units, while the compressors are positioned at lower elevations. As a result, compressor noise benefits from greater shielding from both the rooftop acoustic barrier wall and the intervening height and mass of adjacent chillers, whereas fan noise is less attenuated and therefore governs sound levels at surrounding receptors. Accordingly, the insertion loss associated with the Hushcore panels has been applied uniformly to the overall chiller sound power levels, which represents a conservative modeling assumption. In addition, the model does not account for the cumulative shielding effects of adjacent chillers or the localized barrier effects provided by the Hushcore panels themselves, both of which would further reduce noise propagation in practice; the exclusion of these effects ensures that the predicted results remain conservatively biased. As an additional verification measure, as-built corroboration testing will be conducted following installation to confirm that operational noise levels are consistent with the modeled predictions.

4.4 Assessment Locations

The location of nearby noise sensitive receptors that have been adopted as the assessment locations are presented in Figure 8.

Assessment locations R5 to R7 and R16 to R20 are zoned as Residential. Assessment locations R8, R9 and R15 are on the boundary of the Tonawanda Reservation. Assessment locations R1 to R4 and R11 to R14 are property boundary locations for the north and south campuses respectively and are zoned as Technology Districts. Assessment location R10 is an onsite location (within site boundary) and has been included for information purposes only.

All receptors have been established to be 5 ft above ground level, with contour results also being calculated at 5 ft.

Octave band results for Day/Night Constant Mechanical, Generator Maintenance and Emergency Generator operating scenarios are presented for the worst-case residential receptor (R7) in the appendix of the report.

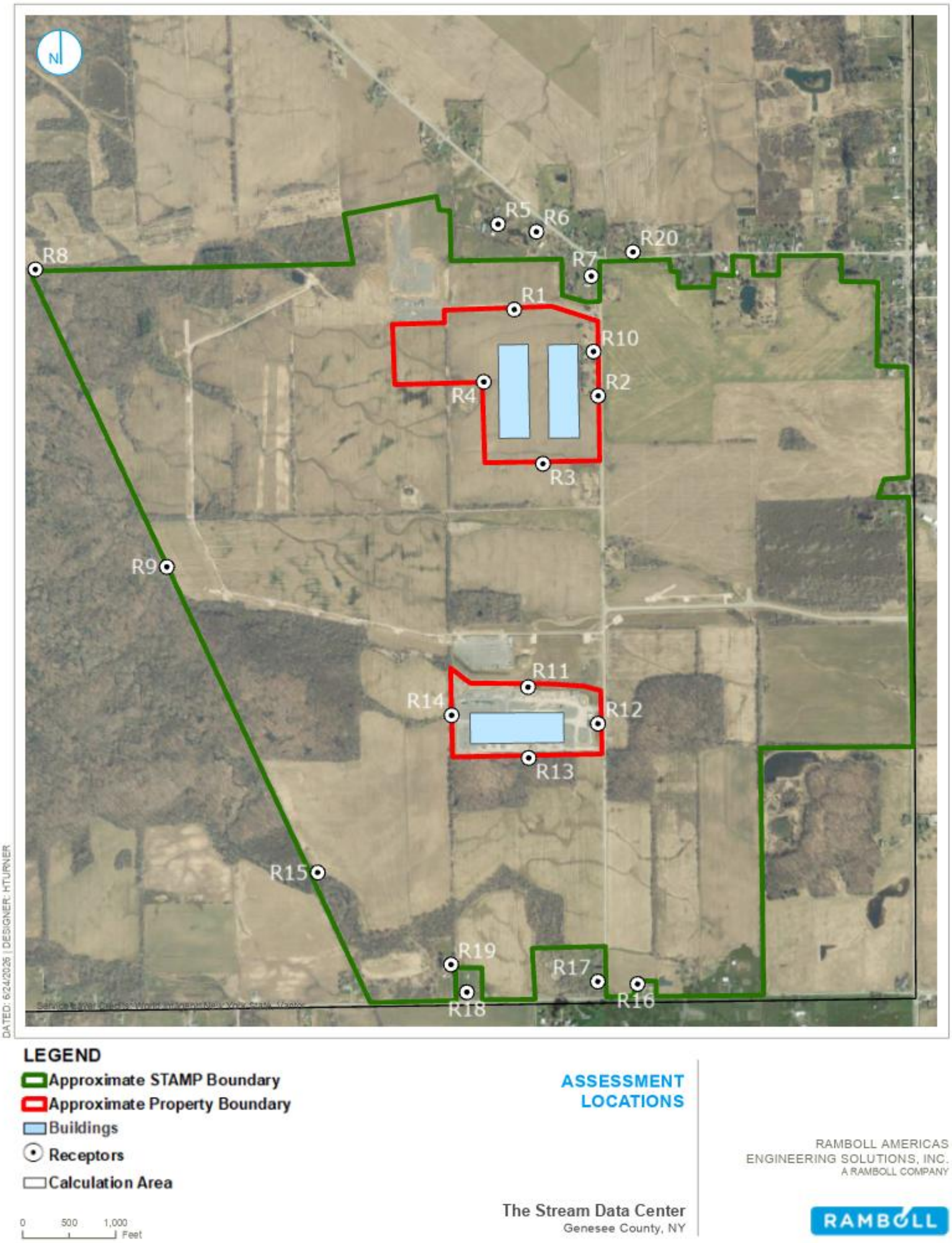


Figure 8: Assessment Receptor Locations

5. Noise Model Results

5.1 Day/Night Constant Mechanical

The noise model results for the Day/Night Constant Mechanical operating scenarios are presented below in Table 3, Figure 9 and Figure 10 below. The results include the cumulative impact from noise from the site in conjunction with the existing ambient noise levels[2]. The results are in compliance with the threshold criteria for daytime and nighttime and maintain a minimum 5 dB risk-management reduction buffer at residential receptors.

[2] To assess potential noise impacts at sensitive receptors, the modeling performed for this report has been compared to existing ambient noise level measurements of some of the areas surrounding the site, which were previously undertaken for the Town of Alabama on November 15th, 2023. Ramboll has been provided with a summary of results in the document entitled "STAMP Sound Study 12 23 for TB Review" for review. We note that Ramboll cannot independently verify the validity or the accuracy of these measurement results.

Table 3: Noise Model Results – Day/Night Constant Mechanical, dBA

Rec.	Zoning Classification	GEIS/Findings / Project Noise Limits[4]		Ambient Noise Level[3]		Predicted Noise Level	
		Day	Night	Day	Night	Day 70% Fan Speed	Night 50% Fan Speed
R1	Technology District	65[1]	45[1]	30	28	42	40
R2	Technology District	65[1]	45[1]	30	28	45	43
R3	Technology District	65[1]	45[1]	30	28	46	45
R4	Technology District	65[1]	45[1]	30	28	46	45
R5	Residential	60[4]	40[4]	34	25	44	40
R6	Residential	60[4]	40[4]	34	25	44	40
R7	Residential	60[4]	40[4]	30	28	43	40
R8	Tonawanda Reservation	60[4]	40[4]	32	24	36	30
R9	Tonawanda Reservation	60[4]	40[4]	32	24	38	34
R10[2]	Technology District	N/A	N/A	30	28	43	41
R11	Technology District	65[1]	45[1]	30	28	45	43
R12	Technology District	65[1]	45[1]	30	28	46	42
R13	Technology District	65[1]	45[1]	30	28	45	44
R14	Technology District	65[1]	45[1]	30	28	41	38
R15	Tonawanda Reservation	65[1]	45[1]	39	23	43	37
R16	Residential	60[4]	40[4]	37	27	41	37
R17	Residential	60[4]	40[4]	37	27	41	37
R18	Residential	60[4]	40[4]	36	30	41	38
R19	Residential	60[4]	40[4]	39	23	43	38
R20	Residential	60[4]	40[4]	30	28	42	38

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' threshold/criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.
3 – Based on 'Low' values specified in "STAMP Sound Study 12 23 for TB Review" for review. We note that Ramboll cannot independently verify the validity or the accuracy of these measurement results.
4 - 5 dB decrease to the project noise limit has been applied to residential and reservation receptors, resulting in a non-mandatory 60/40 dBA limit. The mandatory limit per the GEIS/Findings at these receptors remains 65/45 dBA for day and night, respectively.

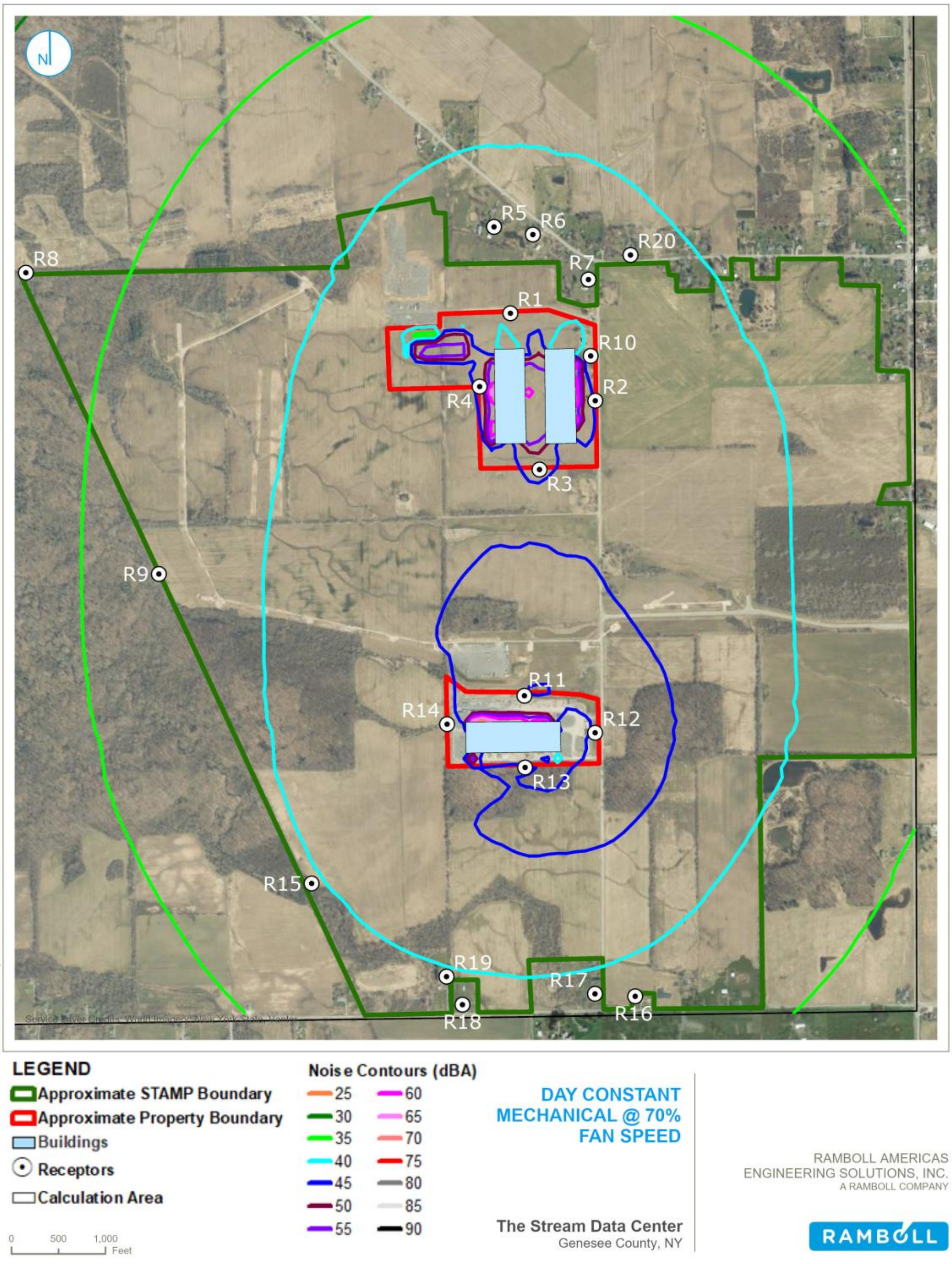


Figure 9: Noise Model Results – Day Constant Mechanical[3]

[3] Because the Project's noise sources vary in height, the noise contour lines depicted in the figures included in this section are not always uniform. This is because noise sources closer to the ground (e.g., transformers) are the primary sound sources closest to the data center buildings while the rooftop chillers become the primary sources as one moves further from the building. With greater distance from the Project and sound attenuation, the contour lines become more uniform.

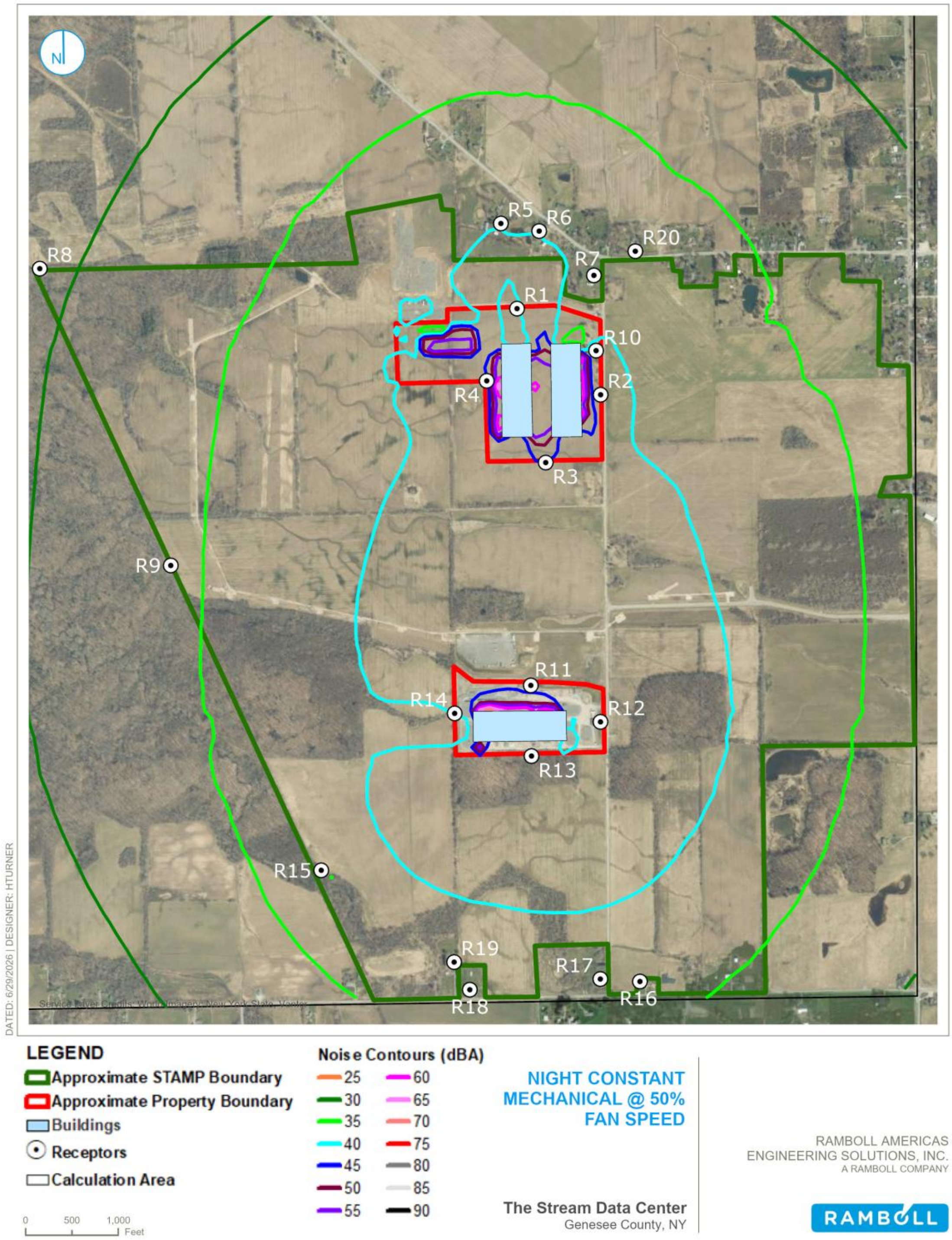


Figure 10: Noise Model Results – Night Constant Mechanical

The modeled noise levels described below demonstrate that predicted Project noise is not to be of a character or magnitude that would be considered 'noxious,' as defined within the Town's Zoning Law. Predicted operational noise from the mechanical equipment is below the applicable daytime and nighttime limits (65 dBA / 45 dBA) established by the GCEDC, even under worst case conditions. The modeled sound levels represent an extreme scenario in which the cooling systems operate at elevated fan speeds corresponding to peak thermal conditions (e.g., a 50-year high temperature coinciding with 100% IT load).

5.1.1 Additional Analysis

As described in Section 4.2.1, noise modeling also was conducted for less conservative conditions which are more reflective of corresponding weather conditions throughout the year, however this additional analysis still considers 100% IT load, which is rare. The noise model results for this additional analysis are presented below in Table 4 and Figures 11-16 below. The results include the cumulative impact from noise from the site in conjunction with the existing ambient noise levels. The results comply with the threshold criteria.

Table 4: Noise Model Results – Additional Analysis, dBA

Rec.	Zoning Classification	GEIS/Findings / Project Noise Limits[4]	Ambient Noise Level[3]	Predicted Noise Level, dBA					
		Day	Day	30 %	40 %	45 %	40 %	60 %	65 %
R1	Technology District	65[1]	30	40	40	40	40	40	41
R2	Technology District	65[1]	30	43	43	43	43	44	44
R3	Technology District	65[1]	30	45	45	45	45	45	46
R4	Technology District	65[1]	30	45	45	45	45	45	45
R5	Residential	60[4]	34	40	40	40	40	42	43
R6	Residential	60[4]	34	40	40	40	40	42	43
R7	Residential	60[4]	30	40	40	40	40	41	42
R8	Tonawanda Reservation	60[4]	32	33	34	34	34	34	35
R9	Tonawanda Reservation	60[4]	32	36	36	36	36	37	37
R10[2]	Technology District	N/A	30	41	41	41	41	41	42
R11	Technology District	65[1]	30	43	43	43	43	44	45
R12	Technology District	65[1]	30	42	42	42	42	43	45
R13	Technology District	65[1]	30	44	44	44	44	44	45
R14	Technology District	65[1]	30	39	39	39	39	40	40
R15	Tonawanda Reservation	65[1]	39	41	41	41	41	42	42
R16	Residential	60[4]	37	40	40	40	40	40	41
R17	Residential	60[4]	37	40	40	40	40	41	41
R18	Residential	60[4]	36	40	40	40	40	40	40
R19	Residential	60[4]	39	41	41	41	41	42	42
R20	Residential	60[4]	30	38	39	39	39	40	41

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' day threshold criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.
3 – Based on 'Low' values specified in "STAMP Sound Study 12 23 for TB Review" for review. We note that Ramboll cannot independently verify the validity or the accuracy of these measurement results
4 - 5 dB decrease to the project noise limit has been applied to residential and reservation receptors, resulting in a non-mandatory 60/40 dBA limit. The mandatory limit per the GEIS/Findings at these receptors remains 65/45 dBA for day and night, respectively.

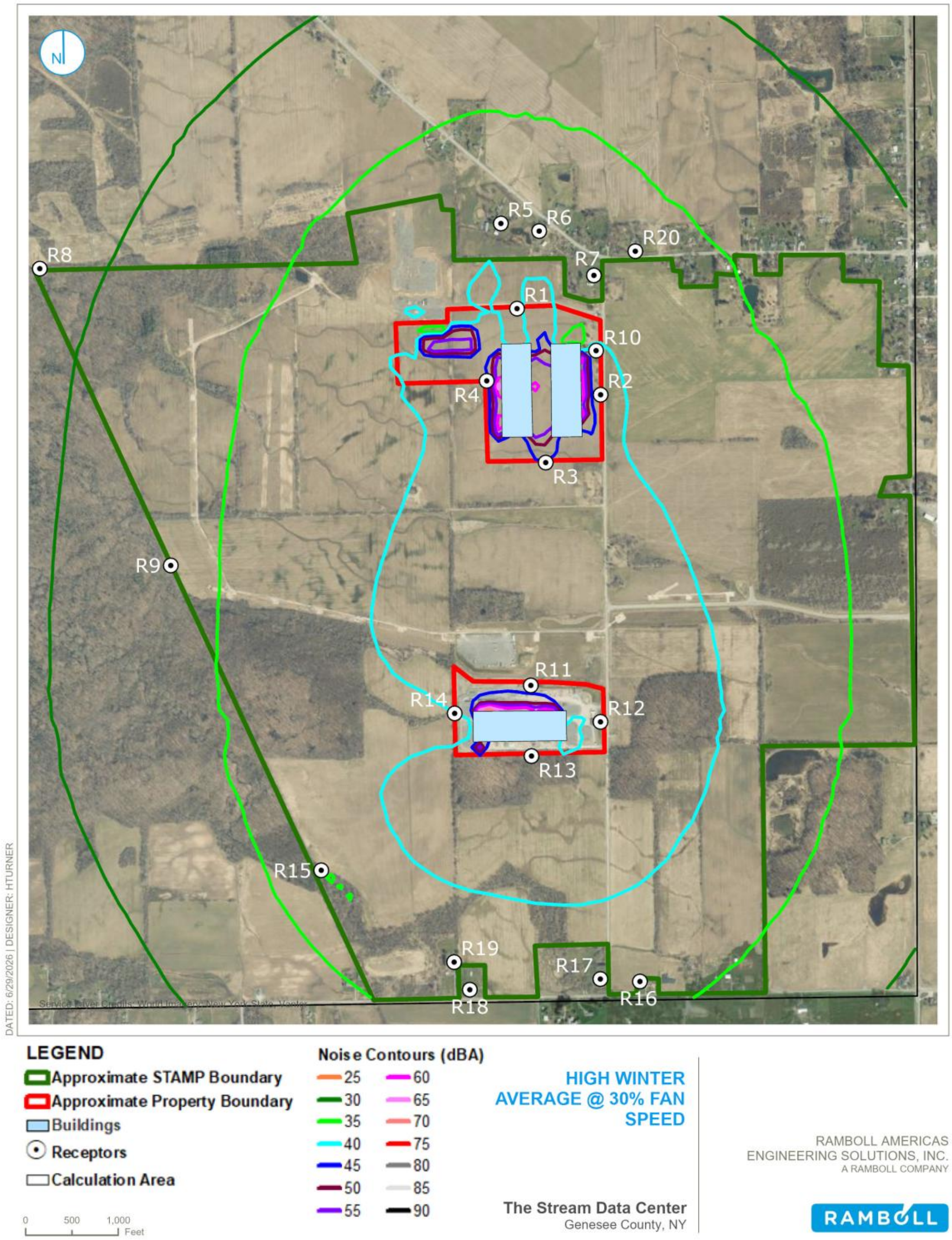


Figure 11: Noise Model Results – High Winter Average @ 30% Fan Speed.

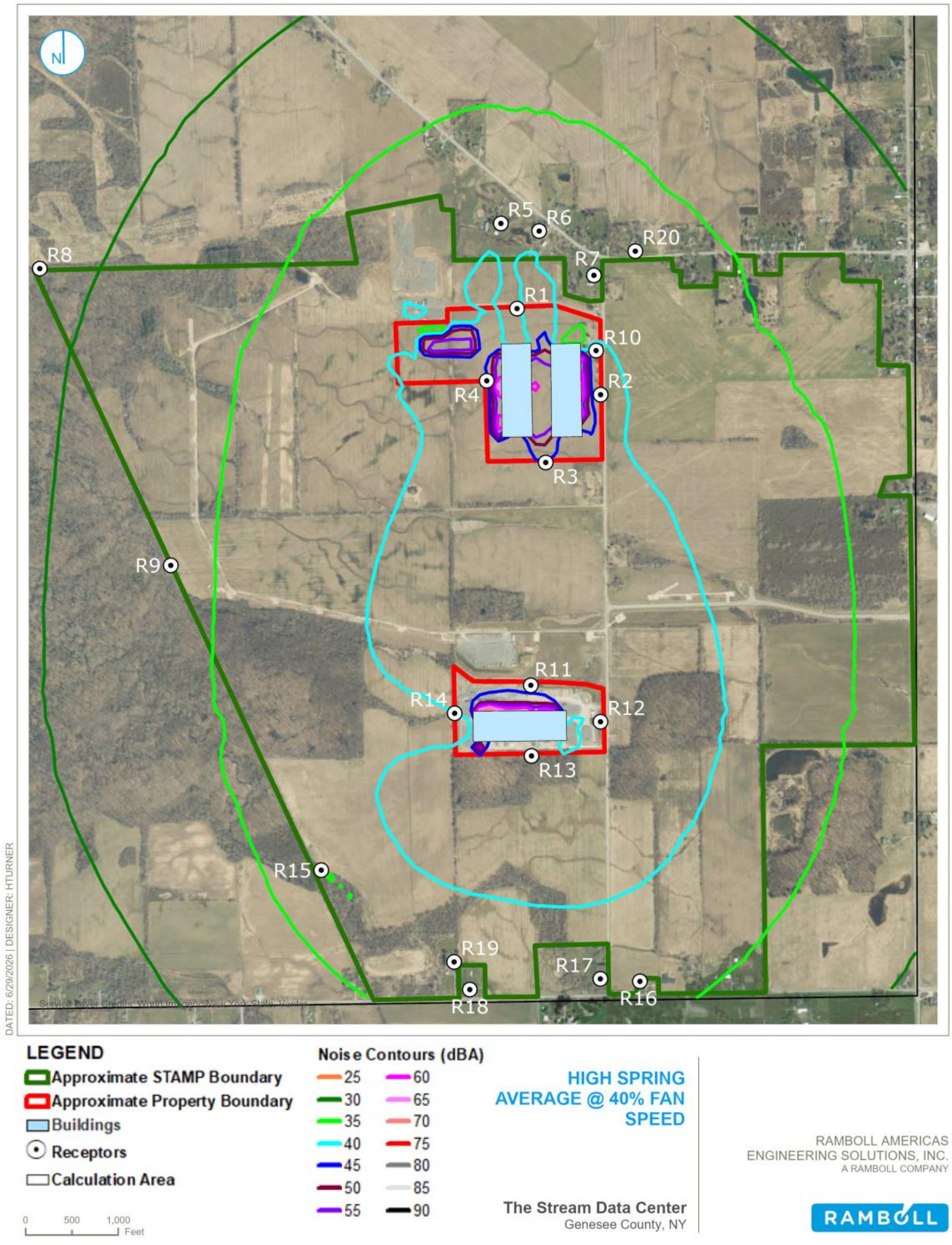


Figure 12: Noise Model Results – High Spring Average @ 40% Fan Speed.

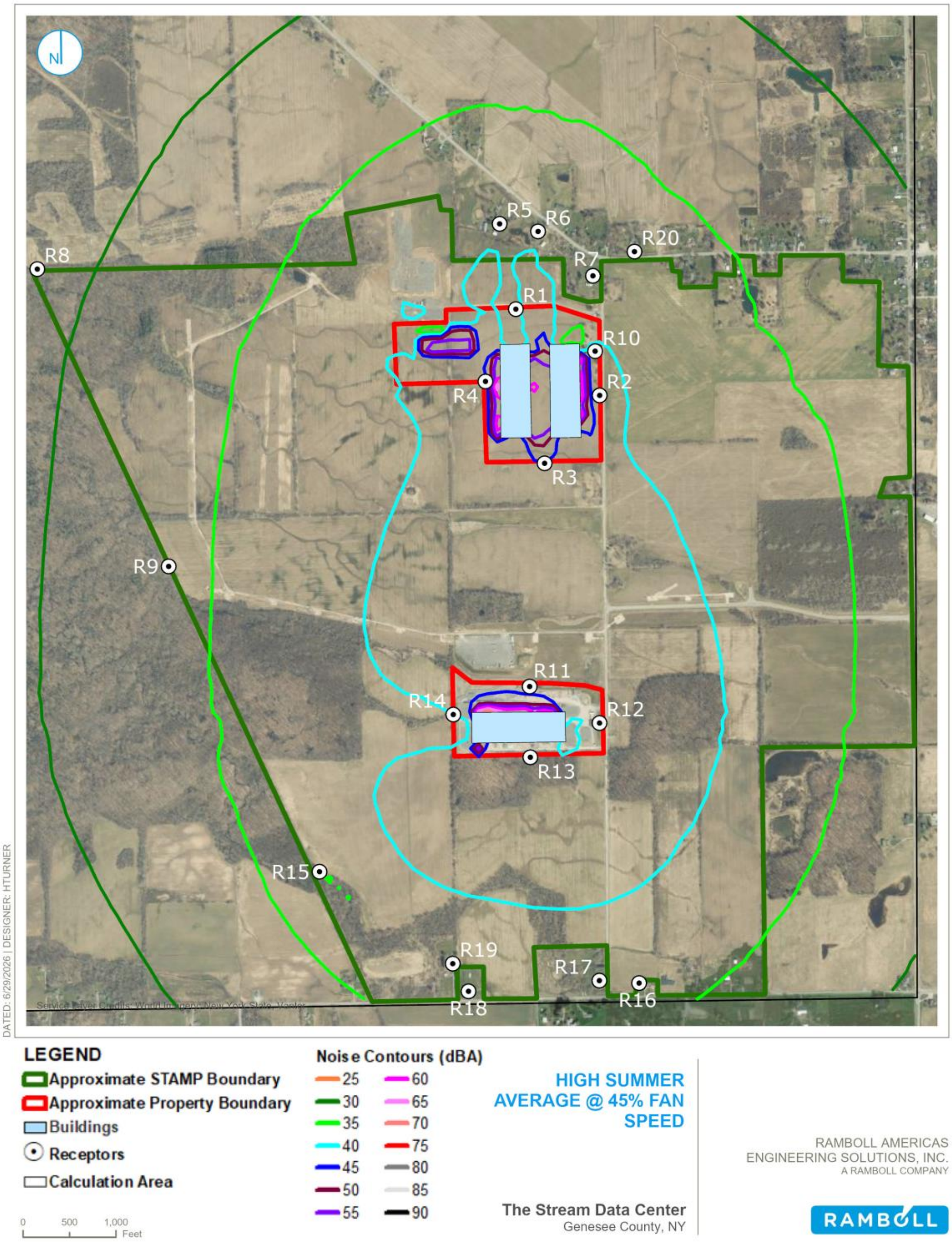


Figure 13: Noise Model Results – High Summer Average @ 45% Fan Speed.

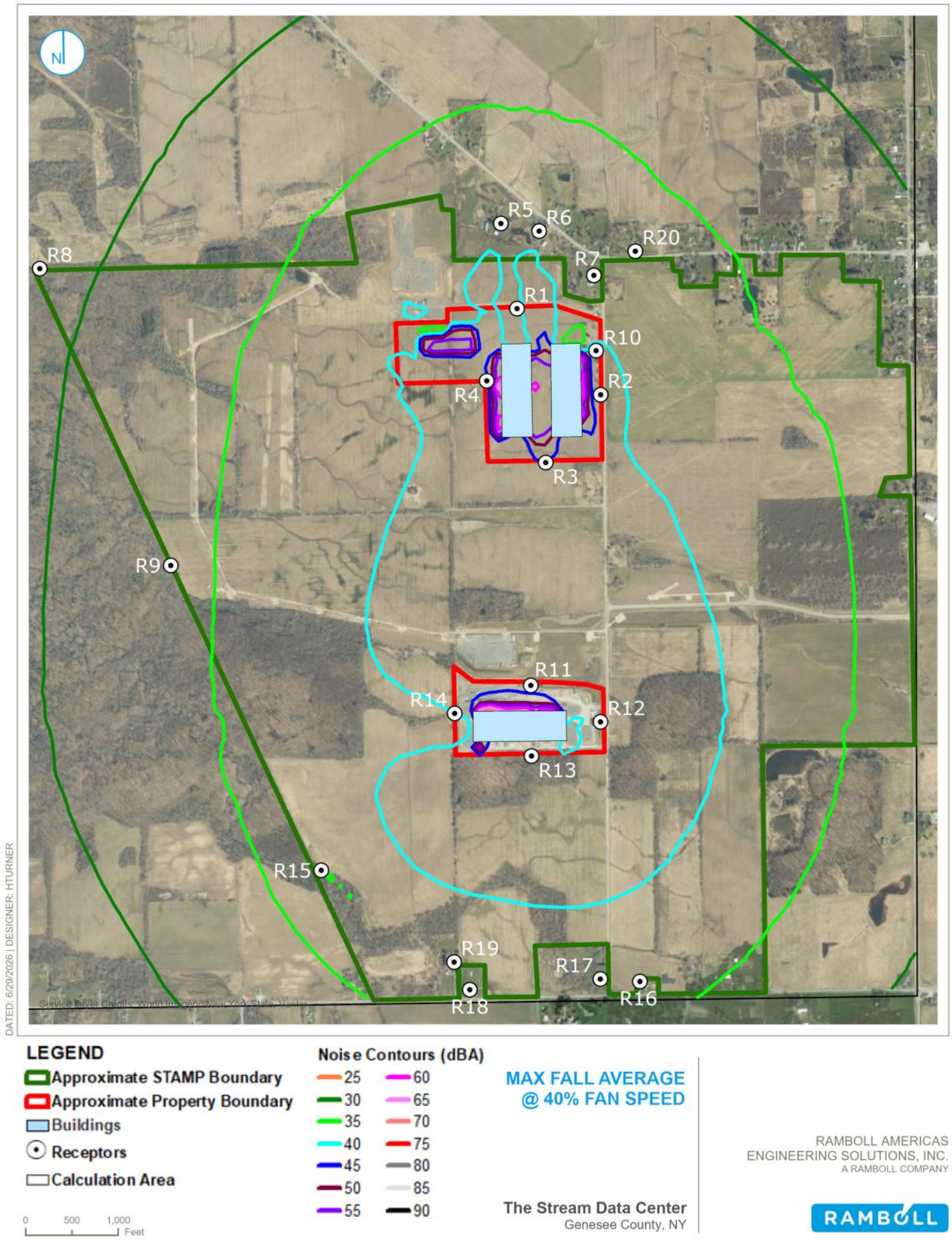


Figure 14: Noise Model Results – Max Fall Average @ 40% Fan Speed.

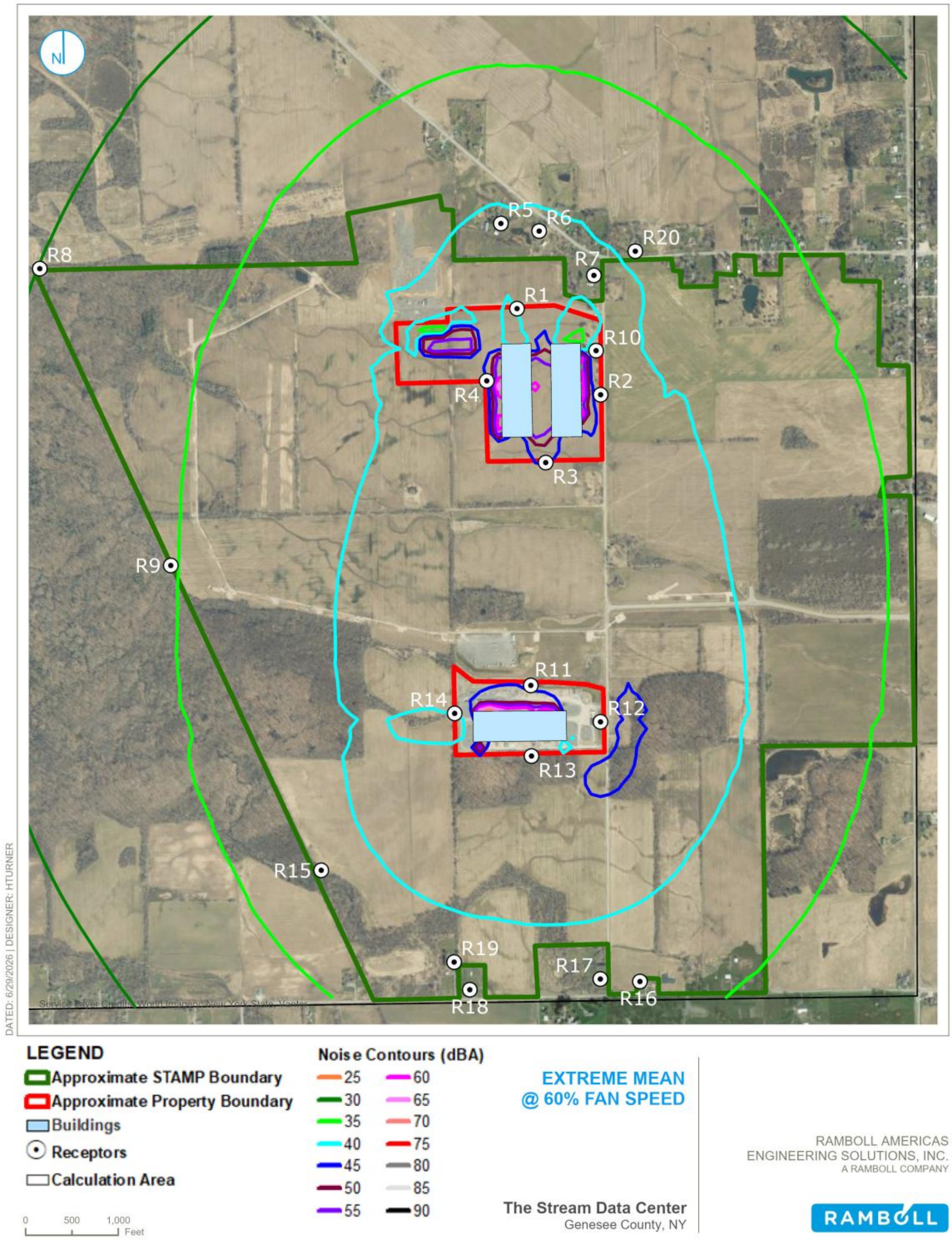


Figure 15: Noise Model Results – Extreme Mean @ 60% Fan Speed.

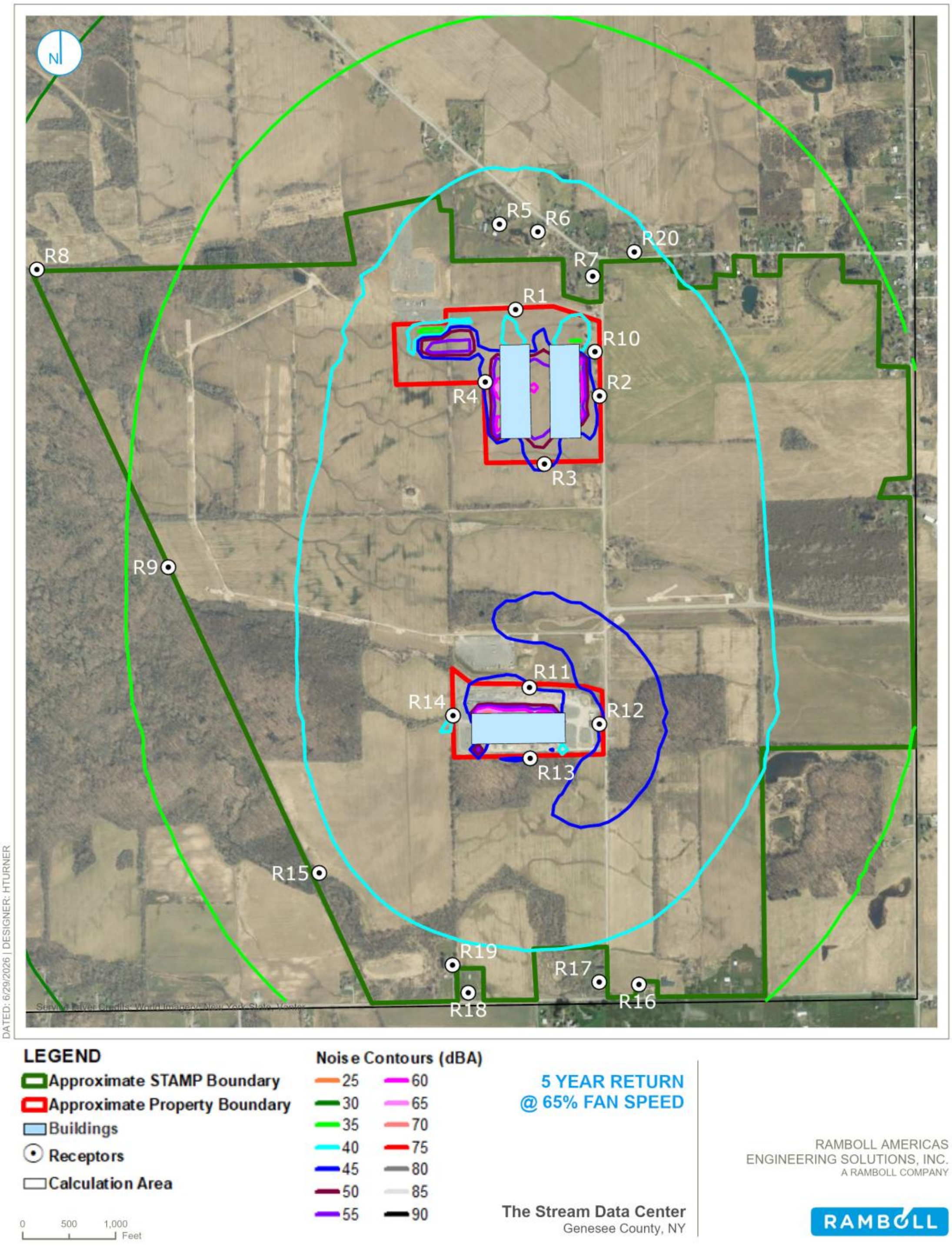


Figure 16: Noise Model Results – 5 Year Return @ 65% Fan Speed.

5.2 Generator Maintenance

The noise model results for the Generator Maintenance operating scenario are presented below in Table 5 and Figure 17. The results have been compared to the daytime threshold criteria established by the GEIS/Findings for the STAMP site due to generator maintenance being limited to daytime hours. The results include the cumulative impact from noise from the site in conjunction with the existing ambient noise levels. The results are predicted to comply with the threshold criteria.

Table 5: Noise Model Results – Generator Maintenance

Rec.	Zoning Classification	GEIS/Findings / Project Noise Limits[4]	Ambient Noise Level[3]	Predicted Noise Level, dBA
		Day	Day	Day 70% Fan Speed
R1	Technology District	65[1]	30	43
R2	Technology District	65[1]	30	45
R3	Technology District	65[1]	30	46
R4	Technology District	65[1]	30	46
R5	Residential	60[4]	34	44
R6	Residential	60[4]	34	44
R7	Residential	60[4]	30	44
R8	Tonawanda Reservation	60[4]	32	36
R9	Tonawanda Reservation	60[4]	32	38
R10[2]	Technology District	N/A	30	47
R11	Technology District	65[1]	30	45
R12	Technology District	65[1]	30	46
R13	Technology District	65[1]	30	47
R14	Technology District	65[1]	30	41
R15	Tonawanda Reservation	65[1]	39	43
R16	Residential	60[4]	37	41
R17	Residential	60[4]	37	42
R18	Residential	60[4]	36	41
R19	Residential	60[4]	39	43
R20	Residential	60[4]	30	42

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' day threshold criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.
3 – Based on 'Low' values specified in "STAMP Sound Study 12 23 for TB Review" for review. We note that Ramboll cannot independently verify the validity or the accuracy of these measurement results.
4 - 5 dB decrease to the project noise limit has been applied to residential and reservation receptors, resulting in a non-mandatory 60/40 dBA limit. The mandatory limit per the GEIS/Findings at these receptors remains 65/45 dBA for day and night, respectively.

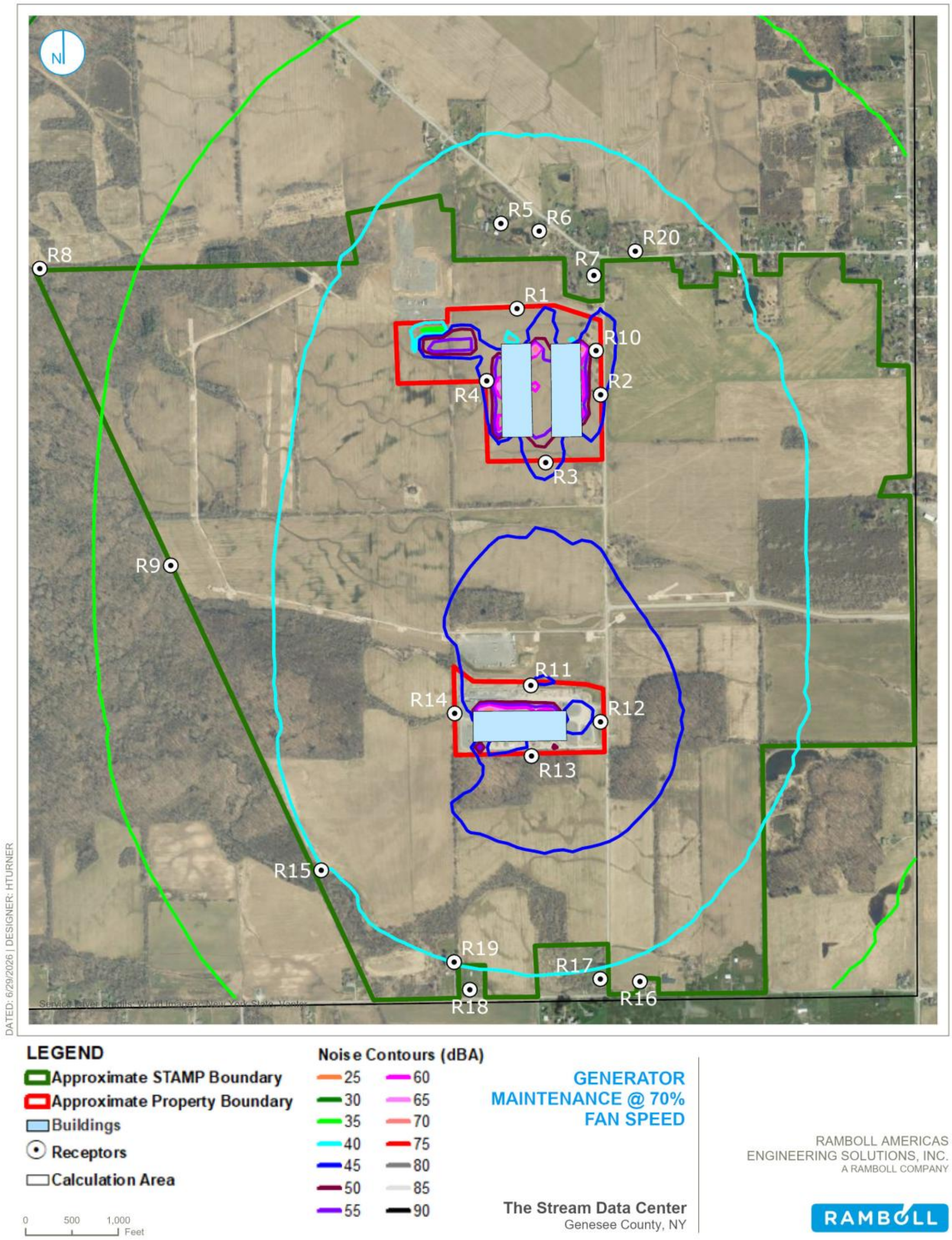


Figure 17: Noise Model Results – Generator Maintenance

5.3 Emergency Generator

The noise model results for the Day/Night Emergency operating scenario are presented below in Table 6 and Figure 18. The results include the cumulative impact from noise from the site in conjunction with the existing ambient noise levels. The results are predicted to comply with the threshold criteria.

Table 6: Noise Model Results – Emergency Generator, dBA

Rec.	Zoning Classification	GEIS/Findings / Project Noise Limits[4]		Ambient Noise Level[3]		Predicted Noise Level	
		Day	Night	Day	Night	Day	Night
R1	Technology District	65[1]	45[1]	30	28	36	36
R2	Technology District	65[1]	45[1]	30	28	39	38
R3	Technology District	65[1]	45[1]	30	28	35	34
R4	Technology District	65[1]	45[1]	30	28	31	29
R5	Residential	60[4]	40[4]	34	25	36	32
R6	Residential	60[4]	40[4]	34	25	37	34
R7	Residential	60[4]	40[4]	30	28	39	38
R8	Tonawanda Reservation	60[4]	40[4]	32	24	32	25
R9	Tonawanda Reservation	60[4]	40[4]	32	24	32	24
R10[2]	Technology District	N/A	N/A	30	28	45	45
R11	Technology District	65[1]	45[1]	30	28	31	30
R12	Technology District	65[1]	45[1]	30	28	35	35
R13	Technology District	65[1]	45[1]	30	28	42	42
R14	Technology District	65[1]	45[1]	30	28	30	29
R15	Tonawanda Reservation	65[1]	45[1]	39	23	39	28
R16	Residential	60[4]	40[4]	37	27	38	32
R17	Residential	60[4]	40[4]	37	27	38	32
R18	Residential	60[4]	40[4]	36	30	37	33
R19	Residential	60[4]	40[4]	39	23	40	31
R20	Residential	60[4]	40[4]	30	28	35	35

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' night threshold/criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.
3 – Based on 'Low' values specified in "STAMP Sound Study 12 23 for TB Review" for review. We note that Ramboll cannot independently verify the validity or the accuracy of these measurement results.
4 - 5 dB decrease to the project noise limit has been applied to residential and reservation receptors, resulting in a non-mandatory 60/40 dBA limit. The mandatory limit per the GEIS/Findings at these receptors remains 65/45 dBA for day and night, respectively.

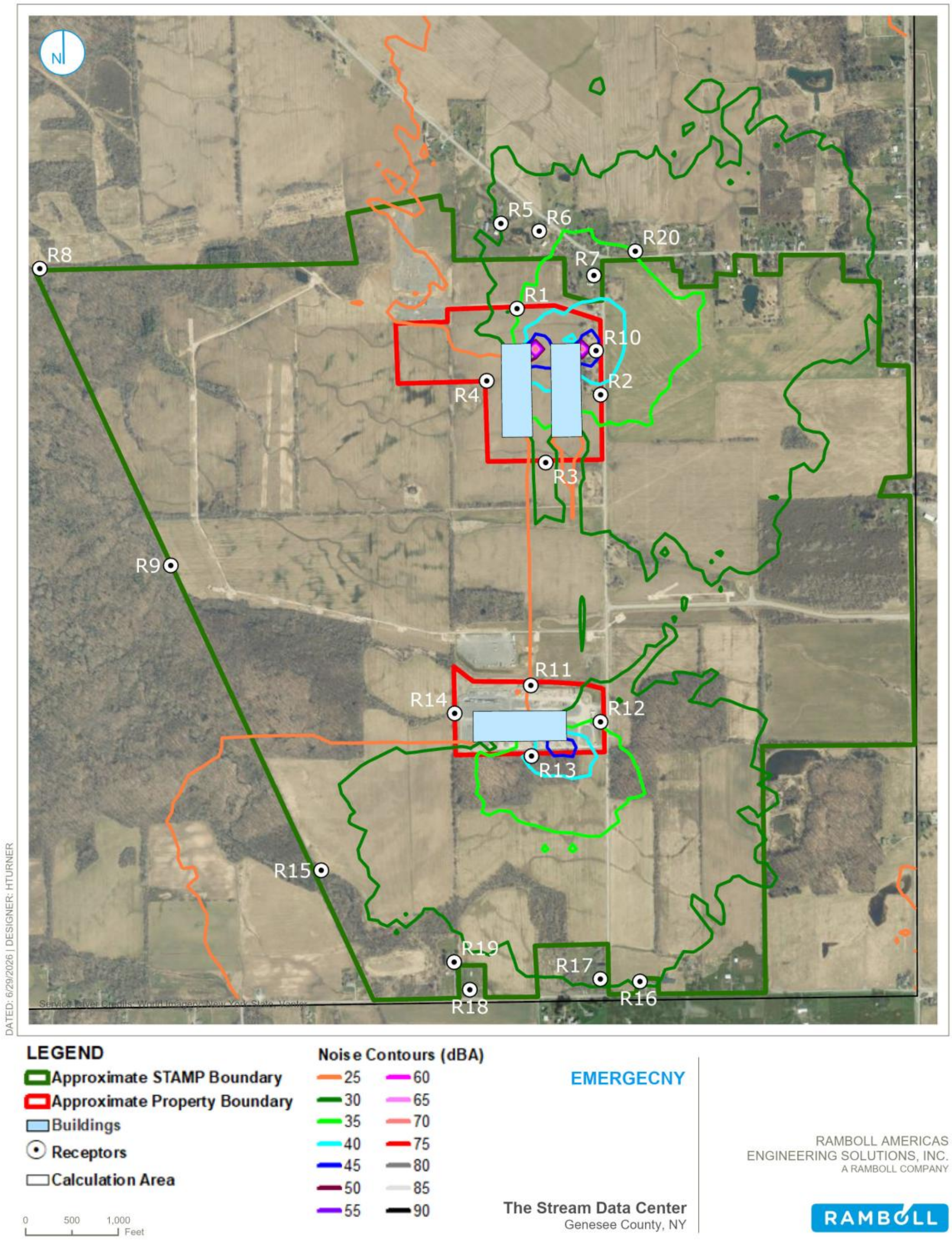


Figure 18: Noise Model Results – Emergency Scenario

Based on the modeling for the proposed data center, the threshold criteria for the STAMP site are not projected to be fully consumed by the proposed data center. Future development within the STAMP site is projected to be permitted. The nature and extent of which will depend on the specifics of future tenants, including their footprint within STAMP as well as their anticipated noise sources and levels.

5.4 Low Frequency & Infrasound

Analysis of the provided octave-band equipment sound levels indicates that the chiller sound levels are not expected to exhibit pronounced low-frequency characteristics. In reviewing the octave-band data for the chiller units, the distribution of sound energy does not indicate an atypical concentration in the lower frequency bands that would be expected to result in disruptive or unbalanced low-frequency characteristics at nearby receptors. Accordingly, the projected sound levels are considered representative, and there is no technical justification to expect low-frequency dominance or associated impacts for the units to be installed.

Further, as discussed earlier in Section 4.1.1, a dBC - dBA (Delta) analysis was performed to quantify the balance of low frequency noise. The results of this tonality analysis are presented below in Table 7 and are based on the results of the most sensitive nighttime period. Most receptors, including all residential and reservation receptors, experience a delta of 5-6 dB with none exhibiting a delta greater than 8 dB indicating a well-balanced sound spectrum with no evidence of low-frequency dominance.

Table 7: Low Frequency – dBC–dBA Analysis

Rec.	Zoning Classification	dBA	dBC[1]	Delta	Threshold for potential disturbance (Botsford Criterion)
R1	Technology District	40	47	7	10+ dB Δ
R2	Technology District	43	50	7	10+ dB Δ
R3	Technology District	45	50	5	10+ dB Δ
R4	Technology District	45	53	8	10+ dB Δ
R5	Residential	40	46	6	10+ dB Δ
R6	Residential	40	46	6	10+ dB Δ
R7	Residential	40	46	6	10+ dB Δ
R8	Tonawanda Reservation	29	37	8	10+ dB Δ
R9	Tonawanda Reservation	34	40	6	10+ dB Δ
R10	Technology District	41	48	7	10+ dB Δ
R11	Technology District	43	50	7	10+ dB Δ
R12	Technology District	42	48	6	10+ dB Δ
R13	Technology District	44	52	8	10+ dB Δ
R14	Technology District	38	45	7	10+ dB Δ
R15	Tonawanda Reservation	37	43	6	10+ dB Δ
R16	Residential	37	42	5	10+ dB Δ
R17	Residential	37	42	5	10+ dB Δ
R18	Residential	37	42	5	10+ dB Δ
R19	Residential	38	43	5	10+ dB Δ
R20	Residential	38	44	6	10+ dB Δ

[1]The dBA and dBC values presented represent the same sound level expressed using different frequency weightings. The GEIS establishes limits in dBA, which incorporate a weighting that reflects human hearing sensitivity. In contrast, dBC applies minimal weighting and therefore typically yields higher numerical values for the same sound. As a result, a dBC level exceeding a dBA-based limit does not constitute an exceedance, as the two metrics are not directly comparable.

Infrasound is generally defined as airborne sound with frequencies below 20 Hz, which is below the range of human hearing commonly given as 20 Hz to 20,000 Hz. However, there is considerable variation between individuals, especially at higher frequencies, and a loss of sensitivity is considered normal as humans age or experience other induced hearing loss.

Infrasound is commonly and continuously present in the environment from natural sources such as wind, ocean waves, waterfalls, weather systems, distant transportation activity and can be found in urban and rural environments. Extensive research and regulatory reviews have not identified consistent or causal evidence that infrasound at levels typical of industrial or commercial sources produces adverse health effects. Measurements conducted near infrastructure and industrial facilities generally show that infrasound levels are well below established thresholds associated with measurable physiological responses. Reported concerns attributed to infrasound are more consistently associated with audible noise, vibration, or visual factors, rather than infrasonic energy itself.

Furthermore, while certain wildlife species are capable of detecting lower frequencies than humans audible detection is not synonymous with physiological or behavioral impact, and like humans, wildlife is exposed to various sources of infrasound without evidence of effect. Accordingly, infrasound is not considered a limiting design or permitting criterion for data centers, and no jurisdictional noise standards applicable to community protection are based on infrasonic frequency metrics.

Based on equipment selection, operating characteristics, physical acoustics principles, and established scientific understanding, the proposed data center will not generate unbalanced low frequency or infrasound at levels that are detrimental to the surrounding community or wildlife. Harmful infrasound emissions are therefore not expected to occur, and even in theoretical scenarios would not constitute an environmental or public health concern.

5.5 Tonality

The industry standard approach to evaluating potential tonal characteristics in environmental noise involves reviewing the sound spectrum to determine whether discrete frequency components are present. Specifically, this method examines whether the sound pressure level in any one-third octave band exceeds the levels in adjacent bands by a specified threshold, which may indicate prominent tonal characteristics. Additionally, the evaluation considers the propagation of sound over distance, since certain frequencies—particularly low-frequency tones—can travel farther due to reduced atmospheric attenuation. By combining spectral analysis with distance-related factors, assessors can determine both the presence and potential impact of tonal noise at receptor locations.

As discussed above, based on communications with the air-cooled chiller manufacturer, Munters, 1/3 octave-band data is not available for this equipment. Therefore, a formal tonal assessment using that method cannot be performed. However, review of the available octave-band data, along with experience from similar equipment installations, does not in any meaningful way suggest the presence of pronounced low-frequency tonal components relative to higher-frequency sound.

Specifically, the comparable unit does not demonstrate any tonal noise as defined by ANSI-ASA S12.9 Annex C, which is consistent with pure tone regulations in other geographically proximate jurisdictions. This provides a high level of confidence that the project equipment is not expected to exhibit problematic tonal characteristics.

It is also noted that lower-frequency tones can propagate over greater distances due to reduced atmospheric absorption. At higher frequencies, where wavelengths are much shorter, sound is absorbed and controlled more easily. Although the sound power data shows a potential tone at 10,000 Hz, this ultra-high frequency will not be audible at the receptor locations. This is due to both the significant distance between the equipment and the receptors, and the effectiveness of the existing barrier in attenuating high-frequency sound.

No applicable local code or regulatory standard governing the Project includes specific requirements related to tonal noise. That said, the Project team recognizes that tonal noise can be a community concern and that some jurisdictions apply other criteria where tonality is present.[4] In consideration of this, and as a conservative, precautionary measure, a 5 dB decrease to the project noise limit has been applied in the noise analysis at nearby residential receptor locations. This adjustment brings the project required noise levels at the residential receptor locations to 60 dBA during daytime hours and 40 dBA during nighttime hours. This analysis is consistent with practices used in other jurisdictions and is intended to account for uncertainty related to tonal perception.

As shown in Section 5.1 of this report, with this conservative adjustment included, the projected sound levels at nearby receptors remain within these reduced noise levels. Notwithstanding, if post-installation conditions demonstrate the presence of tonal characteristics or other acoustic conditions not reflected in the current analysis, appropriate mitigation measures will be evaluated and implemented as necessary to maintain compliance.

5.5.1 Comparison to Similar Chillers

The specific chillers selected for the Project have not yet been manufactured such that 1/3-octave-band data was not available from Munters for the specific model proposed for the Project. Although new, the chilling units were selected to precisely match the facility's cooling demand while maximizing operational efficiency, acoustics, and redundancy. These units are considered state of the art and represent modern, commercially available chiller efficiency, ensuring that power is directed into primary facility operations rather than wasted on ancillary cooling infrastructure. The acoustic, environmental, and operational profile of this system is a deliberate result of key design innovations, including magnetic-bearing compressors, axial fans and scale and part-load optimization which is expected to significantly lower each chiller's acoustic footprint.

The technology behind the chillers is far from unproven and has already been widely deployed and validated in smaller form factors. The chillers selected for this Project simply scales that proven architecture up to achieve greater efficiency.

[4] The NYSDEC Noise Policy similarly supports such a demonstrative analysis for tonality. *See* Assessing and Mitigating Noise Impacts, NYSDEC Division of Environmental Permits DEP-00-1, p. 12 ("Pure tones and tonal sounds are compensated for in sound studies by adding a calculated number of dB(A) to the measured sound pressure.") Congruently, 5 dBA is being subtracted from the maximum allowable limits at the residential receptors.

Although 1/3-octave-band data was not available from Munters for this equipment model proposed for this project, Munters was able to provide detailed sound data for a comparable unit, identified as the TMA 3J1200B EC-ZE CM. This similar unit utilizes the same type of fans and compressors but differs in quantity and configuration. It represents the closest available comparison based on its use of similar fans and compressors. By using the data provided, we can assess the acoustic performance and tonal characteristics relevant to the equipment being considered for installation.

Table 8: Tonality Assessment of Comparable Unit A

Frequency [Hz]	Measured Sound Level [dB]	Arithmetic Average delta between adjacent bands [dB]	Tonality Criteria (ANSI-ASA S12.9 Annex C)
16	77.1	N/A	N/A
20	74.9	1.5	N/A
25	74.1	0.7	15 dB
31.5	73.6	2.7	15 dB
40	77.7	3.0	15 dB
50	76.0	2.5	15 dB
63	79.2	6.8	15 dB
80	88.0	8.4	15 dB
100	80.0	6.1	15 dB
125	82.8	2.2	15 dB
160	84.4	2.1	8 dB
200	81.9	2.0	8 dB
250	83.5	1.3	8 dB
315	82.5	1.1	8 dB
400	81.2	1.0	8 dB
500	80.4	1.0	5 dB
630	79.2	1.2	5 dB
800	78.0	1.4	5 dB
1000	76.3	1.4	5 dB
1250	75.3	2.0	5 dB
1600	72.5	2.2	5 dB
2000	71.0	0.9	5 dB
2500	70.8	0.3	5 dB
3150	70.4	1.2	5 dB
4000	72.2	1.8	5 dB
5000	70.5	1.5	5 dB
6300	71.9	0.8	5 dB
8000	71.8	4.7	5 dB
10000	64.8	5.9*	5 dB
12500	60.4	3.6	5 dB
16000	57.8	4.0	5 dB
20000	52.7	N/A	5 dB

*The wavelength of 10,000 Hz is 0.03 m with is sufficiently attenuated in the air before reaching a receptor. Furthermore, the acoustic barriers and absorption panels will effectively mitigate the impact of the pure tone.

By scaling the 1/3 octave data for the similar unit logarithmically of 24 fans to 28 fans, the overall sound power increases by 0.7 dB, still without any tonal characteristics as shown in Table 9 below.

Table 9: Tonality Assessment of Scaled Comparable Unit A

Frequency [Hz]	Measured Sound Level [dB]	Arithmetic Average delta between adjacent bands [dB]	Tonality Criteria (ANSI-ASA S12.9 Annex C)
16	77.8	N/A	N/A
20	75.6	1.5	N/A
25	74.8	0.7	15 dB
31.5	74.3	2.7	15 dB
40	78.3	3.0	15 dB
50	76.7	2.5	15 dB
63	79.9	6.8	15 dB
80	88.6	8.4	15 dB
100	80.7	6.1	15 dB
125	83.4	2.2	15 dB
160	85.1	2.1	8 dB
200	82.6	2.0	8 dB
250	84.1	1.3	8 dB
315	83.1	1.1	8 dB
400	81.9	1.0	8 dB
500	81.1	1.0	5 dB
630	79.8	1.2	5 dB
800	78.6	1.4	5 dB
1000	77.0	1.4	5 dB
1250	75.9	2.0	5 dB
1600	73.2	2.2	5 dB
2000	71.7	0.9	5 dB
2500	71.4	0.3	5 dB
3150	71.1	1.2	5 dB
4000	72.9	1.8	5 dB
5000	71.2	1.5	5 dB
6300	72.5	0.8	5 dB
8000	72.4	4.7	5 dB
10000	65.5	5.9*	5 dB
12500	61.1	3.6	5 dB
16000	58.4	4.0	5 dB
20000	53.3	N/A	5 dB

*The wavelength of 10,000 Hz is 0.03 m with is sufficiently attenuated in the air before reaching a receptor. Furthermore, the acoustic barriers and absorption panels will effectively mitigate the impact of the pure tone.

Additional analysis to another comparable unit identified as the Ultimate Quiet manufactured by Trane was also undertaken. The tonality assessment is presented below.

Table 10: Tonality Assessment of Comparable Unit B, scaled to 70% fan speed

Frequency [Hz]	Measured Sound Level [dB]	Arithmetic Average delta between adjacent bands [dB]	Tonality Criteria (ANSI-ASA S12.9 Annex C)
16	-	-	N/A
20	-	-	N/A
25	-	-	15 dB
31.5	-	-	15 dB
40	-	-	15 dB
50	75.3	N/A	15 dB
63	79.3	2.4	15 dB
80	79.3	3.2	15 dB
100	84.3	5.5	15 dB
125	78.3	4.8	15 dB
160	75.3	4.1	8 dB
200	80.3	4.1	8 dB
250	77.3	2.5	8 dB
315	75.3	1.5	8 dB
400	74.3	1.5	8 dB
500	76.3	1.5	5 dB
630	75.3	1.0	5 dB
800	74.3	1.5	5 dB
1000	76.3	3.8	5 dB
1250	71.3	3.4	5 dB
1600	70.3	1.0	5 dB
2000	69.3	2.1	5 dB
2500	66.3	2.5	5 dB
3150	64.3	2.5	5 dB
4000	61.3	3.5	5 dB
5000	65.3	3.5	5 dB
6300	62.3	5.4*	5 dB
8000	55.3	5.4*	5 dB
10000	52.3	N/A	5 dB
12500	-	-	5 dB
16000	-	-	5 dB
20000	-	-	5 dB

*The wavelength of 6,300 Hz and 8,000 Hz is 0.05 m and 0.04 m, respectively. This size wavelength is sufficiently attenuated in the air before reaching a receptor. Furthermore, the acoustic barriers and absorption panels will effectively mitigate the impact of the pure tone.

This analysis strongly supports the conclusion that the projected acoustic performance is representative and that there is no reasonable basis to anticipate tonal noise issues for the actual units to be installed.

6. Post-Construction Monitoring & Evaluation

As part of the corroboration of the noise model, Ramboll will perform post-construction noise monitoring following the completion and commissioning of each individual building. Data-logging sound level meters will be installed at key locations along the property boundary. These meters will continuously record overall A-weighted sound levels (dBA) as well as 1/3-octave band data for a period of one week, to take place during the summer when the fan speeds and corresponding noise emissions are likely to be the highest. Ramboll will also conduct factory witness testing of the unit when available from the manufacturer.

At the conclusion of each monitoring period, Ramboll will review the measured data to confirm that overall sound levels comply with the applicable regulatory framework for the project. In addition, the 1/3-octave band data will be evaluated to assess the potential presence of tonal noise.

The collected measurements will be used to corroborate that sound levels at the site boundary are compliant with the GEIS findings and that discrete tones are not present. For the purposes of this assessment, tonality will be evaluated in accordance with ANSI/ASA S12.9, Annex C, by comparing measured 1/3-octave band sound pressure levels to those in adjacent bands. A discrete tone would be considered present if the difference exceeds the following thresholds: 15 dB in low-frequency bands (25–125 Hz), 8 dB in mid-frequency bands (160–400 Hz), and 5 dB in high-frequency bands (500–10,000 Hz).

Although tonal noise is not anticipated, if a tone were identified during the corroboration monitoring, fan speeds would be adjusted using manufacturer-provided controls to distribute blade-pass frequencies across multiple 1/3-octave bands and mitigate tonal characteristics.

In the unlikely event that post-installation measurements demonstrate exceedances of applicable noise limits or the presence of tonal noise not accounted for in the conservative assumptions of the analysis, corrective action would be implemented to restore compliance with those standards. No new or discretionary mitigation criteria would be established, and all compliance determinations would rely on existing, recognized noise standards.

7. Conclusion

Ramboll has completed an environmental noise assessment for the proposed Stream Data Centers Science Technology and Advanced Manufacturing Park (STAMP) site located in the Town of Alabama, Genesee County, New York. The assessment includes a summary of the proposed data center, site configuration, relevant acoustic criteria, noise sensitive receptors and noise model results.

The key findings of the assessment were as follows:

- No independent state, county or town numerical noise limits apply to the Site. However, the STAMP GEIS/Findings established 65 dBA during the day, and 45 dBA during the night at the STAMP boundary in non-industrial areas would not result in a significant adverse impact to existing baseline noise levels.

- For all operating scenarios, Project generated noise levels at the proposed Projects property boundaries are expected to remain below 65 dBA during the day and 45 dBA during the night.

- Based on the available octave-band data and extensive experience with similar equipment types, the acoustic profile of the air-cooled chillers do not appear to possess significant low-frequency components, compared to higher frequencies, or pure tones.

  The potential for tonal components was evaluated using measured noise from a chiller with identical components against the criteria found in ANSI-ASA S12.9 Annex C. The chillers evaluated were found to not have a tonal component. Additionally, a 5 dB risk management reduction to applicable noise criteria has been adopted for all residential receptors.

  To confirm this, following delivery and installation of the chillers to the site, post-construction monitoring will be performed. In the unlikely event their acoustic profile possesses significant tonal or low-frequency components, compared to higher frequencies, or pure tones, additional mitigation measures such as varying fan speeds between units to reduce the effect of blade pass frequencies will be implemented to address these concerns.

Appendix A – Octave Band Noise Level Results

Table A1: Octave Band Noise Model Results

Rec.	Zoning Class.	Op. Scen.	Wt.	Octave Band (Hz)									Overall *
				32	63	125	250	500	1k	2k	4k	8k	
R7	Residential	Constant Mechanical Day	dBZ	29	45	46	44	42	39	33	19	<5	51 dB
			dBA	<5	19	29	36	39	39	34	20	<5	43 dBA
			dBC	26	44	45	44	42	39	33	18	<5	51 dBC
		Constant Mechanical Night	dBZ	29	39	41	39	38	36	30	16	<5	46 dB
			dBA	<5	13	25	30	35	36	31	17	<5	40 dBA
			dBC	26	38	41	39	38	36	30	15	<5	46 dBC
		Generator Maint.	dBZ	47	55	52	46	42	39	33	19	<5	58 dB
			dBA	7	29	35	38	39	39	34	20	<5	44 dBA
			dBC	44	55	51	46	42	39	33	18	<5	57 dBC
		Emerg. Generator	dBZ	47	55	50	42	33	24	15	<5	<5	57 dB
			dBA	7	29	34	33	30	24	16	<5	<5	38 dBA
			dBC	44	54	50	42	33	24	15	<5	<5	56 dBC

*Calculated from acoustic model with 1/3 octave weighting

Based on proximity to the site, Receptor R7 has been identified as the most noise sensitive assessment location. No octave band noise requirements are applicable to the site. Based on the predicted octave band noise level results, cumulative noise emission from the site does not appear to have prominent sound energy in any of the frequency bands or indicate the presence of any tones.

Appendix B – Manufacturer Noise Data

Chiller: Geoclima TMA series

Daytime Operations

SOUND POWER OCTAVE BAND	Hz	63	125	250	500	1000	2000	4000	8000	Pressure	Power
4D C28 13 1W 97.2°F 100%load fans70% 150ft	dB(A)	63.3	76.4	85.0	88.1	91.3	89.5	85.1	78.2	50.8	95.5
4D C28 13 1W 97.2°F 75%load fans40% 150ft	dB(A)	49.6	63.3	74.2	79.9	85.5	83.7	80.3	72.5	44.8	89.5
4D C28 13 1W 97.2°F 50%load fans30% 150ft	dB(A)	48.6	61.8	72.2	78.9	84.5	82.7	79.3	71.5	43.8	88.5
4D C28 13 1W 97.2°F 25%load fans25% 150ft	dB(A)	46.6	59.8	69.2	73.6	79.1	78.1	73.7	67.0	38.5	83.2
4D C28 13 1W 85.5°F 100%load fans55% 150ft	dB(A)	56.4	69.5	78.7	83.3	88.0	86.2	82.5	74.9	47.5	92.1
4D C28 13 1W 85.5°F 75%load fans35% 150ft	dB(A)	48.7	62.3	73.4	79.3	85.0	83.2	79.8	72.0	44.3	89.0
4D C28 13 1W 85.5°F 50%load fans25% 150ft	dB(A)	46.8	60.1	71.2	78.5	84.3	82.5	79.2	71.3	43.6	88.3
4D C28 13 1W 85.5°F 25%load fans20% 150ft	dB(A)	46.0	59.2	68.7	73.3	78.9	78.0	73.6	66.8	38.4	83.0
4D C28 13 1W 97.2°F 100%load fans70% 122ft	dB(A)	63.3	76.4	85.0	88.1	91.3	89.5	85.1	78.2	52.5	95.5
4D C28 13 1W 97.2°F 75%load fans40% 122ft	dB(A)	49.6	63.3	74.2	79.9	85.5	83.7	80.3	72.5	46.5	89.5
4D C28 13 1W 97.2°F 50%load fans30% 122ft	dB(A)	48.6	61.8	72.2	78.9	84.5	82.7	79.3	71.5	45.5	88.5
4D C28 13 1W 97.2°F 25%load fans25% 122ft	dB(A)	46.6	59.8	69.2	73.6	79.1	78.1	73.7	67.0	40.2	83.2
4D C28 13 1W 85.5°F 100%load fans55% 122ft	dB(A)	56.4	69.5	78.7	83.3	88.0	86.2	82.5	74.9	49.1	92.1
4D C28 13 1W 85.5°F 75%load fans35% 122ft	dB(A)	48.7	62.3	73.4	79.3	85.0	83.2	79.8	72.0	46.0	89.0
4D C28 13 1W 85.5°F 50%load fans25% 122ft	dB(A)	46.8	60.1	71.2	78.5	84.3	82.5	79.2	71.3	45.3	88.3
4D C28 13 1W 85.5°F 25%load fans20% 122ft	dB(A)	46.0	59.2	68.7	73.3	78.9	78.0	73.6	66.8	40.0	83.0

Nighttime Operations

SOUND POWER OCTAVE BAND	Hz	63	125	250	500	1000	2000	4000	8000	Pressure	Power
4D C28 13 1W 32.1°F 100%load fans30% 150ft	dB(A)	47.0	61.1	73.3	79.8	85.6	83.8	80.6	72.6	45.0	89.6
4D C28 13 1W 25.8°F 100%load fans30% 150ft	dB(A)	47.0	61.1	73.3	79.7	85.6	83.8	80.5	72.6	44.9	89.6
4D C28 13 1W 58.2°F 100%load fans40% 150ft	dB(A)	49.7	63.4	74.5	80.3	86.0	84.2	80.8	73.0	45.3	90.0
4D C28 13 1W 48.4°F 100%load fans35% 150ft	dB(A)	48.0	61.9	73.7	80.0	85.8	84.0	80.7	72.8	45.2	89.8
4D C28 13 1W 72°F 100%load fans45% 150ft	dB(A)	49.7	63.4	74.5	80.4	86.1	84.3	81.0	73.1	45.5	90.1
4D C28 13 1W 62.8°F 100%load fans40% 150ft	dB(A)	48.8	62.6	74.1	80.3	86.0	84.2	80.9	73.0	45.4	90.0
4D C28 13 1W 64.4°F 100%load fans40% 150ft	dB(A)	48.8	62.6	74.2	80.3	86.1	84.3	81.0	73.0	45.4	90.1
4D C28 13 1W 53.1°F 100%load fans37% 150ft	dB(A)	48.0	61.9	73.7	80.0	85.9	84.1	80.8	72.8	45.2	89.9
4D C28 13 1W 90.8°F 100%load fans60% 150ft	dB(A)	57.0	70.1	79.2	83.8	88.5	86.7	83.0	75.4	48.0	92.6
4D C28 13 1W 74.4°F 100%load fans48% 150ft	dB(A)	50.7	64.3	75.0	80.7	86.2	84.4	81.0	73.2	45.6	90.3
4D C28 13 1W 92.6°F 100%load fans65% 150ft	dB(A)	61.4	74.5	83.2	86.7	90.3	88.5	84.4	77.2	49.8	94.5
4D C28 13 1W 78.2°F 100%load fans50% 150ft	dB(A)	54.0	67.3	77.1	81.8	86.8	85.0	81.5	73.7	46.3	90.9
4D C28 13 1W 80.2°F 100%load fans50% 150ft	dB(A)	54.0	67.3	77.1	81.9	86.9	85.1	81.5	73.8	46.3	91.0

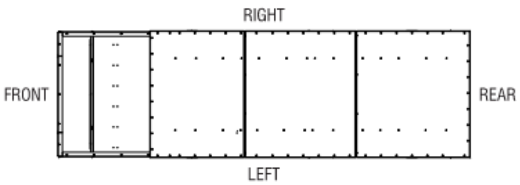
Generator: Generac G14.2L SG/MG300 (Basis of Design)

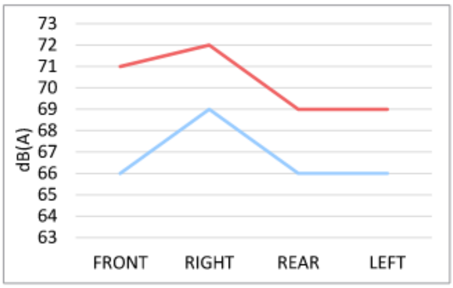
GENERAC | INDUSTRIAL POWER

LEVEL 3 SOUND ATTENUATED ENCLOSURE G14.2L SG/MG300

	60Hz NO-LOAD, dB(A)								DISTANCE: 7 METERS
MICROPHONE LOCATION	OCTAVE BAND CENTER FREQUENCY (Hz)								
	31.5	63	125	250	500	1,000	2,000	4,000	8,000	dB(A)
FRONT	37	56	59	59	61	59	52	54	46	66
RIGHT	34	54	62	64	64	55	55	52	45	69
REAR	39	57	59	59	61	54	50	48	40	66
LEFT	40	53	59	59	62	57	54	50	44	66
AVERAGE	**38**	**55**	**60**	**60**	**62**	**56**	**53**	**51**	**44**	**67**

	60Hz FULL-LOAD, dB(A)								DISTANCE: 7 METERS
MICROPHONE LOCATION	OCTAVE BAND CENTER FREQUENCY (Hz)								
	31.5	63	125	250	500	1,000	2,000	4,000	8,000	dB(A)
FRONT	40	64	67	60	65	58	54	48	39	71
RIGHT	39	61	68	68	64	59	55	48	43	72
REAR	40	62	65	61	61	55	49	42	34	69
LEFT	38	58	63	63	64	58	54	47	41	69
AVERAGE	**40**	**61**	**66**	**63**	**63**	**58**	**53**	**47**	**39**	**70**





- All positions at 23 feet (7 meters) from side faces of generator set.
- Test conducted on a 100 foot diameter asphalt surface.
- Sound pressure levels are subject to instrumentation, installation and testing conditions.
- Sound levels are ±2 dB(A).

SOUND DATA

1 OF 1

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53187
P: (262) 544-4811

Part No. A0000020321
Rev. C 6/12/20

Additional Generator Options:

Rehlko 300REZXD:

rehlko

Industrial Generator Set Accessories

Weather and Sound Enclosures

Weather and Sound Enclosure Specifications

Model	Max. Dimensions, mm (in.)				Weight, kg (lb.) †						Sound Enclosure, Sound Pressure Level at 60Hz with Full Load, dB(A) *
	Length	Width		Height	Steel Weather Enclosure		Steel Sound Enclosure		Aluminum Sound Enclosure		
250REZXB	4526 (178.2)	1786	(70.3)	2460 (96.9	3942	(8691)	3969	(8750)	3647	(8040)	70
300REZXC	4526 (178.2)	1786	(70.3)	2460 (96.9	3942	(8691)	3969	(8750)	3647	(8040)	71
300REZXD	6365(250.6)	2252	(88.7)	2695(106.1)	6643	(14645)	6847	(15095)	6416	(14145)	69
300RZXD	6365(250.6)	2252	(88.7)	2695(106.1)	6643	(14645)	6847	(15095)	6416	(14145)	70
350REZXD	6365(250.6)	2252	(88.7)	2695(106.1)	6863	(15130)	7067	(15580)	6636	(14630)	69
350RZXD	6365(250.6)	2252	(88.7)	2695(106.1)	6863	(15130)	7067	(15580)	6636	(14630)	70
400REZXD	6365(250.6)	2252	(88.7)	2697(106.2)	7144	(15750)	7348	(16200)	6917	(15250)	72
400RZXD	6365(250.6)	2252	(88.7)	2697(106.2)	7144	(15750)	7348	(16200)	6917	(15250)	72
450REZXD	6365(250.6)	2252	(88.7)	2697(106.2)	7244	(15970)	7448	(16420)	7017	(15470)	72
500REZXD	6365(250.6)	2252	(88.7)	2697(106.2)	7262	(16010)	7466	(16460)	7035	(15510)	72

Note: Refer to the respective ADV drawings for details.

* Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft). Refer to TIB-114 for details.

† Weight includes the generator set (wet), enclosure, and silencer. The generator set weight represents using the largest alternator option.

Flex Energy Flex Turbine GT333S

FLEXENERGY SOLUTIONS

FLEX TURBINE® GT333S

HIGH EFFICIENCY GAS TURBINE GENERATOR WITH ULTRA LOW EMISSIONS

333 kW CONTINUOUS ELECTRICAL POWER WITH OPTIONAL INTEGRATED HEAT RECOVERY

SOUND LEVELS

CHARACTERISTIC	SPECIFICATION
Standard	62 dB(A) @ 10m
Low sound option (not available on all models)	57 dB(A) @ 10m

Condensing Units: DCSA040 @ 100% Fan Speed

Job Information	*Technical Data Sheet*
Job Name	STREAM CRAC CONDENSING UNITS BUFA
Date	3/17/2026
Submitted By	Chris Stewart
Software Version	11.60
Unit Tag	110 kW BUFA rev A

Unit Overview

Model Number	Voltage V/Hz/Phase	Total Refrigeration Effect Btu/hr	AHRI Conditions		ASHRAE 90.1	Altitude
			EER	IEER		
DCSA040	460/60/3	423400.0	11.7	16.9	2022 Compliant	0

Physical

Dimensions and Weight

Length	Height	Width	Operating Weight
96.0 in	90.1 in	96.5 in	3596 lb

DCSA Connections

Connection	Connection Sizes	
CIRCUITS	Circuit 1	Circuit 2
Suction Line Circuit	1.625 in	1.625 in
Liquid Line Circuit	0.875 in	0.875 in
Hot Gas Reheat Circuit	N/A	N/A

Unit Construction and Performance

Construction:	Exterior:	Pre-painted Steel 3000 hr Salt Spray ASTM B-117

Rigging Information

Lugs per side	2 Lugs per Side

Electrical

Voltage	MCA	MROPD	SCCR
460/60/3 V/Hz/Phase	105.9 A	125 A	65 kAIC
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.		

DX Cooling

Cooling Performance

Capacity Total Btu/hr	Refrigerant Type	Ambient Air Temperature Dry Bulb °F	Ambient Air Temperature Wet Bulb °F	Suction Temperature °F
423400.0	R32	93	75.0	46.9

Unit

Model Number:	DCSA040
Type:	Applied
Approval:	ETL - USA

Condensing Section

Compressor						
Type	Quantity	Refrigerant Charge Circuit1	Refrigerant Charge Circuit 2	Total Power	Capacity Control/Min Turndown	Refrigerant Type
Variable Scroll	4	29.0	29.7	28.6	variable capacity/10% compressor speed	R32

Compressor Amps:		
Compressor 1	Variable Speed	30.1 A
Compressor 2	Variable Speed	30.1 A
Compressor 3	Not Available	15.1 A
Compressor 4	Not Available	15.1 A

Condenser Coil			
Type	Fins Per Inch	Rows	Fin Material
Aluminum tube micro channel	18	Micro Channel	Aluminum
Low Ambient Control:	Speedtrol low ambient - Operation to -10 degrees F		

Condenser Fan Motors	
Number of Motors	Full Load Current
4	2.0 A
Condenser Control	Speedtrol Modulating Control

AHRI 360 Certified Data at AHRI 360 Standard Conditions			
Net Capacity	Efficiency		ASHRAE 90.1
423400.0	11.7 EER	16.9 IEER	2022 Compliant

Sound

Casing Radiated Sound Power (db)							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
52	78	83	88	88	86	86	82

Options

Unit	
Hot Gas Bypass:	None
Condenser Coil Options:	Condenser with built in hail protection
Electrical	
Field Connection	Single Disconnect
Wiring Options	Standard
GFI Receptacle	Field powered
Unit Control	
Temperature Controls:	No temp control, 115 V transformer
Low Ambient Control:	Speedtrol low ambient - Operation to -10 degrees F
Controls	
Unit Controls:	Full Refrigeration Only Controls

Warranty

Parts:	1 Year Parts
Compressor:	5 Year Compressor Warranty

AHRI Certification

All equipment is rated and certified in accordance with AHRI 360.

Notes: Based on discussions with client, fans operate at 70% speed. Adjusted level calculated using N+50*LOG(70/100).

Fan Speed	Sound Power Octave Band, dBA							
	63	125	250	500	1k	2k	4k	8k
100% Fan Speed	52	78	83	88	88	86	86	82
70% Fan Speed	44	70	75	80	80	78	78	74

Rooftop Units (Standard):

Physical			
Unit Dimensions and Weights			
Unit Length	Unit Width	Unit Height	Unit Weight
309 in	96.50 in	77.6 in	8108 lb
Unit Construction and Performance			
Construction:	Thermally Broken Double Wall	Exterior:	Pre-painted Steel 3000 hr Salt Spray ASTM B-117
Insulation:	R-value of 13.0	Liners:	Standard Galvanized Liners
Air Leakage@ design:	Less than 0.5% of airflow up to 5 in. w.c.	Drain Pan Material	Stainless Steel
ASHRAE Std 111:	Class 6 @ +/- 6"w.c static pressure	Doors:	Fan, Filter, Control Panel, and Heat Vestibule Sections
Duct Connections			
Return Air	Bottom	Supply Air	Bottom
Rigging Information			
Lugs per side	2 Lugs per Side		

Electrical			
Voltage	MCA	MROPD	SCCR
460/60/3	87.7 A	90 A	10 kAIC
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.		

Unit Overview									
Model Number	Cabinet Designation	Voltage	Design Supply CFM	Design Cooling Capacity	AHRI 360 Standard Efficiency		ASHRAE 90.1	Altitude
					EER	IEER		
DPSA035	B – Cabinet	460/60/3	13500 CFM	436358 Btu/hr	11.1	17.6	2022 Compliant	0

Sound								
	Sound Power (db)							
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	74	73	75	71	74	74	70	70
Discharge	83	85	90	89	88	86	83	78
Radiated (dbA)	44	78	83	87	88	86	86	82

Notes: Based on discussions with client, fans operate at 85% speed. Adjusted level calculated using N+50*LOG(85/100).

Fan Speed	Sound Power Octave Band, dBA							
	63	125	250	500	1k	2k	4k	8k
100% Fan Speed	44	78	83	87	88	86	86	82
85% Fan Speed	40	74	79	83	84	82	82	78

Rooftop Units (Low Noise):

Unit Discharge Conditions during Cooling (Not Dehumidification)				
Air Temperature				
DX coil Configuration:	Draw Through			
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
24694	53.7	54.7	52.8	51.9

Condensing Section

Compressor						
Type	Quantity	Refrigerant Charge Circuit1	Refrigerant Charge Circuit 2	Total Power	Capacity Control/Min Turndown	Refrigerant Type
Inverter-Lead Circuit	2	35.136 lb	27.936 lb	18.4 kW	Variable Capacity/10% compressor speed	R32

Compressor Amps:		
Compressor 1	Variable Speed	20.9 A
Compressor 2	Fixed	20.9 A

Condenser Coil			
Type	Fins Per Inch	Rows	Fin Material
Aluminum Tube Microchannel	18	Micro Channel	Aluminum
Low Ambient Control:	Operation to -10 degree F		

Condenser Fan Motors	
Number of Motors	Full Load Current
4	1.6 A
Condenser Control	Speedtrol Modulating Control

AHRI 360 Certified Data at AHRI 360 Standard Conditions			
Net Capacity	Efficiency		ASHRAE 90.1
268000 Btu/hr	10.6 EER	17 IEER	2022 Compliant

Sound

Sound Power (db)								
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	70	75	74	70	72	70	67	70
Discharge	79	86	80	83	81	78	75	72
Radiated (dbA)	44	63	68	76	78	77	74	66

Supply Fan Total Pressure Drop Calculation	
External Static Pressure:	3.00 inH_2O
Draw Through Filters:	0.07 inH_2O
Draw Through Cartridge Filters:	0.06 inH_2O
Dirty Filter:	0.50 inH_2O
Outside Air:	0.06 inH_2O
Cooling Coil:	0.37 inH_2O
Hot Gas Reheat:	0.05 inH_2O
Humidifier:	0.01 inH_2O
Total Static Pressure:	4.17 inH_2O

Return/Exhaust Fan Total Pressure Drop Calculation	
External Static Pressure:	1.50 inH_2O
Total Static Pressure:	1.50 inH_2O

Notes: Based on discussions with client, fans operate at 85% speed. Adjusted level calculated using N+50*LOG(85/100).

Fan Speed	Sound Power Octave Band, dBA							
	63	125	250	500	1k	2k	4k	8k
100% Fan Speed	44	63	68	76	78	77	74	66
85% Fan Speed	40	59	64	72	74	73	71	62

Transformers (Building):

Distribution Transformer Quotation Summary
Howard Industries, Inc. Laurel, MS 1 (601) 425-3151

Customer Name: Chateau Energy - STREAM
Date: 5/14/2026
Quote #: SM5772-004

Transformer(s) will be built according to the specifications listed below.

Specification: No Specification, Transformer to be manufactured by description only
Item: 3 Phase Pad Mount
Quantity: 1
Type of Pricing: Order
Standard: IEEE Standard
UL Listing: UL Labeled
KVA: 2550
Primary Voltage: 34500 Delta 150 kV BIL
Live / Dead: Dead Front
Feed: Radial Feed
Taps: Taps Split - 2 2½% Above and Below
Primary Bushing: 600 Amp Non Load Break Integrated Bushing
Secondary Voltage: 480 Delta 30 kV BIL
Secondary Bushing: 16 Hole Spade
Fluid Type: FR3
Winding Conductor: HI Standard
Cooling: KNAN (KA) - Self Cooling
Temp Rise: 65 Degree C
Frequency: 60 HZ
Nominal Impedance: 7%
Altitude: Less than 1000 m(3300ft)
Sound Level: NEMA Standard
Paint: Padmount Green - Munsell Green #7.0GY-3.29/1.5
Gauges: Thermometer with Dual Contacts
Gauges: Liquid Level with Contacts
Gauges: Pressure Vacuum with Contacts
Gauges: Pressure Relief Diaphragm with Contacts
Valves: Standard PRV
Valves: 1" Drain Valve with Sampler
Valves: Schrader Valve
Switches: 3 - 2 Position
Switches: 300 Amp
Fusing: Bayonet Fusing in Series with Partial Range CLF
Spare Fuses: None
Primary Arresters: No Arresters
K Rating: Howard Industries Standard

Transformers (Substation):

Transformers modeled with a SWL of 86 dBA, assuming a full 60 MVA load

NEMA Rating SWL: 98 dBA
12 dB Below NEMA: 86 dBA
The spectral data for the 86 dBA unit is shown below:

31.5	63	125	250	500	1000	2000	4000	8000	dBA
82.6	88.6	90.6	85.6	85.6	79.6	74.6	69.6	62.6	86.0

PriorityPower
2201 E. Lamar Blvd. Suite 275 • Arlington, TX 76006

DATE: June 27, 2026
TO: Stream Data Center Design Team – Genesee County, New York Project
FROM: K. Yung – Chief Engineer & Dev. Officer
SUBJECT: **UPDATE - SDC Buffalo North Substation Power Transformer Sound Reduction Design**

Our engineering and technical development team continues to work with Virginia Transformer Corporation's engineering and design team to reduce the sound pressure levels for the eight (8) transformers being installed in this high voltage substation.

These transformers are 115:34.5kV delta-wye units, with capacity ratings of 60/80/100//112 MVA (ONAN, ONAF1, ONAF2) at 55°/°65 C rise, with winding/bushing ratings of 450kV/550kV BIL, respectively, for the primary side.

The design basis shared by the DC engineering team is 165 MW for each of the two (2) buildings at this site. The DC team has indicated they will configure each building for equal power draw from each transformer under normal, steady state conditions. Thus, the design basis for modeling sound and loading should be based on:

Main Power Transformer (MPT) Design: BASE RATING = 60 MVA at ONAN (55°C rise)
DC 2 Design Basis: 165 MW @unity power factor; served by 4ea MPTs
DC 3 Design Basis: 165 MW @unity power factor; served by 4ea MPTs

Thus, for each MPT, the normal, steady-state loading will be: $\frac{165\ MVA}{(4\ MPTs)} = \mathbf{41.25\ MVA\ perMPT}$

or at unity *(i.e. 1.00) power factor, this equates to: $\frac{41.25\ MVA \times (1.00\ pf)}{(MPT)} = \mathbf{41.25\ MW\ perMPT}$

**Note: Power factor can be controlled using shunt capacitors with VAR sensors, variable speed drive settings, power supply equipment settings, and other electrical equipment settings and devices.*

VTC has indicated the minimum achievable sound pressure (SPL dBA) at ONAN for this type of transformer is 66 dBA (SPL) using specialized materials and construction of the core and related elements. This is 12 dBA below the NEMA TP 80050-2013 (formerly NEMA TR1-2013) Table 1 specifications for *Transformers, Step Voltage Regulators, and Reactors,* which is 78dBA SPL at 100% loading (i.e. 60 MVA) (ref. attached specification).

VTC Factory Acceptance Testing (FAT) for sound pressure (SPL) and power (SWL) will be performed at 100% loading at ONAN/ONAF1/ONAF2 capacity ratings. However, if loading is reduced, VTC engineers stated the measured sound pressure (dBA SPL) may also be reduced. *As such, we will develop a testing criteria specifically for the expected steady-state loading of 41.25 MVA at ONAN in order to confirm the SPL and SWL sound results at this reduced loading level which represents the design basis.*

PPM will be sending our technical team to witness all FAT activities at the VTC factory once fabrication is complete for the transformers. At that time, we will know with certainty what the sound pressure (SPL) and sound power (SWL) results are.

If the actual FAT results for the sound pressure level (SWL) of the transformers is higher than desired for the permitting requirements with Genesee County, we will work with VTC to discuss any alternative measures (e.g. tank dampeners, or isolation dampeners) which may be feasible prior to installation at the site. We will also work with the SDC technical team and its consultants to determine if additional sound remediation measures are required and can be developed.

Please let me or any of the PPM team know if you have questions.

STATE OF TEXAS
KEVIN H. YUNG
68118
LICENSED
PROFESSIONAL ENGINEER

Table 1
Audible Sound Levels for Oil-Immersed Power Transformers

Average Sound Level tt. Decibels	Equivalent Two-Winding Rating*																	
	350 kV BIL and Below			450, 550, 650 kV BIL			750 and 825 kV BIL			900 and 1050 kV BIL			1175 kV BIL			1300 kV BIL. and Above		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
57	700																	
58	1000																	
59				700														
60	1500			1000														
61	2000																	
62	2500			1500														
63	3000			2000														
64	4000			2500														
65	5000			3000														
66	6000			4000			3000											
67	7500	6250▲▲		5000	3750▲▲		4000	3125▲▲										
68	10000	7500		6000	5000		5000	3750										
69	12500	9375		7500	6250		6000	5000										
70	15000	12500		10000	7500		7500	6250										
71	20000	16667		12500	9375		10000	7500										
72	25000	20000	20800	15000	12500		12500	9375										
73	30000	26667	25000	20000	16667		15000	12500		12500								
74	40000	33333	33333	25000	20000	20800	20000	16667		15000			12500					
75	50000	40000	41687	30000	26667	25000	25000	20000	20800	20000	16667		15000			12500		
76	60000	53333	50000	40000	33333	33333	30000	26667	25000	25000	20000	20800	20000	16667		15000		
77	80000	66687	66667	50000	40000	41667	40000	33333	33333	30000	26667	25000	25000	20000	20800	20000	16667	
78	100000	80000	83333	60000	53333	50000	50000	40000	41667	40000	33333	33333	30000	26667	25000	25000	20000	20800
79		106667	100000	80000	66667	66667	60000	53333	50000	50000	40000	41667	40000	33333	33333	30000	26667	25000
80		133333	133333	100000	80000	83333	80000	66667	66667	60000	53333	50000	50000	40000	41667	40000	33333	33333
81			166667		106667	100000	100000	80000	83333	80000	66667	66667	60000	53333	50000	50000	40000	41667
82			200000		133333	133333		106867	100000	100000	80000	83333	80000	66667	66667	60000	53333	50000
83			250000			166667		133333	133333		10686	100000	100000	80000	83333	80000	66667	68667
84			300000			200000			166667		13333	133333		106667	100000	100000	80000	83333
85			400000			250000			200000			166667		133333	133333		106667	100000
86						300000			250000			200000			166667		133333	133333
87						400000			300000			250000			200000			168667
88									400000			300000			250000			200000
89												400000			300000			250000
90															400000			300000
91																		400000

Column 1 • Class*ONAN. ONWN and OFWF Rating*
Column 2 • Class* ONAF and ODAF First stage Auxiliary Cooling*t
Column 3 • Straight OFAF Ratings, ONAF * and ODAF * Second stage Auxiliary Cooling*t'
Classes of cooling, see section 5.1 IEEE Std. C57.12-2010

*First- and second stage auxiliary cooling, see section 4 Table 1 of IEEE Std. C57-12-2010
f For column 2 and 3 ratings, the sound levels are with the auxiliary cooling equipment in operation.
tf For intermediate kVA ratings, use the average sound level of the next larger kVA rating.
▲The equivalent two-winding 55ºC or 65ºC rating is defined as one-half the sum of the kVA rating of all windings
▲▲ Sixty-seven decibels for all kVA ratings equal to this or smaller.

Dimensions and Weights

Overall & Shipping Estimated Dimensions:		
Dimension	**Overall Dimensions (Inches)**	**Shipping Dimensions (Inches)**
Width	367	258
Depth	226	131
Height	251	151
Overall & Shipping Estimated Weights:		
Weight of the Unit (Lbs)		**Shipping Weight (Lbs)**
261,000		150,512
Parts Shipped Separately:		

Appendix C – Point Source vs Area Source Analysis

This appendix presents a separate study that was completed by Ramboll previously to compare the methodology of modeling area sources versus point sources. The noise level and equipment used and represented in this appendix does not reflect noise levels or equipment associated with Project Double Reed.

Objectives

This slide deck presents:

- An investigation of two noise modelling approaches for assessments
- Area Sources and Point Sources
- The comparison is based on a generator but could be applied to numerous items of mechanical equipment.

Generator Noise Data

3MW Generator (CAT) Sound Pressure Level @7m (23ft)										
SUMMARY 7 METERS	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
Exhuast Attenuation	69.0	47.5	44.4	49.8	45.5	52.8	26.6	25.5	69.2	dB(A)
Inlet Attenuation	68.4	74.4	67.2	56.2	49.3	56.7	63.6	75.3	78.9	dB(A)
Outlet Attentuation	60.4	69.4	67.2	62.2	62.3	66.7	68.6	76.3	78.6	dB(A)
Enclosure Attenuation	62.7	63.4	62.5	62.4	53.0	48.5	43.4	54.9	69.1	dB(A)
	65.5	68.5	64.3	60.9	56.1	59.6	62.0	71.1		
Overall dBA average	74.8									

Modeling Approach A (Detailed)

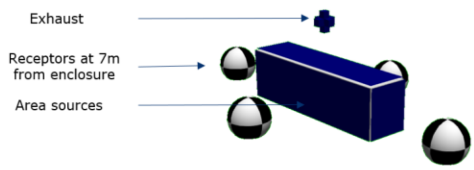
Consider noise emitting from:

- each side of generator enclosure (area sources); and
- generator exhaust (point source)

OR

Modeling Approach B (Simplified)

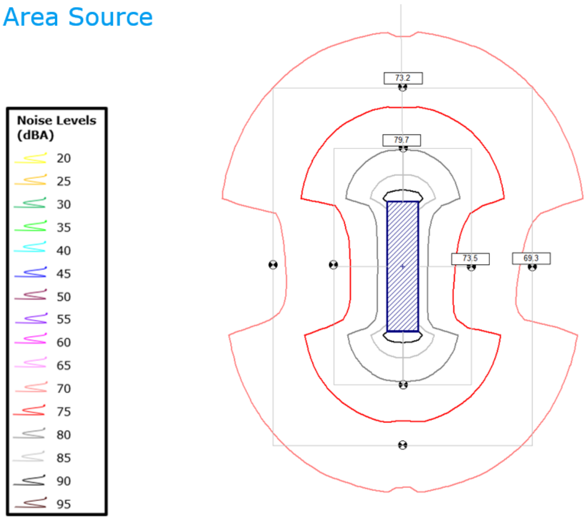
Combine the above sub-sources into one point source



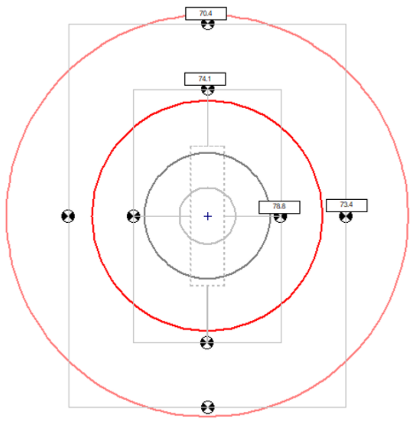
Assumed Typical Enclosure Dimensions:
17m (L) x 4m (W) x 4.9m (H)

Noise Contours in Close Range (23 ft & 50 ft)

Area Source

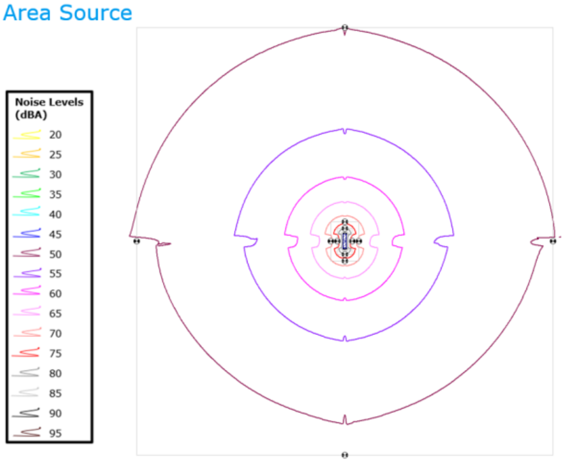


Point Source

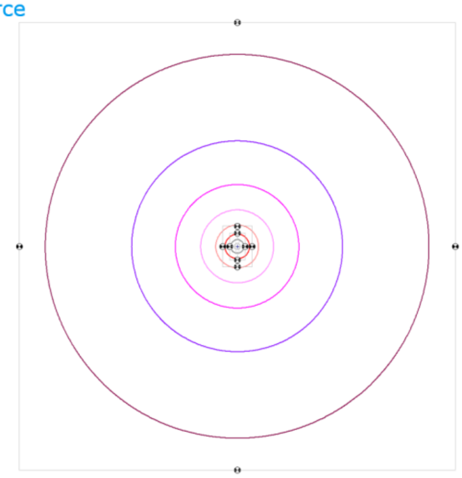


Noise Contours within 820 ft

Area Source



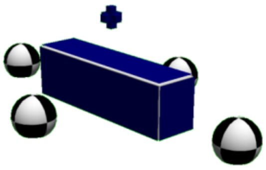
Point Source



Comparison of Noise Levels
Single Generator

A comparison of the average noise level at four receptors on four cardinal directions:

Distance	Area Source, dBA	Point Source, dBA	Difference, dBA
23 ft	77.5	77.0	0.5
50 ft	71.6	72.1	-0.6
100 ft	65.7	66.7	-1.0
200 ft	59.9	60.7	-0.8
400 ft	54.3	54.7	-0.4
600 ft	51.4	51.1	0.4



Assumed Typical Enclosure Dimensions:
17m (L) x 4m (W) x 4.9m (H)

Comparison and Recommendation
Area Source vs. Point Source

Modeling Results

Comparison	Discussion
Single Source	Marginal difference in noise levels at various setback distances
Site	Difference in noise levels within 1 dB at all receptors

Modeling Efficiency

Comparison	Discussion
Modelling Effort	Area sources requires several times more effort to implement in the modeling software than point sources.
Computation Time	Area sources requires more computation time than point sources, especially for larger scale models.

Recommendation: Point Sources

- Marginal difference in noise levels
- Improved modeling efficiency

Appendix D – Noise Source Locations

Figure D1 – Noise Source Location Plan, North Campus, Chillers

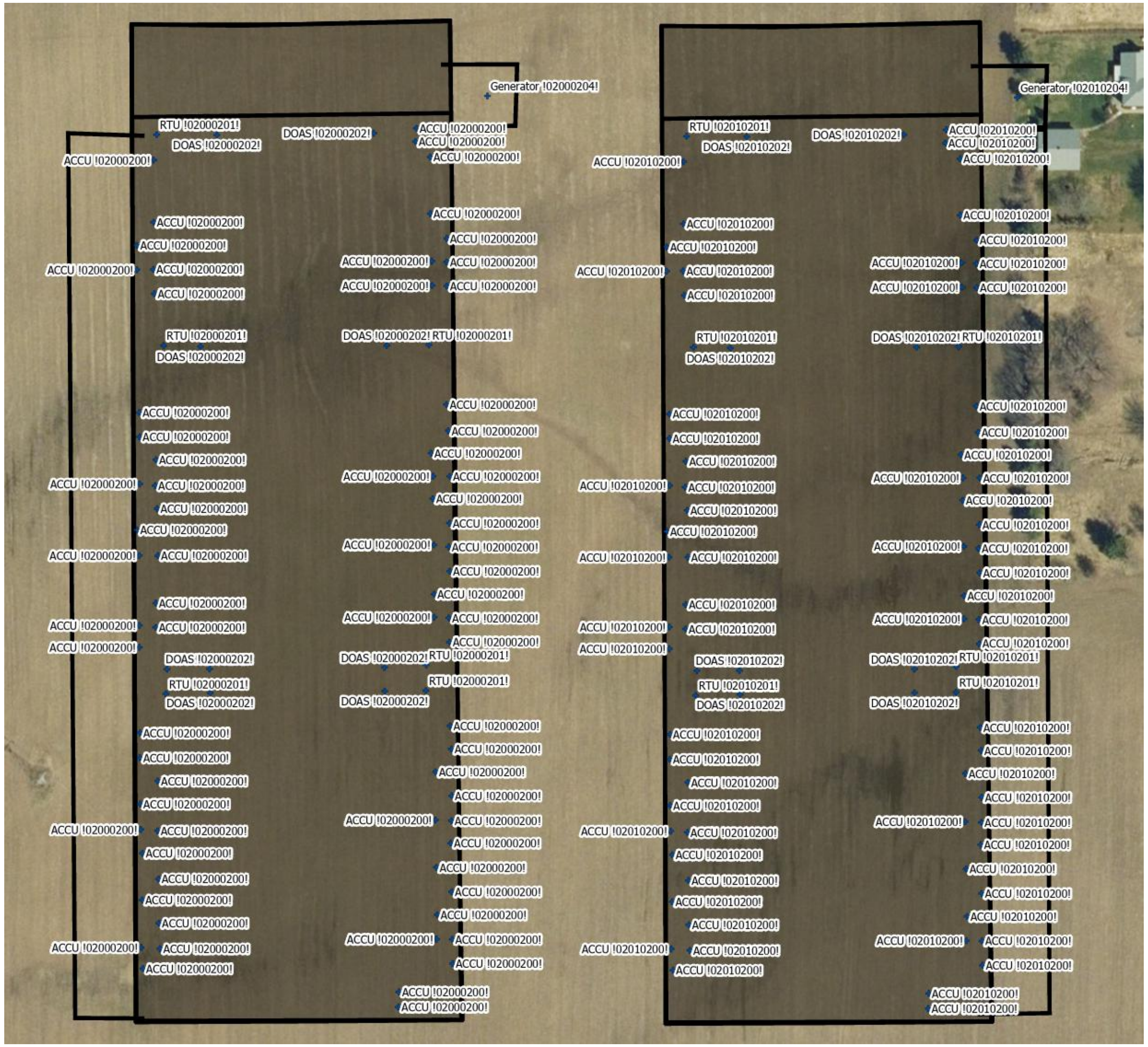


Figure D2 – Noise Source Location Plan, North Campus, Other Rooftop Equipment

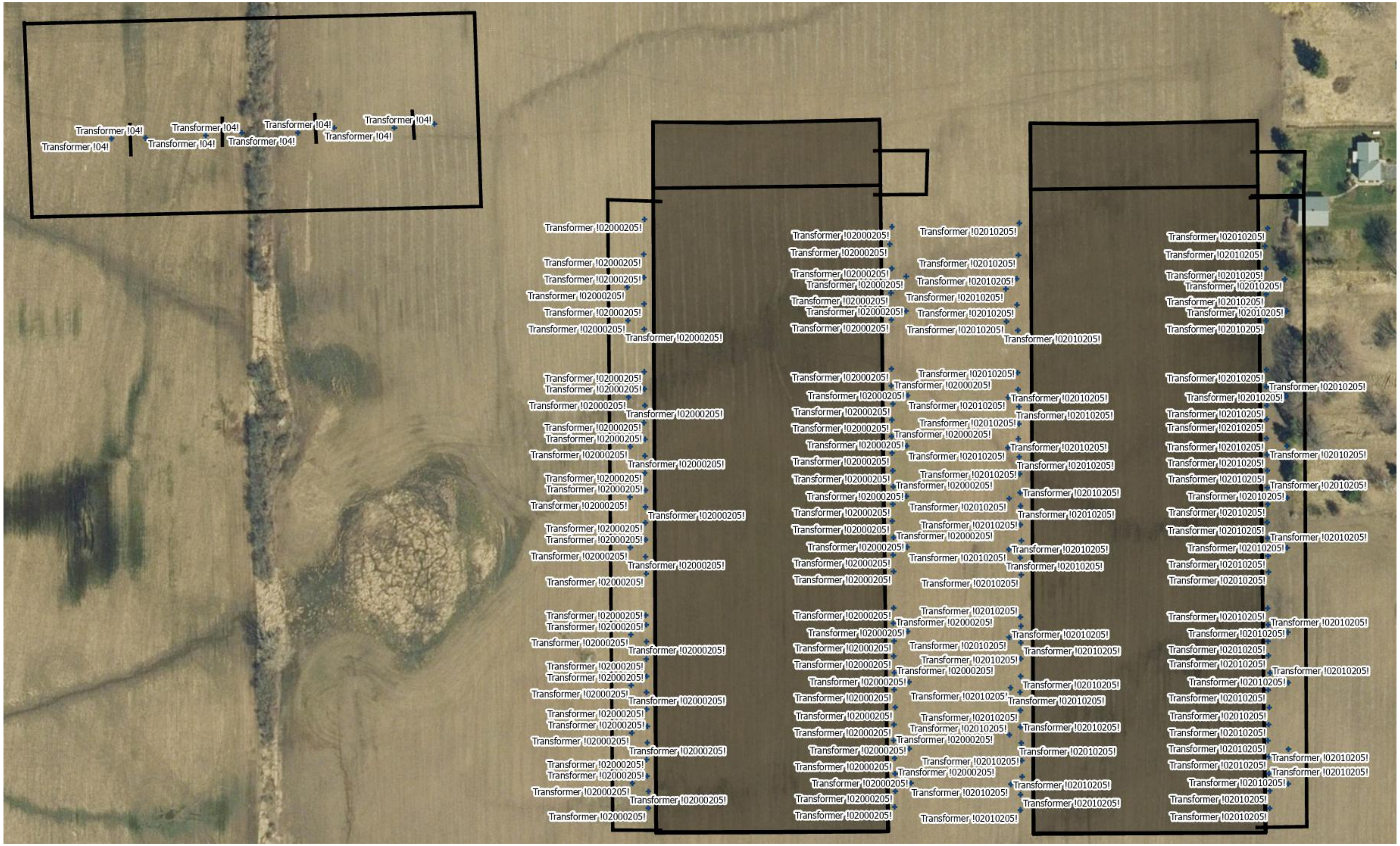


Figure D3 – Noise Source Location Plan, North Campus, Transformers

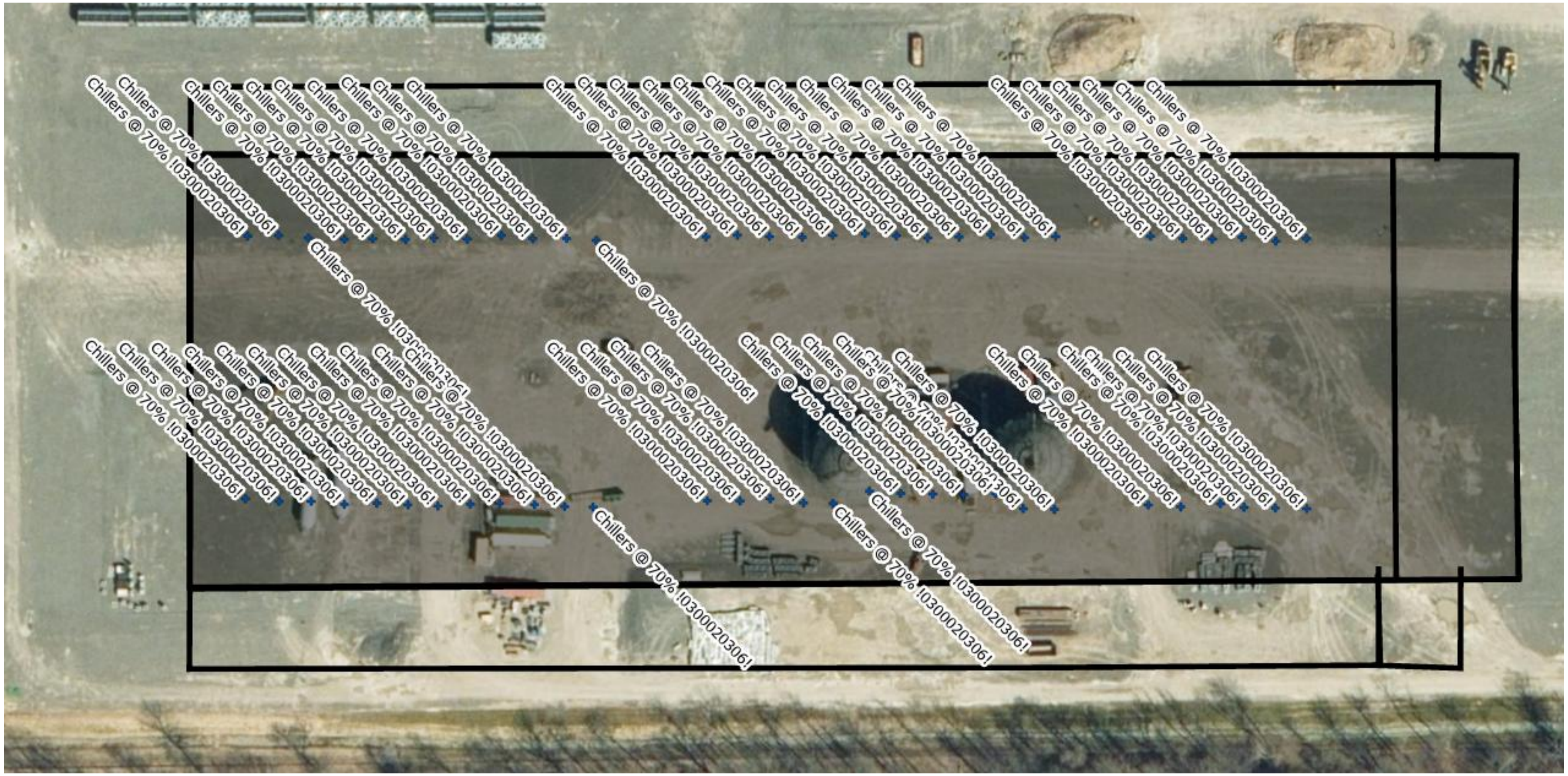


Figure D4 – Noise Source Location Plan, South Campus, Chillers

Figure D5 – Noise Source Location Plan, South Campus, Other Rooftop Equipment

Figure D6 – Noise Source Location Plan, South Campus, Transformers