PL202000166
PL2020-166

CITY OF
BLOOMINGTON
MINNESOTA

DATE: January 6, 2021

TO: City Council

FROM: Michael Centinario, Planner

RE: Update on Case #PL202000166 – Verizon Wireless Expansion at 10801 Bush Lake Road

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The City Council held a public hearing on December 21, 2020 to consider final site and building plans for an approximately 17,000 square foot expansion to an existing Verizon Wireless data center located at 10801 Bush Lake Road. The Planning Commission approved the application on November 19, 2020. Residents appealed the Planning Commission's decision to the City Council.

On December 21, 2020, the City Council heard testimony from residents and the applicant and continued the item to January 11, 2021 requesting additional information and clarification on a range of issues. Because of the complexity of this project, the number of documents provided both by the Applicant and the Appellants, staff created a project page on the city website with all submissions, presentations, past meeting and associated documents.[1] The City Council directed staff to gather more information on the following topic areas:

1) Minnesota Pollution Control Agency (MPCA) regulations, study methodology, and the impact of ambient noise;
2) MPCA investigation into Verizon Wireless facility; and
3) Property value impacts

In addition, staff met with the Verizon Wireless design team to determine if there were additional noise mitigation measures that could be implemented.

Background

Noise is a difficult development externality to address. Invariably, cities have land use transition areas where land use conflicts are more likely. The Verizon Wireless example, stems from an

[1] Project page: https://www.bloomingtonmn.gov/plan/news/information-about-verizon-wireless-expansion-application-2021-01-04

industrial facility located in close proximity to residential land uses. In addition, understanding how sound is measured and regulated is complex.

The MPCA has produced *A Guide to Noise Control in Minnesota* (November 2015), which serves a good resource for understanding noise and corresponding regulations. The guide has been included in the City Council packet and is available at:
https://www.pca.state.mn.us/sites/default/files/p-gen6-01.pdf

The human ear detects a wide range of sounds where the intensity, or loudness, is based on the distance from the source measured in decibels of sound pressure on a logarithmic scale. A doubling of sound energy yields an increase of *three decibels*. For example, if each hypothetical noise source at a factory produces sound that is measured at 70 decibels, one of those noise sources alone would create sound measured at 70 dBA. Turning on a second noise source of 70 decibels would increase sound by 3 dBA to 73 dBA, and doubling again to four noise sources would increase sound levels to 76 dBA. Figure 7[2] illustrates this principle.

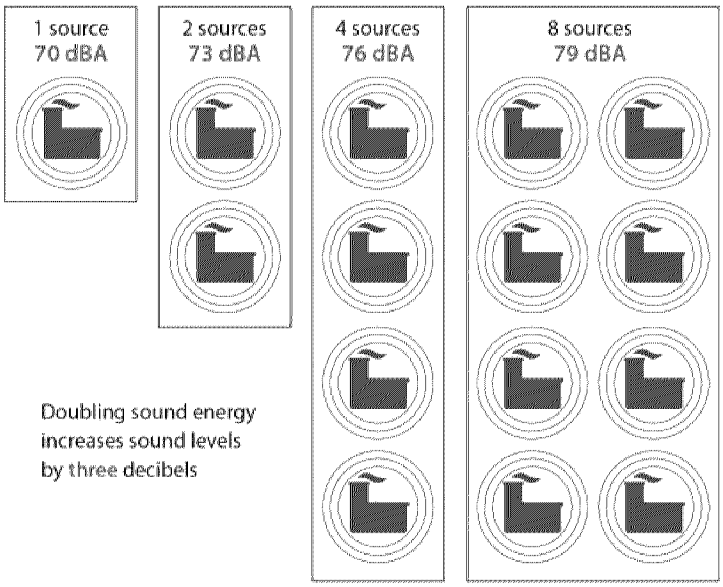

Figure 7. Addition and subtraction of decibel levels

± 1 dBA.....	Not Noticeable
± 3 dBA.....	Threshold of Perception
± 5 dBA.....	Noticeable Change
± 10 dBA.....	Twice (Half) As Loud
± 20 dBA.....	Four Times (One Fourth) As

Figure 5. Change in decibel level and perceived change in loudness

[2] *Guide to Noise Control in Minnesota,* page 11 (November 2015).

In the same way, reducing the number of sources by half will reduce the sound pressure by 3 dBA. Consider the perception of changes in decibel levels (Figure 5)[3] compared to the example of addition or subtraction of sources (Figure 7). Doubling sources yields an increase of 3 dBA, which is a change that is just perceptible to humans. We perceive loudness to be doubled when the intensity of sound increases by a factor of 10 dBA.

Figure 3[4] depicts sound pressure levels (dBA) of common indoor and outdoor noises. Recall the MPCA daytime noise limit for residential is 60 dBA, while the nighttime limit for residential land uses is 50 dBA.

Figure 3 provides a rough estimate of decibel levels of some common noise sources.

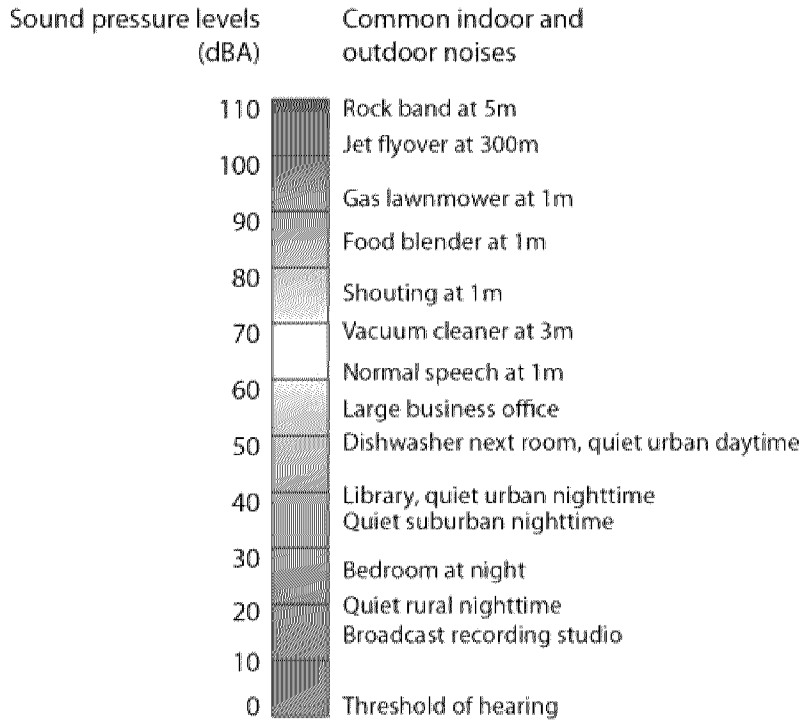

Figure 3. Decibel levels of common noise sources

1) Minnesota Pollution Control Agency – Regulatory Questions

City staff met with MPCA staff on January 4, 2021 to address City Council questions related to MPCA noise standards and noise study methodology guidelines. The principle questions, along with MPCA and City staff's responses, are below. City staff requested the MPCA address whether or not they believed the study was conducted consistent with State guidelines, if a MPCA staff member would be able to attend the City Council meeting, and

[3] *Id.* at Page 9.
[4] *Id.* at Page 8.

how the noise study should address ambient noise. MPCA staff prepared an email response, which has been included in the City Council packet.

a. How do noise standards address ambient noise? Is an entity responsible for noise it did not create?

Property owners are responsible for the noise on their property and cannot be held responsible for noise from sources not on their property (i.e. aircraft in the sky, vehicle traffic on adjacent street/road, etc.). City Code Section 10.29.02 states that "motor vehicles operating on public highways" are specifically excluded. According to Minn. Stat. 116.07.2a, most roads are exempt from Minnesota's state noise rules.

Both City and state noise code requirements (City Code Chapter 10, Article IV and Minnesota Rules, Chapter 7030) are based on limiting the *point source* of sound. The rules set maximum levels for sound generation for each property based on the allowed activities or land use. In order to apply this maximum sound level standard to a point source, measurements must be taken over a period of time to establish a pattern of sound generation. Collecting measurements under ideal weather conditions helps to accurately assess the sound level of that point source minus the background sound from other properties and activities.

Background or ambient noise includes all noise not caused by the source, such as traffic, animals, and voices. Wind is also a major source of noise. MPCA rules are clear that it is preferable to collect measurements when background noise is at its lowest level – nighttime measurements often provide this opportunity. The MPCA Publication *A Guide to Noise Control in Minnesota* provides the following guidance on removing ambient noise from calculations: "when a single noise source is analyzed along with other noise sources, correction factors can be used to isolate the noise source being monitored and calculate its individual noise level" (Page 12).

A property owner is not required to factor in ambient noise such as traffic sounds, airport noise, or the noise generated by other nearby facilities.[5] Ambient noise levels are calculated out using correction factors to find the noise level of the single noise source. If an entity were held responsible for ambient noise in areas where ambient noise is already above the standard, no additional development could take place.

b. Temperature is a required data point for observation, but there is no guidance in the Minnesota Rules. Does temperature matter for meeting the state noise standards?

Temperature and humidity should be within equipment specifications. MPCA standards speak to wind speed or rain conditions because they create ambient noise. Neither the Minnesota Rules nor the MPCA Guide to Noise Control specifically address temperature conditions or the impact that temperature may have on noise.

[5] Minnesota Pollution Control Agency, *A Guide to Noise Control in Minnesota,* pg. 11 (November 2015).

The noisiest components of the facility are at their peak levels during the hottest months so the noise is actually greater then. But during the summer months there is additional ambient noise that may filter out the noise from the Verizon facility. While sound travels further in the colder months there is no information to indicate non-compliance. The City's daytime monitoring at locations across the street to the north and to the southwest of Verizon was below the state's residential threshold of 60 dBA when excluding traffic noise.

c. It is our understanding that generator noise does not need to factor into as built or modeled noise analysis because in this case the facility may be exempt as essential infrastructure (cellphone communications), is this correct?

The MPCA's noise standards do not address emergency-use generators. The MPCA received information about the generators and determined that an air emissions permit is not required. MPCA's standard requires that certain procedures be used to "obtain representative sound level measurements." City staff believes that as essential infrastructure, emergency generators are exempt from noise regulations during periods of emergency use.

d. What emissions standards apply to the existing and proposed Verizon equipment?

Based on the MPCA's review, emissions monitoring is not required because the facility does not surpass thresholds requiring an Air Emissions Permit. That said, Verizon Wireless must maintain compliance with State and Federal air quality requirements. The MPCA's website has additional resources related to air quality: https://www.pca.state.mn.us/air/air-permits.

2) On December 21st, a member of the public referenced a MPCA investigation. What is the nature and status of the investigation?

The MPCA inquiry pertained to whether or not an Air Emission Permit is required for the diesel generators. MPCA collected information from Verizon Wireless regarding the existing and proposed emergency generators. After reviewing that information, MPCA determined the Verizon Wireless facility *did not need* an Air Emissions Permit.

The MPCA enforces noise standards only at facilities when an Air Emissions Permit is required. Since none is required, the MPCA relies on local municipalities for enforcement. The MPCA's website has additional resources related to air quality: https://www.pca.state.mn.us/air/business-and-industry. Verizon Wireless has not provided summary data reflecting its submission to the MPCA.

3) How have values for residential property near the Verizon site changed in recent years relative to comparable areas with lower noise levels?

City Assessing staff analyzed properties to the north and southwest of the Verizon Wireless facility relative to comparable areas within the City. Details of that analysis have been included in the City Council packet. Assessing staff found that the sixteen single family homes closest to the Verizon site to the north (Research Area A) saw an average value increase of 30.6% from 2015 to 2020. Two comparable areas also adjacent to Old Shakopee Road and across from industrial land uses, but not exposed to the noise characteristics of the Verizon Wireless site, were analyzed. Comparison Area A1 saw an average value increase over the same period of 34.2% while Comparison Area A2 saw an average value increase of 27.0%.

Assessing staff found that the twelve townhomes closest to the Verizon site to the southwest (Research Area B) saw an average value increase of 40.2% from 2015 to 2020. Two comparable areas also adjacent to similarly trafficked roads and across from non-residential land uses, but not exposed to the noise characteristics of the Verizon Wireless site, were analyzed. Comparison Area B1 saw an average value increase over the same period of 27.0% while Comparison Area B2 saw an average value increase of 42.6%.

Value changes can be due to a variety of factors and it is difficult to control for every factor outside of noise exposure to perfectly isolate that one factor. Moreover, recent years have been seller's markets for both single family homes and townhomes. Assessing has found that exposure to undesirable characteristics can have less of an impact on values in a seller's market than in a buyer's market. With those caveats, the analysis conducted did not demonstrate evidence of negative value impacts near the Verizon Wireless facility.

Discussion with Verizon Wireless

On December 31, 2020, City staff met with the applicants to discuss outstanding questions from the December 21st City Council meeting. Included in the City Council packet is a presentation prepared by the applicant. The applicant's acoustics engineer will be prepared to provide more a more in-depth summary of the noise study, the methodology used, and their conclusions in response to Council questions from the December 21st meeting. Also included in the packet is generator specifications and photos from recent installations at another Verizon location.

Staff asked what additional noise mitigation measures could be implemented to reduce noise to surrounding residential properties. The applicants stated they are reviewing alternatives, but did not identify specific improvements. They reiterated they are committed to compliance with MPCA standards and believe their current proposal meets the requirements.

During public testimony, commenters questioned the legitimacy of the noise study because it was produced by a firm hired by the applicant's architect. The applicant's engineer intends to

address this question during their presentation in part by detailing their qualifications and experience.

From a City Code perspective, staff has the ability to require additional studies such as noise or traffic studies, if necessary to conduct a thorough review. The applicant is responsible for the cost of that study, but chooses their consultant. There is no current City Code process, other than for parking studies, that requires the applicant to pay for an independent third-party to conduct the special study.

Recommendation

The Planning Commission approved the application on November 19, 2020 subject to conditions. That approval has been appealed to the City Council. Staff recommends approval of the application. The following is a draft motion for the Council's use:

Motion by _____, seconded by _____ to continue the item to the January 25, 2021 City Council meeting and direct staff to prepare a resolution _____ (approving/denying) an approximately 17,000 square foot building addition to an existing data center facility located at 10801 Bush Lake Road, subject to the conditions and Code requirements attached to the staff report.