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APPENDIX K

Floodplain Blockage Review

NorthTown Data Center

Floodplain Blockage Review

Prepared for

David J. Powers & Associates
1871 The Alameda, Suite 200
San Jose, CA 95126

March 31, 2025

This report has been prepared under the direct supervision of the undersigned, who hereby certifies that he is a Registered Professional Engineer in the State of California.

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
4699 Old Ironsides Drive, Suite 350
Santa Clara, California 95054-1860

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1. Introduction

The NorthTown Data Center project includes two data halls, DC West and DC North, each with a planned capacity of 36 MW. The site also includes a substation, a PG&E switching yard, and supporting mechanical areas. These components are located on the southwest side of the intersection of West Trimble Road and Orchard Parkway.

Development in this area is subject to the North San Jose Floodplain Management Policy 2006 Update. The policy sets finished floor elevations for new development based on allowable site blockage, measured as a percentage of site width perpendicular to flood flow. The site includes both 75 percent and 100 percent allowable blockage zones, as mapped by the city. DC West lies within the 100 percent allowable blockage area and is not included in this review.

2. Existing Flood Hazards

North San Jose lies between the Guadalupe River and Coyote Creek, north of U.S. Highway 101 (Bayshore Freeway). The NorthTown Data Center site is prone to flooding during extreme stormwater runoff events. The North San Jose Floodplain Policy was established to set safe building elevations and reduce the potential for extensive damage during flood events.

2.1. Regulatory Setting

A variety of federal, state, and local laws and regulations pertaining to flood hazard mitigation ultimately impact planning and development on the NorthTown Data Center site. This regulatory framework is presented in more detail herein.

2.1.1. National Flood Insurance Program

To mitigate the costs of flood disaster relief, the U.S. Congress passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. These acts were meant to reduce the need for large, publicly funded flood control structures and disaster relief by restricting development on floodplains. The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. As part of the NFIP, FEMA publishes Flood Insurance Rate Maps (FIRMs) that identify flood hazard zones within a community. The extent of the FEMA-designated floodplain at the site is discussed subsequently.

2.1.2. City of San Jose North San Jose Floodplain Management Policy

Development in the North San Jose area must conform to the City's floodplain management ordinance (Chapter 17.08 of the San Jose Municipal Code). The ordinance is required for the City to participate in the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA). The floodplain ordinance requires all new construction or substantial improvement of existing structures to have lowest finished floor elevations above the existing 100-year flood elevation shown on the Flood Insurance Rate Maps.

The City has a special floodplain management policy for the North San Jose area that considers the effects of new development on the freshwater overflows from Coyote Creek and Guadalupe River. The policy was

based on the 1987 Floodplain Management Study and on the estimated 100-year flood conditions with overflows from Coyote Creek and the Guadalupe River. The policy required new construction in most of the North San Jose area to consider an additional constraint to allow shallow flooding to cross the property after development. This generally required maintaining parking and open space areas for flood conveyance. To balance the impact of development on the water surface elevation, each site was restricted to allow buildings or fill on only a predefined percentage of the available property, as measured along a cross-section perpendicular to the direction of the sheet flow across the site.

When site blockage exceeded the predefined criteria, developers were required to provide engineering studies to document the potential impact of their project.

Coyote Creek improvements from San Francisco Bay to Montague Expressway and the Lower Guadalupe River Project significantly reduced the potential for flood overflows in North San Jose and the Floodplain Management Study was updated in 2006 to reflect the reduction in flood risk. The updated study provided revised site blockage criteria and a base flood elevation map based on those criteria.

2.2. Effective Flood Insurance Rate Map

The primary source of flooding within the identified study area is local residual interior runoff from the surrounding commercial area. Flood hazards within the NorthTown Data Center site vicinity are shown on Flood Insurance Rate Map (FIRM) Panels 06085C0064H (5/18/09) and 06085C 0068J (2/19/14), which are reproduced as Figure 2. There is no regulatory floodway, and a substantial portion of the site is shown mapped as Zone AH, which indicates a Special Flood Hazard Area of 100-year flooding established using detailed methods.

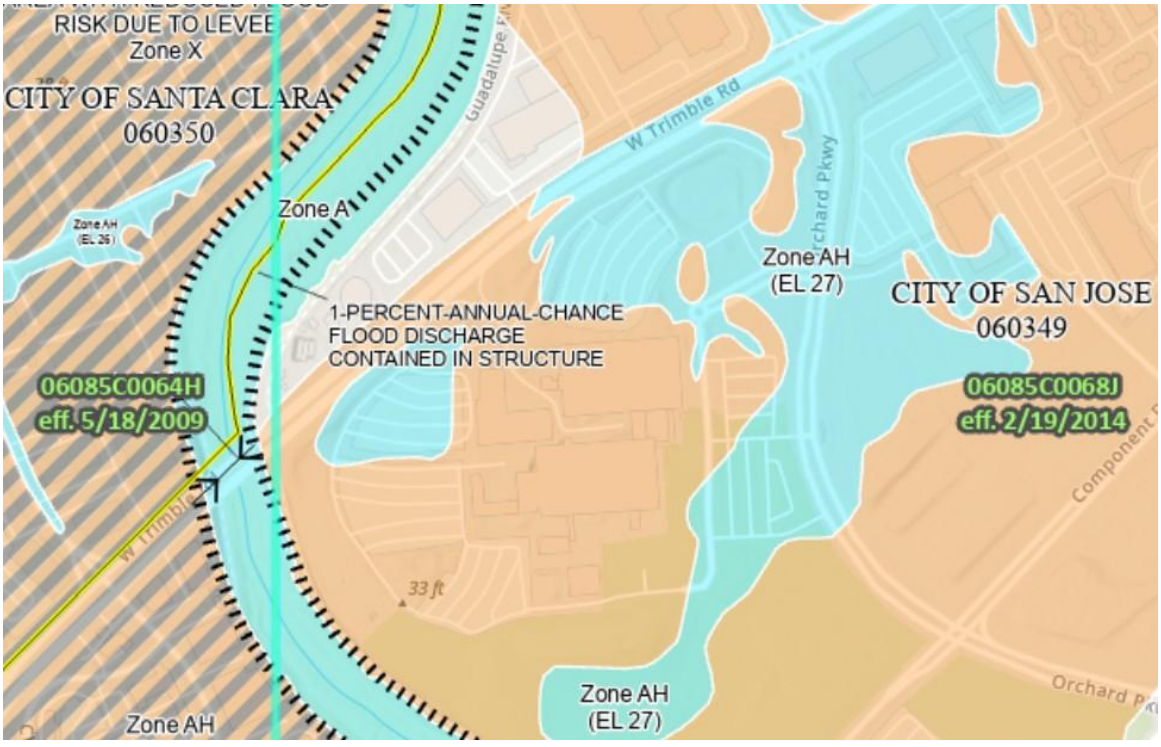


FIGURE 1. SPECIAL FLOOD HAZARD AREAS AT NORTHTOWN DATA CENTER

2.3. North San Jose Flood Management Study Mapping

Potential flood blockage conditions were analyzed in 2006 using a one-dimensional steady state flow model. Model cross sections were adjusted to allow unrestricted flow in all existing public street right of ways, based on existing ground elevations. Private property outside the street right of way were adjusted to match the existing sidewalk elevations, then the percentage of blockage on each major private land area was adjusted to reflect the floodplain management policy. The resulting water surface elevations were evaluated based on whether the policy would result in water surface elevations significantly above the estimated water surface elevations from the FEMA FIRM. A significant change was an estimated increase of more than 0.2 foot at any location. This value was selected because it is close to the accuracy of the topographic information and the hydraulic calculations.

This blockage criteria and base flood elevation map is excerpted herein as Figure 2.

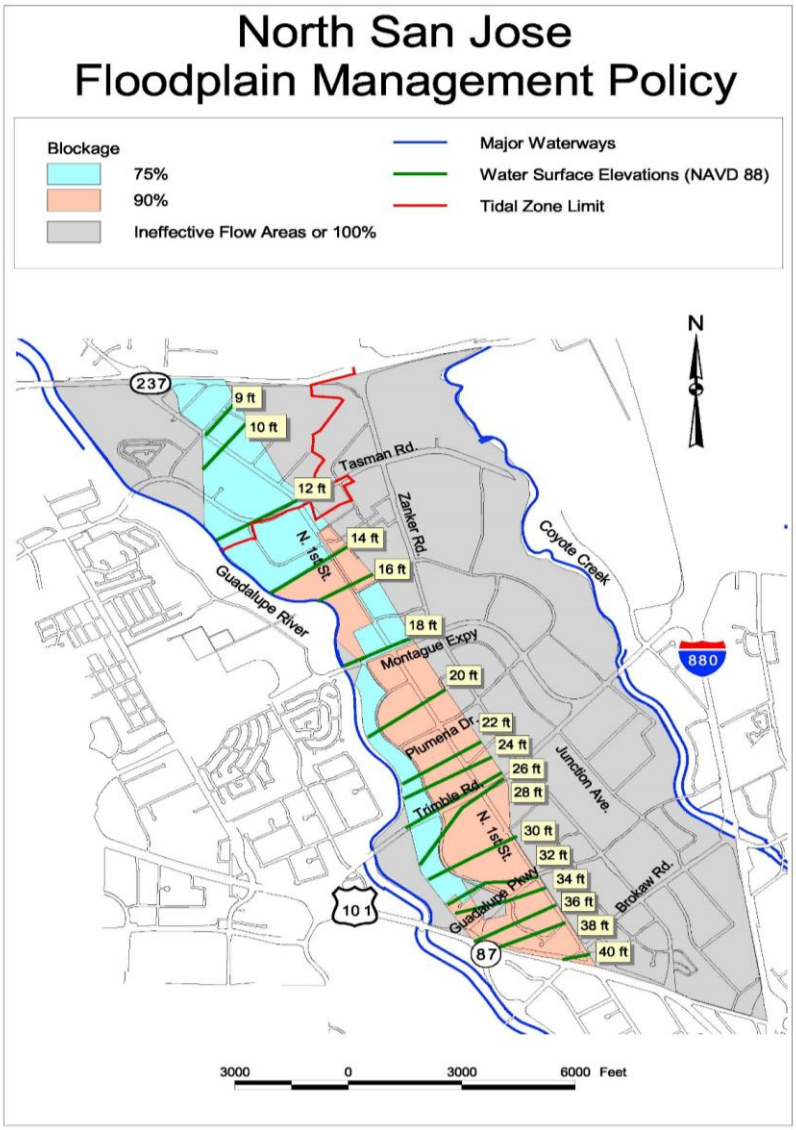


FIGURE 2. NORTH SAN JOSE FLOODPLAIN POLICY MAP

3. Site Blockage as Proposed

Figure 2 shows how site blockage is typically calculated. Flood flows generally move parallel to North First Street, and cross-sections taken perpendicular to that flow help identify where the water would be most constricted by the new building. Based on the plans provided by HMH on February 2, 2025, the maximum site blockage is estimated at 75 percent. This meets the 75 percent allowable blockage criterion applicable to the site location (Figure 1). The hatched portion of the site was not included in the analysis shown below due to lack of information, however extending blockage cross sections assuming existing building footprints are blocked did not result in any sections exceeding the 75% blockage criteria.

DC West, shown on the west end of the project, was not reviewed, as it lies within an area of ineffective flow.

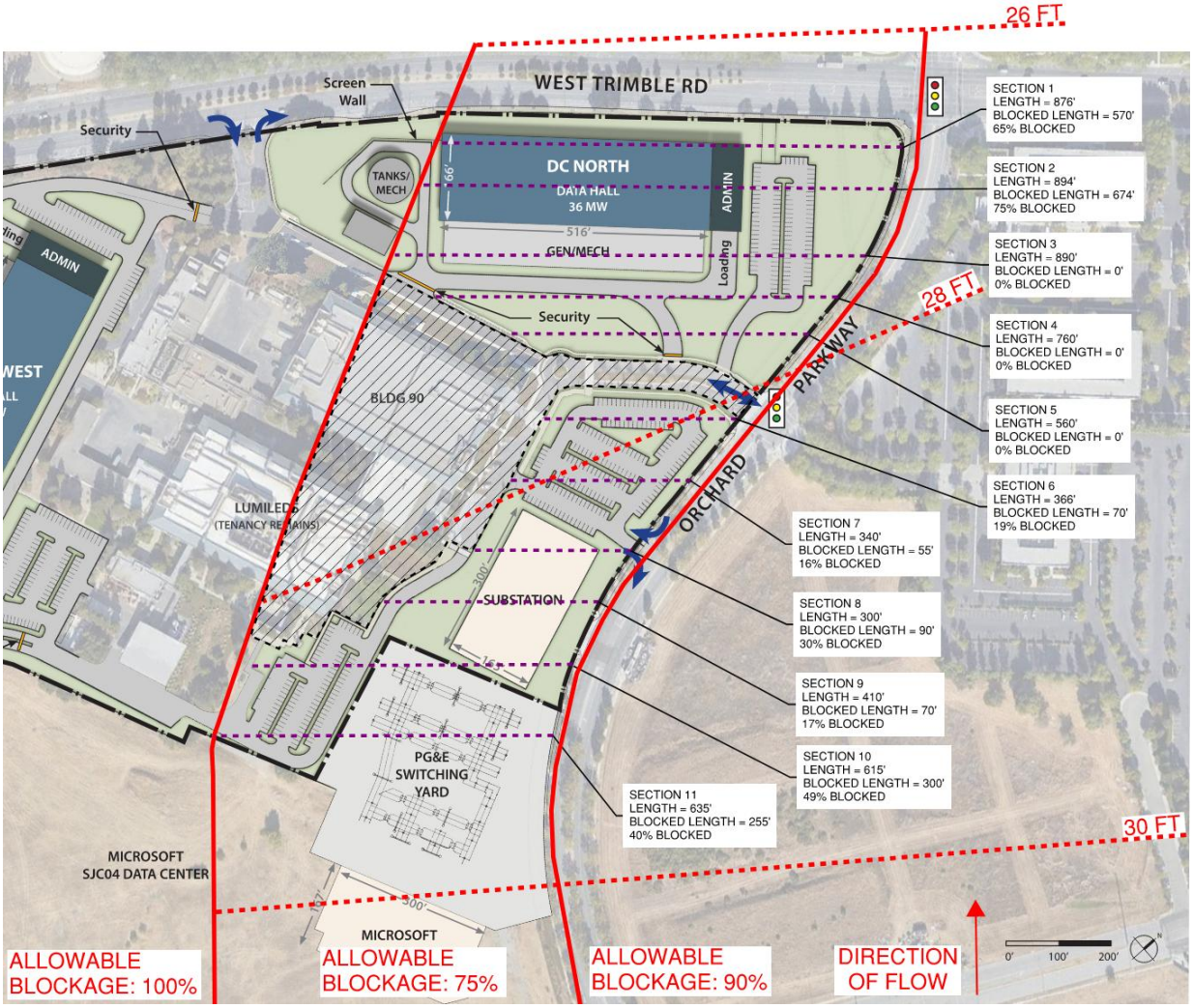


FIGURE 3: SITE BLOCKAGE CALCULATED PER NORTH SAN JOSE FLOOD MANAGEMENT POLICY

4. Conclusion

The proposed NorthTown Data Center site plan results in a maximum site blockage of 75 percent near the DC north building. This meets the 75 percent maximum allowable blockage established by the North San Jose Floodplain Management Policy. Based on this analysis, the proposed development complies with the blockage criteria set for this location.

APPENDIX L

Flood Conditions Memorandum

March 20, 2025

Anthony Calderone
LBA Realty
160 W Santa Clara Street, Suite 950
San Jose CA 95113

Re: Flood Conditions for NorthTown Data Center Site (330 W Trimble Road, San Jose CA)

Mr. Calderone,

The purpose of this letter is to describe the various floodplain encumbrances on the NorthTown Data Center Site located at 330 W Trimble Road in San Jose, CA, and to provide a narrative of the approach that was used to design for potential flooding of the site.

A portion of the site is within FEMA Flood Zone AH, with a base flood elevation of 27' based on the North American Vertical Datum of 1988 (NAVD88). The rest of the site is within FEMA Zone X, which is defined as "areas of 0.2% annual flood hazard", which represents a minimal flood risk. Refer to the FEMA flood map in Appendix A for the exact limits of these flood zones.

In addition to FEMA's flood maps, the City of San Jose has independently performed their own flood risk analysis for the area of the City in which the NorthTown project is located. This study is known as the North San Jose Floodplain Management Policy (NSJFMP). The NSJFMP specifies 100-year flood levels, which vary between 26' and 28' NAVD88 for the proposed building locations. These flood elevations are higher than the elevation specified by FEMA, so the NSJFMP flood elevations govern for the site design. Refer to Appendix B for the NSJFMP map of flood elevations. The finish floor elevations of the two proposed data center buildings are 29.0 and 30.25, respectively. This means that the buildings will be elevated above the 100-year floodplain, with at least one foot of freeboard. Site equipment will also be elevated to at least 29.0 as well.

In addition to specifying 100-year flood elevations, the NSJFMP also specifies that new development projects must provide an unobstructed flood conveyance path parallel to North 1st Street, which is the direction that floodwater will take through this region. According to the NSJFMP map in Appendix B, the Eastern half of the site is subject to flood conveyance requirements. According to this map, the allowed blockage is 75%, meaning that 25% of the Eastern portion of the site must be designed for conveyance of shallow surface water.

Refer to Appendix C for an analysis of the flood conveyance path based on the proposed grading design of the NorthTown site. It is important to note that the flood conveyance path is not the same as the area of the site that will be inundated by floodwater at the 100-year elevation. Instead, per NSJFMP, the flood conveyance path is defined as the portion of the site where the finished grade is equal to or below the existing sidewalk elevation along Orchard Parkway in a section through the site perpendicular to North 1st Street. This represents the

areas of the site that shallow surface waters will generally pass through before the flood water elevation exceeds the existing sidewalk elevation.

In summary, the site grading and building elevations will be sufficiently elevated above the FEMA flood elevation, and the more restrictive NSJFMP flood elevation. The site grading is also designed in a way that complies with the NSJFMP conveyance requirements.

Sincerely,

HMH

Jeff Williams, PE
Civil Engineering Manager

Appendix A
FEMA Flood Map

National Flood Hazard Layer FIRMette

FEMA

121°56'10"W 37°23'1"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

121°55'33"W 37°22'33"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/30/2024 at 9:40 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix B
North San Jose Floodplain Management Policy Map

North San Jose
Floodplain Management Policy

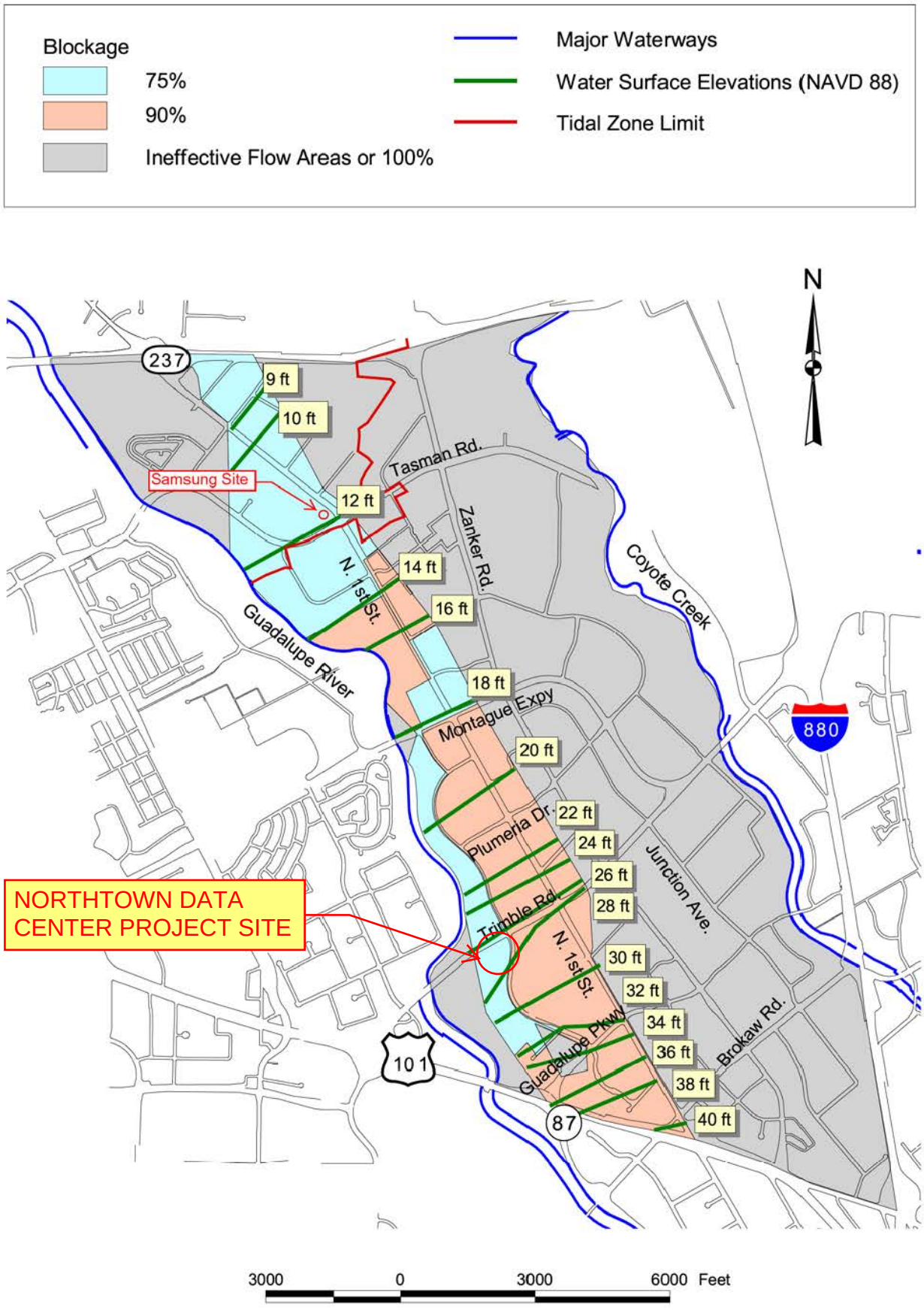
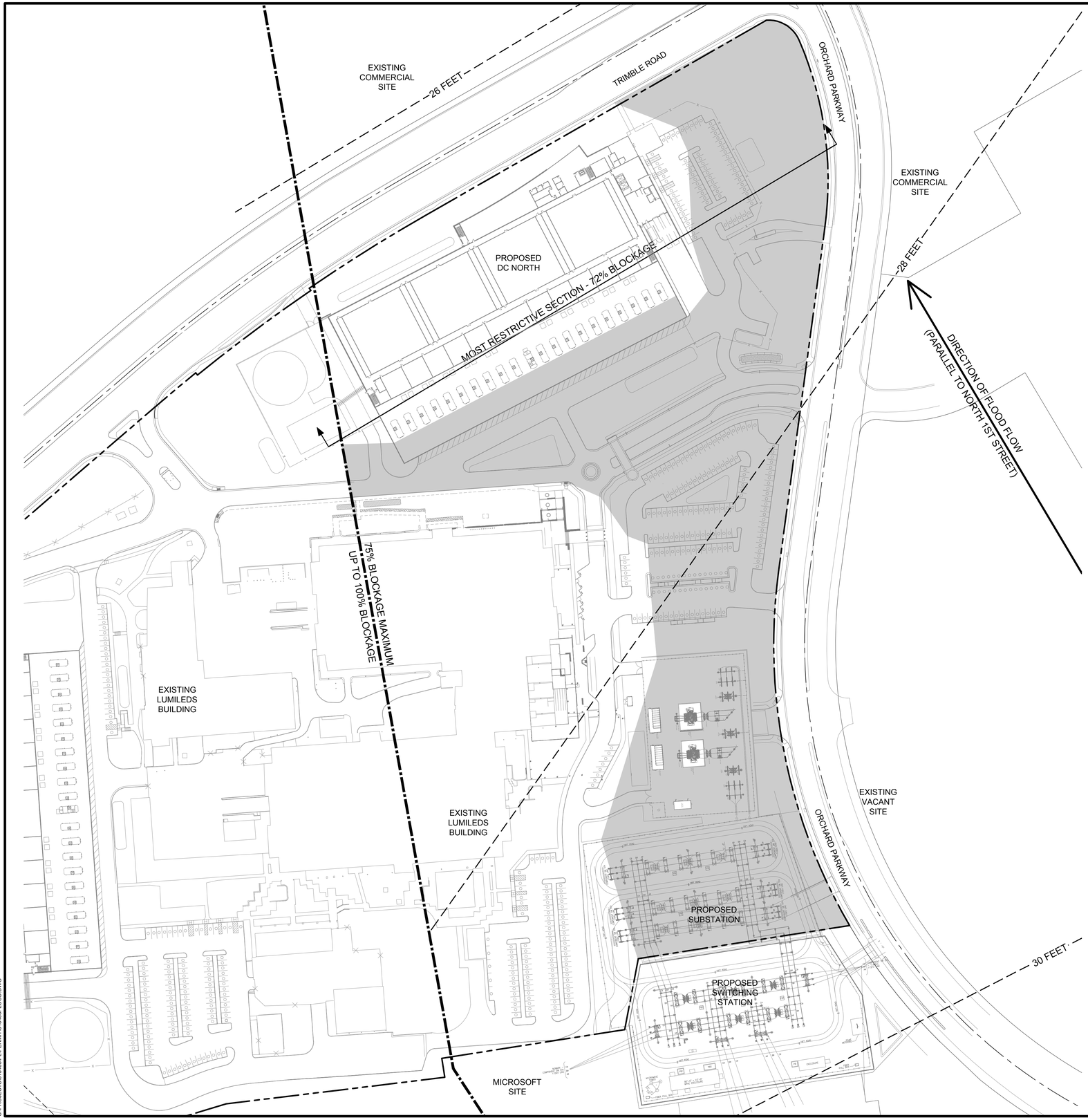


FIGURE 1

Appendix C
NorthTown Site Flood Conveyance Analysis



North San Jose Floodplain Management Policy

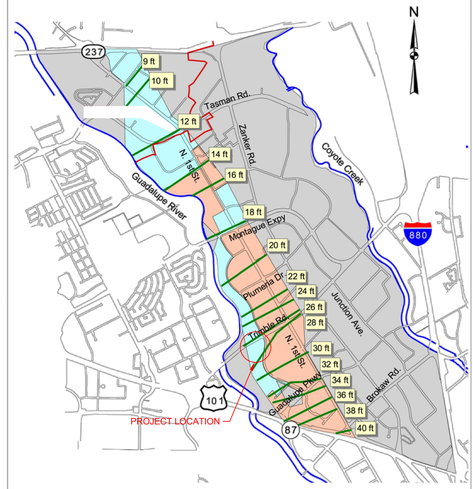


FIGURE 1

LEGEND

- PROJECT BOUNDARY
- STREET CENTERLINE
- NORTH SAN JOSE FLOODPLAIN MANAGEMENT STUDY BOUNDARY
- FLOOD CONVEYANCE PATH
- NORTH SAN JOSE FLOODPLAIN MANAGEMENT STUDY FLOOD ELEVATION CONTOUR

NOTES

1. THE SITE IS PARTIALLY WITHIN FEMA FLOOD ZONE AH WITH A BASE FLOOD ELEVATION OF 27'. THE NORTH SAN JOSE FLOODPLAIN MANAGEMENT POLICY (NSJFMP) GIVES FLOOD ELEVATIONS FOR THE SITE RANGING BETWEEN 28' AND 30', SO THE NSJFMP ELEVATIONS GOVERN FOR THE SITE.
2. FENCES WITHIN THE FLOOD CONVEYANCE PATH WILL ALLOW WATER TO PASS THROUGH (FOR EXAMPLE CHAIN LINK FENCES), OR WILL HAVE A 12" MINIMUM GAP AT THE BOTTOM TO ALLOW FLOOD WATERS TO PASS UNDERNEATH.
3. "BLOCKED" REFERS TO ANY PORTION OF THE SITE THAT ARE BLOCKED BY BUILDINGS, EQUIPMENT, OR OTHER SITE FEATURES, OR HAVE AN ELEVATION HIGHER THAN THE EXISTING ORCHARD PARKWAY BACK OF WALK WHEN A SECTION THROUGH THE SITE IS TAKEN PERPENDICULAR TO NORTH FIRST STREET.
4. THE FLOOD CONVEYANCE PATH SHOWN IS THE SITE AREA THAT CAN BE CONSIDERED UNOBSTRUCTED BASED ON THE DEFINITIONS IN THE PREVIOUS NOTES.
5. DEFINITION OF BLOCKAGE OF THE FLOOD CONVEYANCE PATH IS BASED ON THE NORTH SAN JOSE FLOODPLAIN MANAGEMENT POLICY DATED SEPTEMBER, 2006.

0 40 80 160

1 INCH = 80 FEET

HMH
Land Use Entitlements
Land Planning
Landscape Architecture
Civil Engineering
Utility Design
Land Surveying
Stormwater Compliance
1570 Oakland Road (408) 487-2200
San Jose, CA 95131 HMHca.com

NorthTown Data Center

Trimble Road

PERMIT TYPE TBD

PERMIT NUMBER TBD

NO	DATE	DESCRIPTION

PROJECT NO:	5154.08
CAD DWG FILE:	515408FLOOD.DWG
DESIGNED BY:	JW
DRAWN BY:	NL/SM/JM/DW
CHECKED BY:	JW
DATE:	02/21/2025
SCALE:	1" = 80'

FLOOD ANALYSIS

C4.0

OF XX

S:\PROJECTS\5154\PLI\PERMIT\5154PFLOOD.DWG

PLOTTED: 2/28/2025 8:18 AM

APPENDIX M

Noise and Vibration Assessment

NORTHTOWN DATA CENTER PROJECT NOISE AND VIBRATION ASSESSMENT

San Jose, California

June 11, 2025

Prepared for:

Mimi McNamara
Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San José, CA 95126

Prepared by:

Adwait Ambaskar and
Michael S. Thill

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 East Cotati Avenue
Cotati, CA 94931
(707) 794-0400

Project: 25-024

INTRODUCTION

The Project consists of the NorthTown Backup Generating Facility (NTBGF), which will include a total of 42 diesel-fired generators that will be used exclusively to provide up to 97.3 megawatt (MW) of backup emergency generation to support the NorthTown Data Center (NTDC). The NTDC will consist of two data center buildings designated DC North and DC West. These buildings would be located within an existing developed property associated with 350 and 370 West Trimble Road in San José, California.

Of the 42 total generators, two of the generators will each have a generating capacity of up to 1.75 MW and the remaining 40 generators will each have a generating capacity of 3 MW. Of those 40 generators rated 3 MW, eight will be redundant. The generators will be arranged in two generation yards located adjacent to each data center building (DC North and DC West). All 40 of the 3-MW generators would be dedicated to replacing the electricity needs of the data center in case of a loss of utility power, while the two 1.75-MW generators would be used to support general office loads along with building and life safety services (i.e., house generators).

This report evaluates the project's potential to result in significant noise and vibration impacts with respect to applicable California Environmental Quality Act (CEQA) guidelines. The report is divided into two sections: 1) the Setting Section provides a brief description of the fundamentals of environmental noise and groundborne vibration, summarizes applicable regulatory background, and describes the existing ambient noise environment at the project site; and 2) the Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents measures, where necessary, to mitigate the impacts of the project on sensitive receptors in the vicinity.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its

intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA).* This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level* (*CNEL*) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level* (L_{dn} or *DNL*) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noises of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA DNL. Typically, the highest steady traffic noise level during the daytime is about equal to the DNL and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling.[1] Sleep and speech interference is therefore possible when exterior noise levels

[1] Based on the U.S. Department of Transportation Federal Highway Administration document "Highway Traffic Noise: Analysis and Abatement Guidance" (2010) and data from Illingworth & Rodkin, Inc. noise monitoring projects.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

are about 57 to 62 dBA DNL with open windows and 65 to 70 dBA DNL if the windows are closed. Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical value for a primary/major arterial. Levels of 75 to 80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed; those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The DNL as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 50 dBA DNL. At a DNL of about 60 dBA, approximately 12 percent of the population is highly annoyed. When the DNL increases to 70 dBA, the percentage of the population highly annoyed increases to about 25 to 30 percent of the population. There is, therefore, an increase of about 2 percent per dBA between a DNL of 60 to 70 dBA. Between a DNL of 70 to 80 dBA, each decibel increase increases by about 3 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the DNL is 60 dBA, approximately 30 to 35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 3 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 4 percent increase in the percentage of the population highly annoyed.[2]

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous or frequent intermittent vibration levels produce. The guidelines in Table 3 represent syntheses of vibration criteria for human response and potential damage to buildings resulting from construction vibration.

[2] Kryter, Karl D. The Effects of Noise on Man. Menlo Park, Academic Press, Inc., 1985.

TABLE 3 Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to cause damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as paint flaking or minimal extension of cracks in building surfaces; minor, including limited surface cracking; or major, that may threaten the structural integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher. The damage criteria presented in Table 3 include several categories for ancient, fragile, and historic structures, the types of structures most at risk to damage. Most buildings are included within the categories ranging from “Historic and some old buildings” to “Modern industrial/commercial buildings”. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

Regulatory Background - Noise

Regulatory criteria established by Federal, State, and local governmental agencies are used to assess the potential significance of noise and vibration impacts attributable to the construction and operation of the project. A summary of the applicable regulatory criteria is provided below:

Federal Transit Administration. The Federal Transit Administration (FTA) has identified construction noise thresholds in the *Transit Noise and Vibration Impact Assessment Manual*,[3] which limit daytime construction noise to 80 dBA L_{eq} at residential land uses, 85 dBA L_{eq} at commercial land uses, and 90 dBA L_{eq} at industrial land uses.

State CEQA Guidelines. CEQA contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. Under CEQA, noise impacts would be considered significant if the project would result in:

(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local General Plan or Noise Ordinance, or applicable standards of other agencies;

(b) Generation of excessive groundborne vibration or groundborne noise levels; or

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

City of San José General Plan. The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies with the goal of minimizing the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies in the City of San José. The following policies are applicable to the proposed project:

EC-1.6 Regulate the effects of operational noise from existing and new industrial and commercial development on adjacent uses through noise standards in the City's Municipal Code.

EC-1.7 Require construction operations within San José to use best available noise suppression devices and techniques and limit construction hours near residential

[3] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018.

uses per the City's Municipal Code. The City considers significant construction noise impacts to occur if a project located within 500 feet of residential uses or 200 feet of commercial or office uses would:

- Involve substantial noise generating activities (such as building demolition, grading, excavation, pile driving, use of impact equipment, or building framing) continuing for more than 12 months.

For such large or complex projects, a construction noise logistics plan that specifies hours of construction, noise and vibration minimization measures, posting or notification of construction schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints will be required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses.

City of San José Municipal Code. The City's Municipal Code contains a Zoning Ordinance that limits noise levels at adjacent properties. Chapter 20.50.300 states that sound pressure levels generated by any use or combination of uses on a property zoned for industrial use shall not exceed 55 dBA at any property line shared with land zoned for residential purposes, 60 dBA at any property line shared with land zoned for commercial purposes, and 70 dBA at any property line shared with land zoned for industrial or use other than commercial or residential purposes, except upon issuance and in compliance with a Conditional Use Permit. The code is not explicit in terms of the acoustical descriptor associated with the noise level limit.

Chapter 20.100.450 of the Municipal Code establishes allowable hours of construction within 500 feet of a residential unit between 7:00 a.m. and 7:00 p.m. Monday through Friday unless permission is granted with a development permit or other planning approval. No construction activities are permitted on the weekends at sites within 500 feet of a residence.

Chapter 20.80.2030 limits testing of generators to the hours of 7 a.m. to 7 p.m., Monday through Friday.

Regulatory Background – Vibration

City of San José General Plan. The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies to achieve the goal of minimizing vibration impacts on people, residences, and business operations in the City of San José. The following policies are applicable to the proposed project:

EC-2.3 Require new development to minimize continuous vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, including ruins and ancient monuments or building that are documented to be structurally weakened, a continuous vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to a building. A continuous vibration limit of 0.20 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. Equipment

or activities typical of generating continuous vibration include but are not limited to: excavation equipment; static compaction equipment; vibratory pile drivers; pile-extraction equipment; and vibratory compaction equipment. Avoid use of impact pile drivers within 125 feet of any buildings, and within 300 feet of historical buildings, or buildings in poor condition. On a project-specific basis, this distance of 300 feet may be reduced where warranted by a technical study by a qualified professional that verifies that there will be virtually no risk of cosmetic damage to sensitive buildings from the new development during demolition and construction. Transient vibration impacts may exceed a vibration limit of 0.08 in/sec PPV only when and where warranted by a technical study by a qualified professional that verifies that there will be virtually no risk of cosmetic damage to sensitive buildings from the new development during demolition and construction.

Existing Noise Environment

The project site is located at 350-370 West Trimble Road. It is bound by West Trimble Road to the north and Orchard Parkway to the east. The area around the site is a mixed commercial and industrial area. The nearest residences are located northwest of the site about 3,600 feet away. There are two hotels in the vicinity, approximately 800 to 950 feet from the site.

The noise environment at the site and in the surrounding areas results primarily from vehicular traffic along West Trimble Road and Orchard Parkway, and from the operation of mechanical equipment at the adjacent Lumileds facility. Aircraft associated with the San José Mineta International Airport also contribute to the noise environment in the area.

A noise monitoring survey was performed at the site beginning on Tuesday, March 18, 2025, and concluding on Friday, March 21, 2025. The monitoring survey included two long-term (LT-1 and LT-2) and four short-term (ST-1 through ST-4) noise measurements, which are shown in Figure 1.

Long-term noise measurement site LT-1 was about 110 feet away from the West Trimble Road centerline. Traffic along West Trimble Road was the dominant noise source at this location. Hourly average noise levels at LT-1 typically ranged from 61 to 67 dBA L_{eq} during the daytime hours (7:00 a.m. and 10:00 p.m.) and from 54 to 66 dBA L_{eq} at night (10:00 p.m. and 7:00 a.m.) The day-night average noise levels on Wednesday, March 19, 2025, and Thursday, March 20, 2025, were both 68 dBA DNL. The daily trends in noise levels at LT-1 are shown in Figures A1 through A4 in Appendix A of this report.

Long-term noise measurement site LT-2 was about 45 feet away from the Orchard Parkway centerline. Traffic along Orchard Parkway was the dominant noise source at this location. Hourly average noise levels at LT-2 typically ranged from 63 to 73 dBA L_{eq} during the daytime and from 53 to 66 dBA L_{eq} at night. The day-night average noise levels on Wednesday, March 19, 2025, and Thursday, March 20, 2025, were 71 dBA DNL and 69 dBA DNL, respectively. The daily trends in noise levels at LT-2 are shown in Figures A5 through A8 in the Appendix A of this report.

FIGURE 1 Aerial Image of the Project Site and Surrounding Area with Long- and Short-Term Measurement Locations Identified

Source: Google Earth, 2025.

Each short-term (ST) noise measurement was made in 10-minute intervals between 1:10 p.m. and 2:30 p.m. on Tuesday, March 18, 2025. Table 4 summarizes the results of these 10-minute noise measurements.

TABLE 4 Summary of Short-Term Noise Measurement Data (dBA)

Noise Measurement Location (Date, Time)	L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}
ST-1: Northern edge of Lumileds building (3/18/2025, 1:10-1:20 p.m.)	74	70	59	53	49	58
ST-2: Western gate of Lumileds building (3/18/2025, 1:30-1:40 p.m.)	77	74	67	61	60	65
ST-3: La Quinta Inn, 2585 Seaboard Avenue (3/18/2025, 1:50-2:00 p.m.)	83	80	69	58	55	67
ST-4: Homewood Suites, 10 West Trimble Road (3/18/2025, 2:20-2:30 p.m.)	74	72	54	48	44	57

Short-term measurement ST-1 was made along the northern boundary of the Lumileds building at 350 West Trimble Road. Ambient noise levels at this location ranged from about 55 to 56 dBA and were dominated by West Trimble Road traffic. Additional contributing noise sources included aircraft (71 to 74 dB). The 10-minute average noise level at ST-1 was 58 dBA L_{eq}.

ST-2 was measured close to the western gate of the Lumileds buildings. Noise from mechanical equipment dominated the noise environment at this location. Noise from occasional aircraft also contributed to the noise environment. The 10-minute average noise level at ST-2 was 65 dBA L_{eq}.

ST-3 was measured at the La Quinta Inn (2585 Seaboard Avenue) approximately 800 feet west from the project site. This location represented the closest hotel to the site. Noise from traffic along Seaboard Avenue dominated the noise environment at this location along with aircraft. The 10-minute average noise level at ST-3 was 67 dBA L_{eq}.

ST-4 was made at the Homewood Suites hotel (10 West Trimble Road) approximately 950 feet east of the site. Noise from traffic along West Trimble Road (although shielded by the hotel buildings) and aircraft dominated the noise environment at this location. The 10-minute average noise level at ST-4 was 57 dBA L_{eq}.

NOISE IMPACTS AND MITIGATION MEASURES

Significance Criteria

The following CEQA checklist questions were used to evaluate the significance of environmental noise and vibration resulting from the project with respect to the regulatory criteria established by Federal, State, and local agencies:

(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

(b) Generation of excessive groundborne vibration or groundborne noise levels;

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

Impact 1a: **Temporary Construction Noise.** Construction of the proposed project would expose existing non-residential land uses located within 200 feet of the project site to a temporary increase in noise levels for a period of 39 months. With the incorporation of the City's Standard Permit Condition as a project condition of approval, this would have a **less-than-significant** impact.

The construction schedule assumed that the earliest possible start date would be late September 2025, and the development would be built over a period of 39 months, with construction expected to conclude by late December 2028. Construction phases would include site preparation, grading, trenching, building construction, architectural coating, and paving. During each phase of construction, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Policy EC-1.7 of the City's General Plan requires that all construction operations within the City to use best available noise suppression devices and techniques and to limit construction hours near residential uses per the Municipal Code allowable hours, which are between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday when construction occurs within 500 feet of a residential land use. Further, the City considers significant construction noise impacts to occur if a project that is located within 500 feet of residential uses or 200 feet of commercial or office uses would involve substantial noise-generating activities (such as building demolition, grading, excavation,

pile driving, use of impact equipment, or building framing) continuing for more than 12 months. While the City of San José does not establish noise level thresholds for construction activities, this analysis uses the noise limits established by the Federal Transit Administration (FTA) to identify the potential for impacts due to substantial temporary construction noise. The FTA identifies construction noise limits in the *Transit Noise and Vibration Impact Assessment Manual*. During daytime hours, an exterior threshold of 80 dBA L_{eq} shall be enforced at residential land uses, 85 dBA L_{eq} shall be enforced at commercial land uses, and 90 dBA L_{eq} shall be enforced at industrial land uses.

Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. The hauling of excavated materials and construction materials would generate truck trips on local roadways, as well. For the proposed project, pile driving, which generates excessive noise levels, is not expected. The typical range of maximum instantaneous noise levels for the proposed project would be 70 to 90 dBA L_{max} at a distance of 50 feet (see Table 5) from the equipment.

TABLE 5 Construction Equipment 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:
[1] Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.
[2] Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.
[3]Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Table 6 shows the hourly average noise level ranges, by construction phase, typical for various types of projects. Hourly average noise levels generated by construction are about 71 to 89 dBA L_{eq} for data center buildings, measured at a distance of 50 feet from the center of a busy construction site. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors.

TABLE 6 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

Construction Phase	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

Equipment expected to be used in each construction stage are summarized in Table 7, along with the quantity of each type of equipment and the reference noise level at 50 feet, assuming the operation of the two loudest pieces of construction equipment for each construction phase.

Federal Highway Administration's (FHWA's) Roadway Construction Noise Model (RCNM) was used to calculate the hourly average noise levels for each phase of construction, assuming the two loudest pieces of equipment would operate simultaneously, as recommended by the FTA for construction noise evaluations. This construction noise model includes representative sound levels for the most common types of construction equipment and the approximate usage factors of such

equipment that were developed based on an extensive database of information gathered during the construction of the Central Artery/Tunnel Project in Boston, Massachusetts (CA/T Project or "Big Dig"). The usage factors represent the percentage of time that the equipment would be operating at full power. Table 7 also summarizes the construction noise levels for the two loudest pieces of equipment propagated to the surrounding receiving land uses.

TABLE 7 Construction Noise Levels at 50 feet

Phase of Construction	Total Number of Workdays	Construction Equipment (Quantity)	Estimated Construction Noise Level at 50 feet, dBA L_{eq}
Site Preparation	30	Graders (2)[a] Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (3)[a] Excavators (1) Scrapers (2) Dumper/Tender (1) Water Truck (1)	84
Grading/Excavation/ Trenching/ Foundation	65	Excavators (2) Graders (2) [a] Trencher (2) Scrapers (1) Tractor/Loader/Backhoe (8) [a] Rubber-Tired Loaders (1) Drill Rig (1) Cranes (1) Dumper/Tender (5) Water Truck (1)	84
Building/ Facility Construction	743	Cranes (1) [a] Forklift (6) Tractor/Loader/Backhoe (3)[a] Aerial Lifts (8) Welders (4) Water Truck (1)	81
Architectural Coating	117	Aerial Lifts (2)[a] Cranes (1) [a]	74
Paving	60	Cement & Mortar Mixers (1) Paver (1) Paving Equipment (1) [a] Roller (1) Tractor/Loader/Backhoe (2)[a] Plate Compactors (1)	85

[a] Denotes two loudest pieces of construction equipment per phase.

To assess construction noise impacts at the receiving property lines of existing noise-sensitive receptors, the worst-case hourly average noise level, which is calculated by combining all pieces of equipment per phase, was propagated from the geometrical center of the project site to the nearest property lines of the surrounding land uses. These noise level estimates are shown in Table 8. Noise levels in Table 8 do not assume reductions due to intervening buildings or existing barriers.

As shown in Table 7, construction noise levels would intermittently range from 74 to 85 dBA L_{eq} when activities occur 50 feet from nearby receptors. When focused near the center of the project site (Table 8), construction noise levels would be below 85 dBA L_{eq} at nearest commercial uses and below 90 dBA L_{eq} at the nearest existing industrial buildings surrounding the site.

TABLE 8 Estimated Construction Noise Levels at Nearby Land Uses

Phase of Construction	Calculated Hourly Average Noise Levels, L_{eq} (dBA)			
	Lumileds Building (150 ft[a])	North Office Buildings (300 ft[a])	Northeast Office Buildings (620 ft[a])	West Office Building (700 ft[a])
Site Preparation	80	74	68	67
Grading/Excavation/Trenching/ Foundation	82	76	70	69
Building/ Facility Construction	77	71	65	64
Architectural Coating	65	59	53	52
Paving	77	71	65	64

[a] The distances shown in the table were measured from the center of the nearest project building to the receiving property lines.

Although the project site is not located within 500 feet of existing residential uses, it is located within 200 feet of existing non-residential uses. Additionally, the total construction is expected to last for a period of more than 12 months. The City's Standard Permit Conditions for Noise shall be incorporated into all project construction operations as a condition of approval. These noise minimization measures include, but are not limited to, the following:

- Limit construction to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday for any on-site or off-site work within 200 feet of non-residential uses. Construction outside of these hours may be approved through a development permit based on a site-specific "construction noise mitigation plan" and a finding by the Director of Planning, Building and Code Enforcement that the construction noise mitigation plan is adequate to prevent noise disturbance of affected residential uses.

- Construct solid plywood fences around ground level construction sites adjacent to the Lumileds industrial use. A temporary 8-foot noise barrier would provide a minimum 5 dBA attenuation for adjacent sensitive land uses when construction activities occur at the ground level when the loudest equipment would be used (i.e., during site preparation, grading and paving phases).

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Prohibit unnecessary idling of internal combustion engines.

- Locate stationary noise-generating equipment such as air compressors as far as possible from sensitive receptors.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

- Notify all adjacent residences, and other commercial land uses of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses and nearby residences.

- Designate a "disturbance coordinator" who shall be responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

With the implementation of GP Policy EC-1.7, Municipal Code requirements, and the above Standard Permit Conditions, the temporary construction noise impact would be reduced to a less-than-significant level.

Mitigation Measure 1a: No further mitigation required.

Impact 1b: Permanent Noise Level Increase/Exceed Applicable Standards. The proposed project would not result in a substantial permanent noise level increase, and operational noise generated by the proposed project would not exceed the City's Municipal Code limits at the surrounding receptors. This is a **less-than-significant impact**.

Section 20.50.300 of the City's Municipal Code establishes noise level performance standards for sources of noise originating from land zoned for industrial use. Noise levels are not to exceed 55 dBA at receiving residential uses, 60 dBA at receiving office and commercial uses and 70 dBA at receiving industrial uses.

Project-Generated Traffic

The proposed data center project would generate 378 daily trips with a total of 42 A.M. peak hour trips and 34 P.M. peak hour trips. The existing average daily traffic volumes along West Trimble Road and Orchard Parkway are about 38,000 trips[4]. Adding 378 daily trips from the proposed project would not result in a measurable or detectable increase in noise levels in the area (0 dBA DNL increase). This is a less than significant impact.

[4] https://data.sanjoseca.gov/dataset/average-daily-traffic

Mechanical Equipment

Various mechanical equipment at the data center buildings would include emergency generators, chillers, transformers, pumps, a cooling tower, and heating, ventilation, and air conditioning (HVAC) units. According to the site plan, generator yards would be located adjacent to the south sides of each of the data center buildings. Equipment such as hybrid closed-circuit cooling towers (CCCT), water-cooled chillers (WCC), and dedicated outside air systems (DOAS) units would be located on the rooftop of each data center building. A proposed screen would be located at the rooftop that would provide partial shielding.

Manufacturer specifications in terms of source levels for each of the equipment (generators, CCCTs, WCC and DOAS) were provided by the applicant and are summarized in Appendix B.

Based on the source levels in Appendix B, SoundPLAN (version 8.2), a three-dimensional ray-tracing computer program, was used to create scenarios representing daily operations with and without the emergency generators. The mechanical equipment noise sources were modeled as either point-sources (e.g., air handling units) or area sources (e.g., cooling towers) noise inputs to demonstrate the noise propagation to the adjacent sites based on the cumulative noise from the combined sources operating during the different scenarios. Other inputs to the models include the existing on-site and off-site buildings. Typically, not more than one generator would be tested in any one hour. For a worst-case scenario representation, one generator each from DC west and DC north each were modeled. The rooftop equipment (CCCT, WCC and DOAS) were assumed to run together continuously throughout the day.

Figures 2 and 3 show the hourly average L_{eq} during typical daily operations without and with the emergency generators, respectively. Tables 9 and 10 summarize the noise levels calculated in SoundPLAN at the nearest boundaries for the surrounding off-site receptors during daily operations without and with the emergency generators, respectively. The tables show the hourly average noise levels calculated at the nearest receiving commercial and industrial property lines from the mechanical equipment.

FIGURE 2 Noise Contours for Daily Operations at the Data Centers without the Emergency Generators

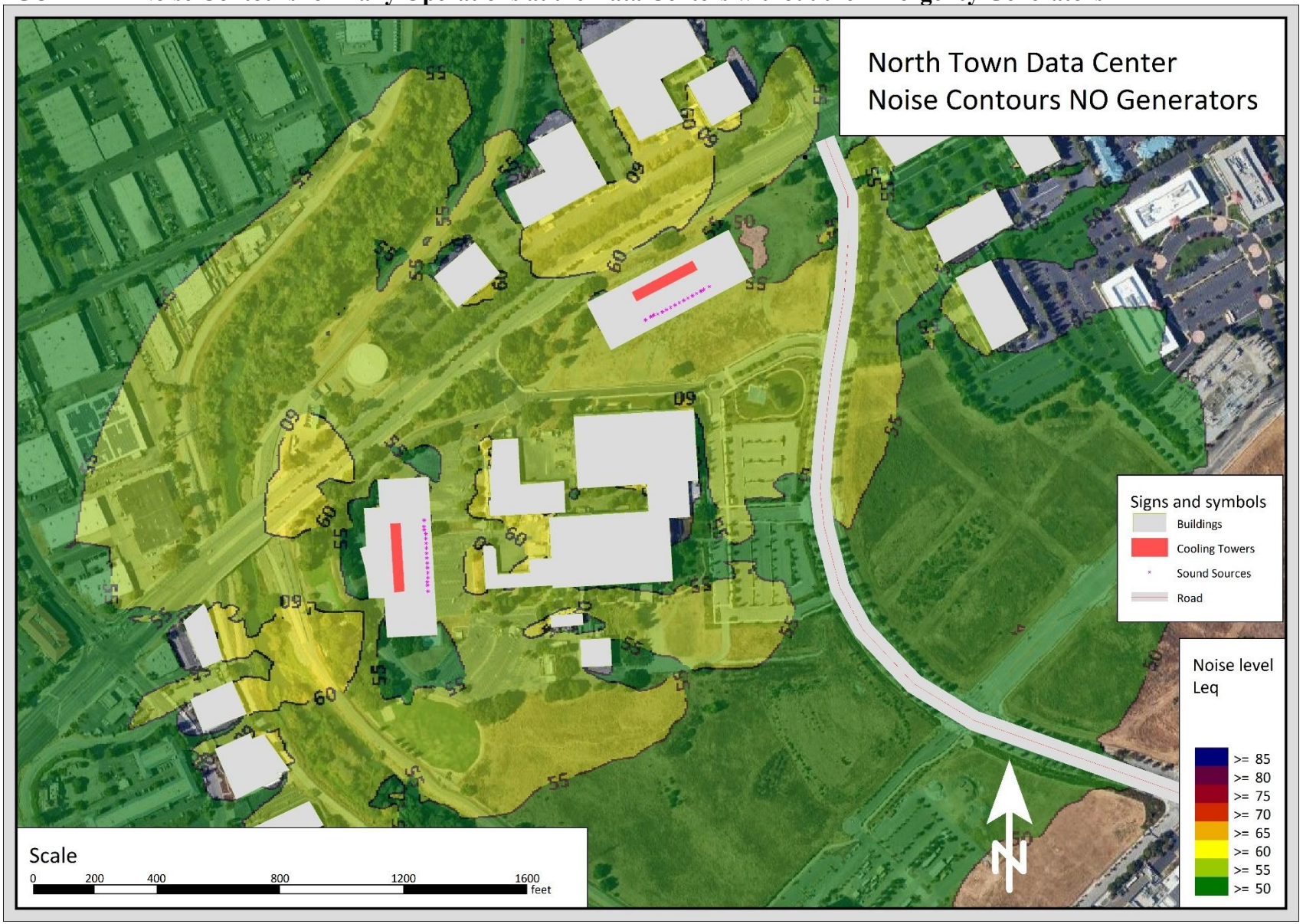


FIGURE 3 Noise Contours for Daily Operations at the Data Centers with the Emergency Generators

TABLE 9 Daily Operational Noise Levels - NO Emergency Generators

Receptor	Distance from Center of Closest Data Center, feet	L_{eq} from Daily Operational Noise (No Generators), dBA
Lumileds Building	150	60
North Office & Industrial Buildings	300	60 to 62
West Office & Industrial Buildings	700	60
Northeast Office Buildings	620	55 to 57

TABLE 10 Daily Operational Noise Levels - with Emergency Generators

Receptor	Distance from Center of Closest Data Center, feet	L_{eq} from Daily Operational Noise (Generators), dBA
Lumileds Building	150	64
North Office & Industrial Buildings	300	60 to 62
West Office & Industrial Buildings	700	60
Northeast Office Buildings	620	55 to 58

As shown in Tables 9 and 10, hourly average noise levels due to daily mechanical equipment operation with or without the emergency generator testing would not exceed the 60 dBA municipal code threshold at the northeast and west office buildings. Mechanical equipment noise would not exceed the 70 dBA municipal code threshold at the industrial uses (Lumileds, North office & Industrial) as well. Section 20.80.2030 of the City's Municipal code limits generator testing to the hours of 7 a.m. to 7 p.m. which would be satisfied by the planned testing times of 8 a.m. to 6 p.m.

The closest noise-sensitive receptors (hotels) are located at 2585 Seaboard Avenue and 10 West Trimble Road. Both hotel buildings are located more than 1,000 feet away from the closest data center building. At this distance, hourly average noise levels from the worst-case project operations (with generator) are calculated to range from 46 to 52 dBA L_{eq}. This is below the Municipal code limit of 55 dBA for residences, although the 60 dBA limit for commercial properties would apply since both hotels are located in a commercially zoned land use area (CIC – Combined Industrial/Commercial as per the General Plan 2040 Land Use Designation).

Therefore, operational noise from mechanical equipment would result in a less-than-significant impact.

Mitigation Measure 1c: None required.

Impact 2: Exposure to Excessive Groundborne Vibration due to Construction. Construction-related vibration levels resulting from activities at the project site

would not exceed 0.2 in/sec PPV at the existing structures surrounding the project site. **This is a less-than-significant impact.**

The construction of the project may generate vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. Construction activities would include grading, foundation work, paving, and new building framing and finishing. According to the equipment list provided at the time of this study, impact or vibratory pile driving activities, which can cause excessive vibration, are not expected for the proposed project.

According to Policy EC-2.3 of the City of San José General Plan, a vibration limit of 0.08 in/sec PPV shall be used to minimize the potential for cosmetic damage to sensitive historical structures, and a vibration limit of 0.20 in/sec PPV shall be used to minimize damage at buildings of normal conventional construction. The vibration limits contained in this policy are conservative and designed to provide the ultimate level of protection for existing buildings in San José.

According to the San Jose Historic Resource Inventory[5], no sensitive historical structures are located within 200 feet of the project site. Groundborne vibration levels exceeding the 0.20 in/sec PPV threshold would have the potential to result in a significant vibration impact.

Table 11 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may generate substantial vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet.

TABLE 11 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Minimum Distance to Meet 0.2 in/sec PPV (feet)
Clam shovel drop		0.202	26
Hydromill (slurry wall)	in soil	0.008	2
	in rock	0.017	3
Vibratory Roller		0.210	27
Hoe Ram		0.089	13
Large bulldozer		0.089	13
Caisson drilling		0.089	13
Loaded trucks		0.076	11
Jackhammer		0.035	6
Small bulldozer		0.003	<1

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., May 2025.

Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 11 also summarizes the distances to the 0.2 in/sec PPV threshold for all conventional

[5] https://www.sanjoseca.gov/your-government/departments-offices/planning-building-code-enforcement/planning-division/historic-resources/historic-resources-inventory

buildings. Vibration levels are highest close to the source and then attenuate with increasing distance at the rate $\left({}^{D_{ref}}/_{D}\right)^{1.1}$, where D is the distance from the source in feet and D_{ref} is the reference distance of 25 feet. While construction noise levels increase based on the cumulative equipment in use simultaneously, construction vibration levels would be dependent on the location of individual pieces of equipment. That is, equipment scattered throughout the site would not generate a collective vibration level, but a vibratory roller, for instance, operating near the project site boundary would generate the worst-case vibration levels for the receptor sharing that property line. Further, construction vibration impacts are assessed based on damage to buildings on receiving land uses, not receptors at the nearest property lines. Therefore, the distances used to propagate construction vibration levels, which are different than the distances used to propagate construction noise levels, were estimated under the assumption that each piece of equipment from Table 11 was operating along the nearest boundary of the busy construction site, which would represent the worst-case scenario.

The nearest off-site building adjacent to the site would be the Lumileds building, which is located about 40 feet away from the nearest project building. Construction vibration levels at this distance could reach up to 0.125 in/sec PPV.

All other existing buildings in the vicinity of the site are located more than 300 feet away from project construction. Neither cosmetic, minor, or major damage would occur at historical or conventional buildings located 300 feet or more from the project site. At these locations, and in other surrounding areas where vibration would not be expected to cause cosmetic damage, vibration levels may still be perceptible. However, as with any type of construction, this would be anticipated and would not be considered significant, given the intermittent and short duration of the phases that have the highest potential of producing vibration (use of jackhammers and other high-power tools). By use of administrative controls, such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration during hours with the least potential to affect nearby businesses, perceptible vibration can be kept to a minimum.

In summary, the construction of the project would not generate vibration levels exceeding the 0.2 in/sec PPV threshold at conventional off-site buildings surrounding the project site. This would be a less-than-significant impact.

Mitigation Measure 2: **None required.**

Impact 3: **Excessive Aircraft Noise.** The project site is located within the 65 dBA CNEL and outside the 70 dBA CNEL aircraft noise contour of the San Jose Mineta International Airport. This is "Generally Acceptable" for industrial use areas as per the CLUP. **This is a less-than-significant impact.**

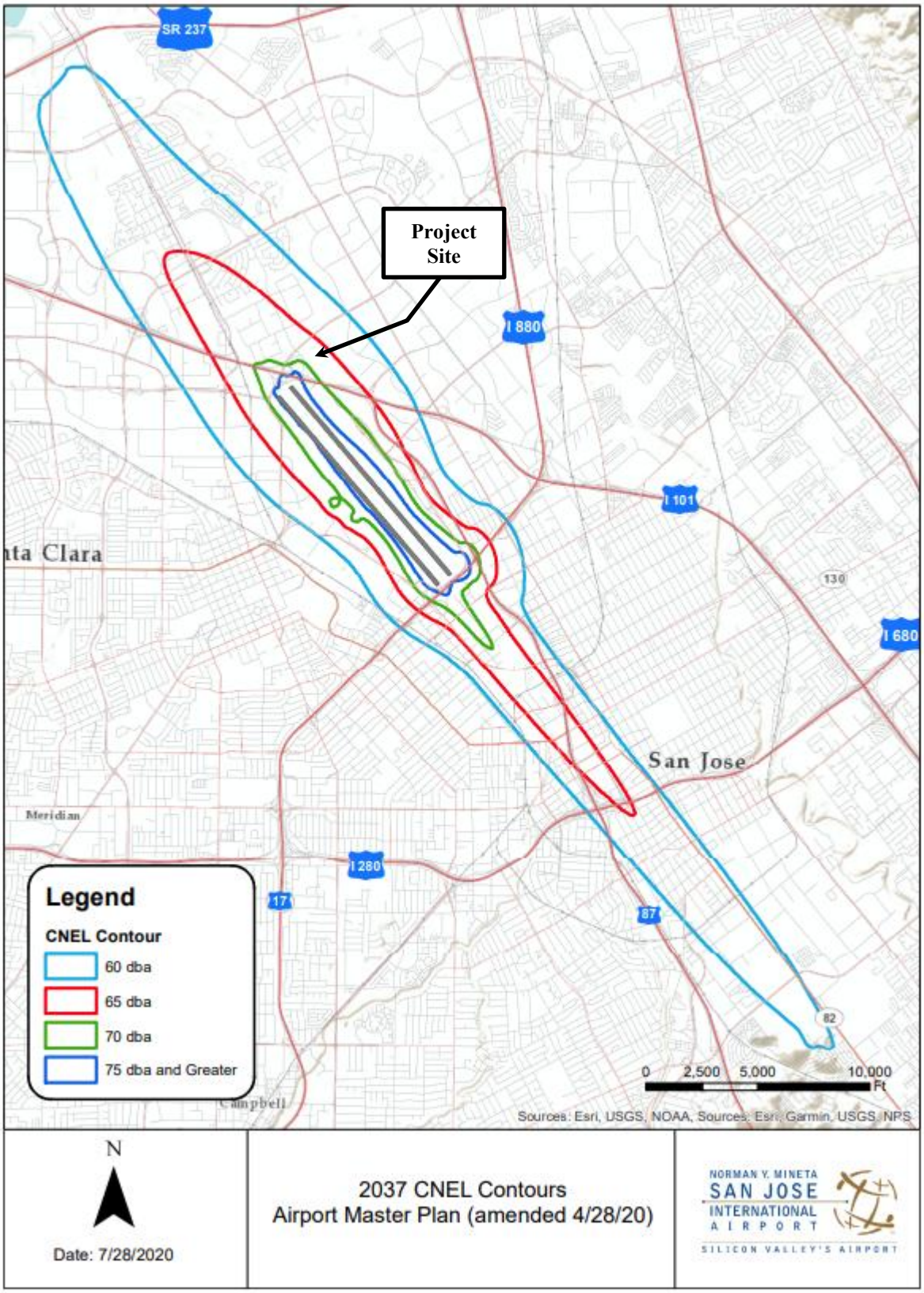
San José Mineta International Airport is a public-use airport located approximately 0.4 miles south of the project site. According to the new Airport Master Plan Environmental Impact Report,[6] the

[6] David J. Powers & Associates, Inc., Integrated Final Environmental Impact Report, Amendment to Norman Y. Mineta San Jose International Airport Master Plan, April 2020.

project site lies within the 65 dBA CNEL and outside the 70 dBA CNEL contour line (see Figure 4). This lies in the "Generally Acceptable" range of the Santa Clara County CLUP noise compatibility limits for industrial use areas. Therefore, the proposed data center project is compatible with the City's exterior noise standards for aircraft noise.

Mitigation Measure 3: **None required.**

FIGURE 4 2037 CNEL Noise Contours Relative to Project Site



Cumulative Impacts

Cumulative noise impacts would include either cumulative traffic noise increases under future conditions or temporary construction noise from cumulative construction projects.

A significant cumulative traffic noise increase would occur if two criteria are met: 1) if the cumulative traffic noise level increase was 3 dBA DNL or greater for future levels exceeding 60 dBA DNL or was 5 dBA DNL or greater for future levels at or below 60 dBA DNL; and 2) if the project would make a "cumulatively considerable" contribution to the overall traffic noise increase. A "cumulatively considerable" contribution would be defined as an increase of 1 dBA DNL or more attributable solely to the proposed project.

The proposed project adds 378 daily trips to the area compared to about 38,000 average daily trips on West Trimble Road and Orchard Parkway. Considering that the project would not generate a significant increase in traffic volumes in the vicinity, these project trips would also be insignificant under future cumulative conditions. Therefore, the project is not expected to result in a significant cumulative traffic noise increase. This is a less-than-significant impact.

The SJC04 Data Center Project would be situated directly adjacent to the southern boundary of the project site at 370 West Trimble Road. This project consists of two 4-story data center buildings of 630,000 sq. ft., 3 water storage tanks, two 1-story utility buildings, a customer-owned power substation, and a PG&E-owned high voltage switching station. This project is currently under "Planning Review" stage which means that no information about its construction timing and duration is available at the time of this assessment. The operational noise expected from this project (Table 7 of the technical report[7]), is not expected to exceed the Municipal Code limits of 60 dBA at the nearest commercially zoned properties to the west and east, and also not exceed the 70 dBA limit at the nearest industrially zoned properties (Lumileds building and north receptors). In the unlikely scenario where the generators for this project and the North Town Data Center (NTDC) project are tested at the exact same time and for the same duration, operational noise levels at the Lumileds property line could marginally exceed the 70 dBA Municipal Code limit. For other nearest commercial or industrial zoned receptors, cumulative operational noise would be expected to meet the 60 and 70 dBA limits for commercial and industrial uses, respectively. The SJC04 project and the NTDC project are designed separately to meet Municipal Code noise limits at the neighboring receiving property lines. Compliance with the Municipal Code on an individual basis would ensure a less-than-significant cumulative operational noise impact.

There are no other known planned or approved projects[8] within 1,000 feet of the proposed project site that would be constructed during the same timeframe as the proposed project. Therefore, the noise-sensitive receptors surrounding the project site would not be subject to other cumulative construction impacts.

[7] SJC04 Environmental Noise Report – California Energy Commission and San Jose Planning Department, prepared by Environmental Systems Design, Inc. dated July 29, 2022.

[8] https://gis.sanjoseca.gov/maps/devprojects/

APPENDIX A

FIGURE A1 Daily Trend in Noise Levels at LT-1, Tuesday, March 18, 2025

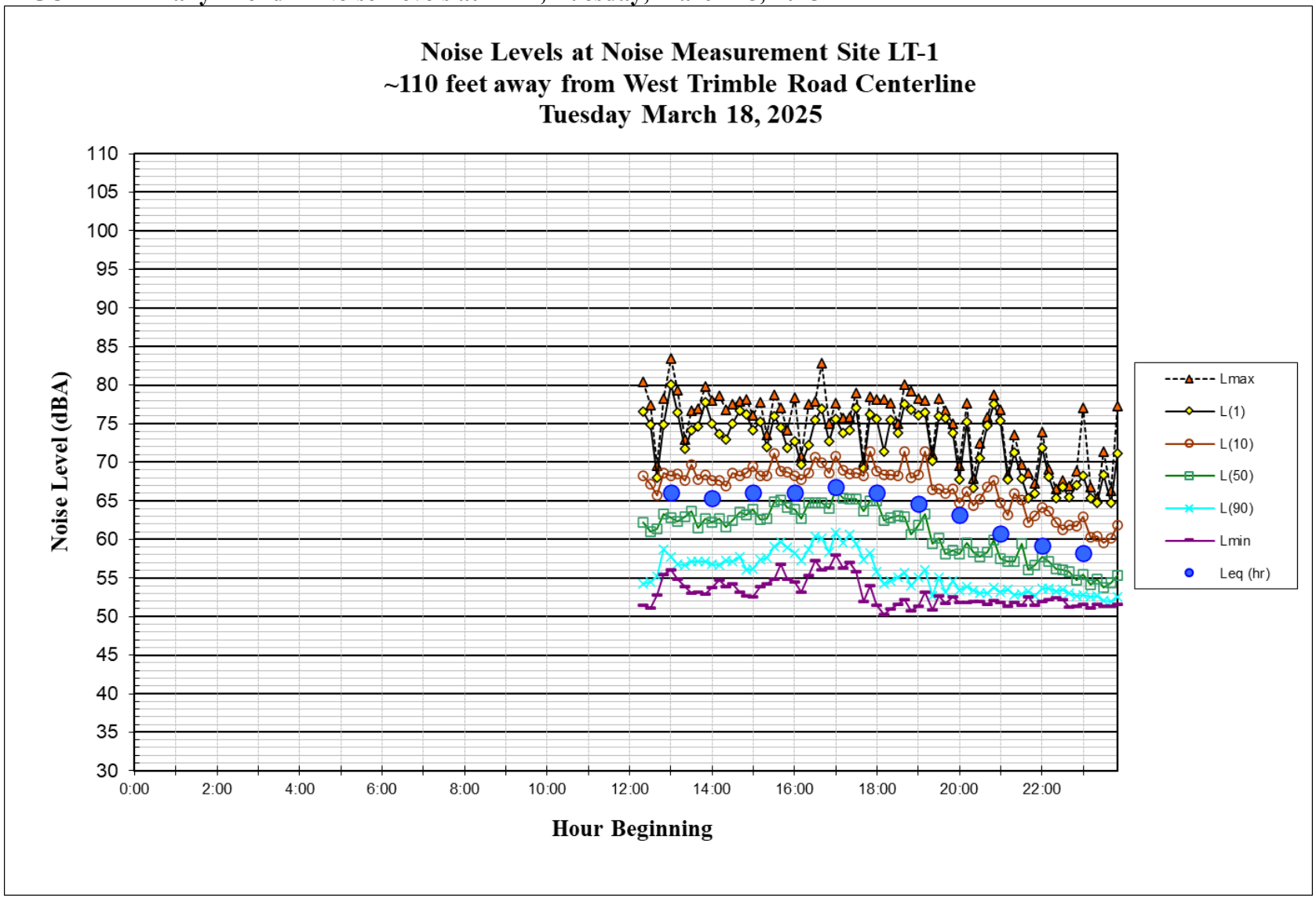


FIGURE A2 Daily Trend in Noise Levels at LT-1, Wednesday, March 19, 2025

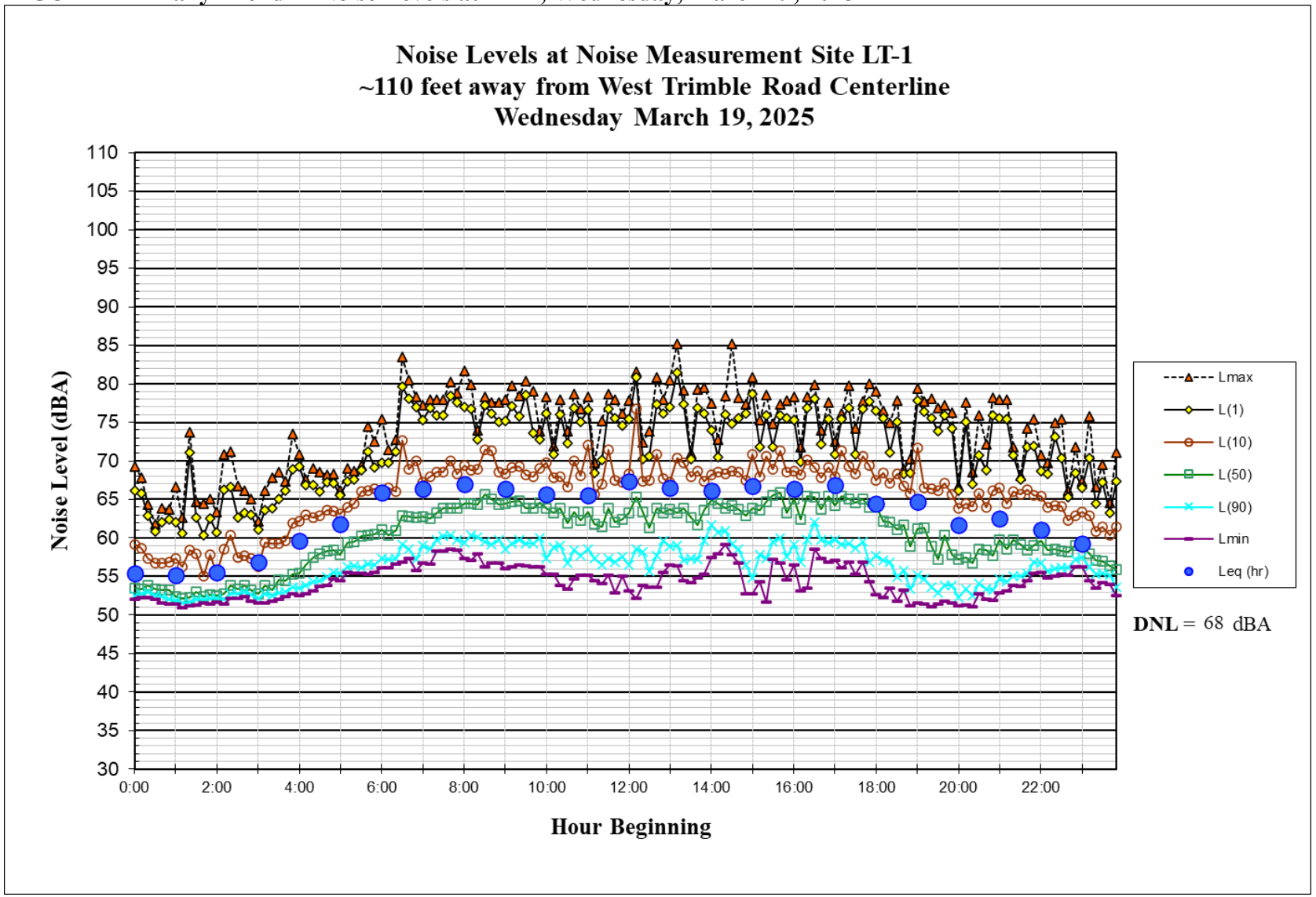


FIGURE A3 Daily Trend in Noise Levels at LT-1, Thursday, March 20, 2025

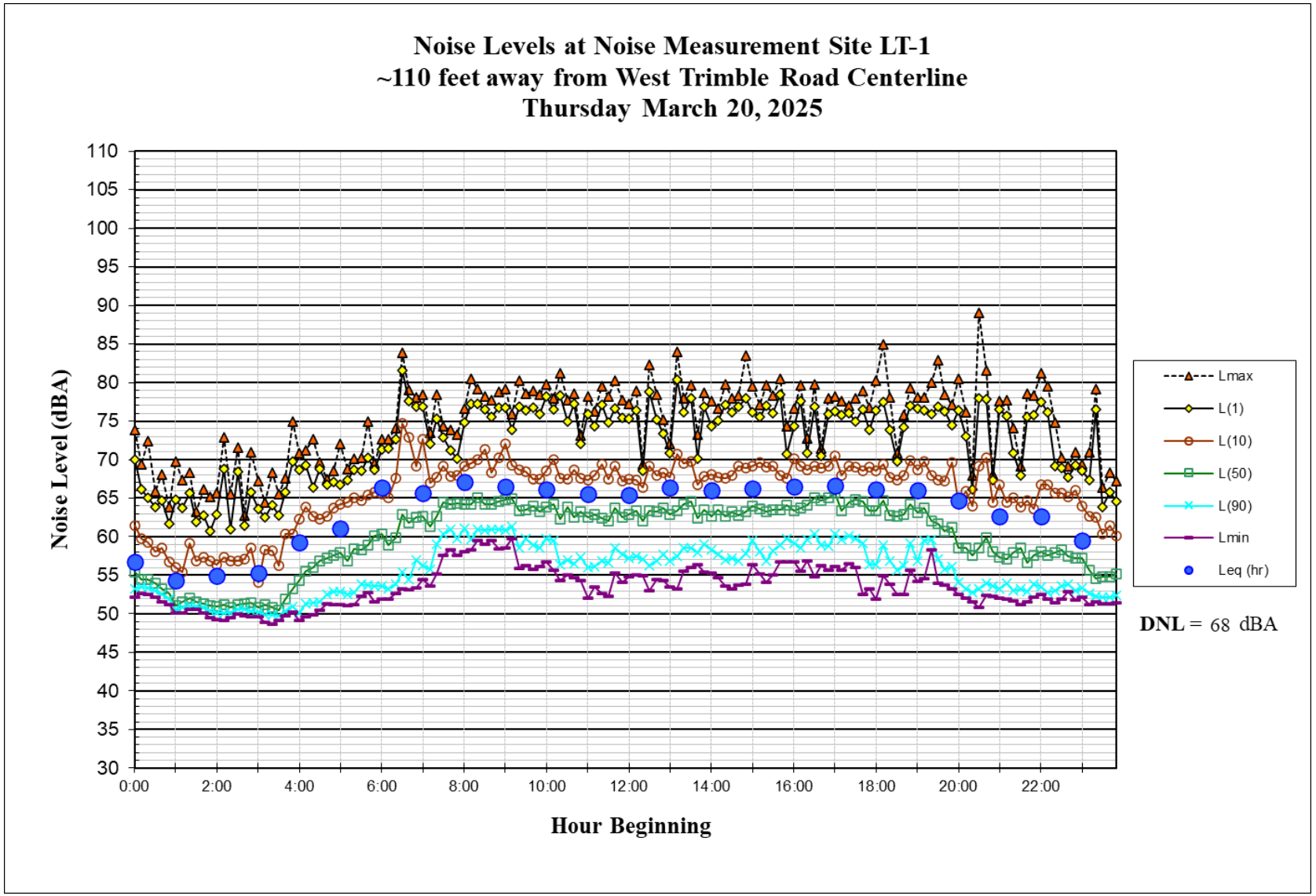


FIGURE A4 Daily Trend in Noise Levels at LT-1, Friday, March 21, 2025

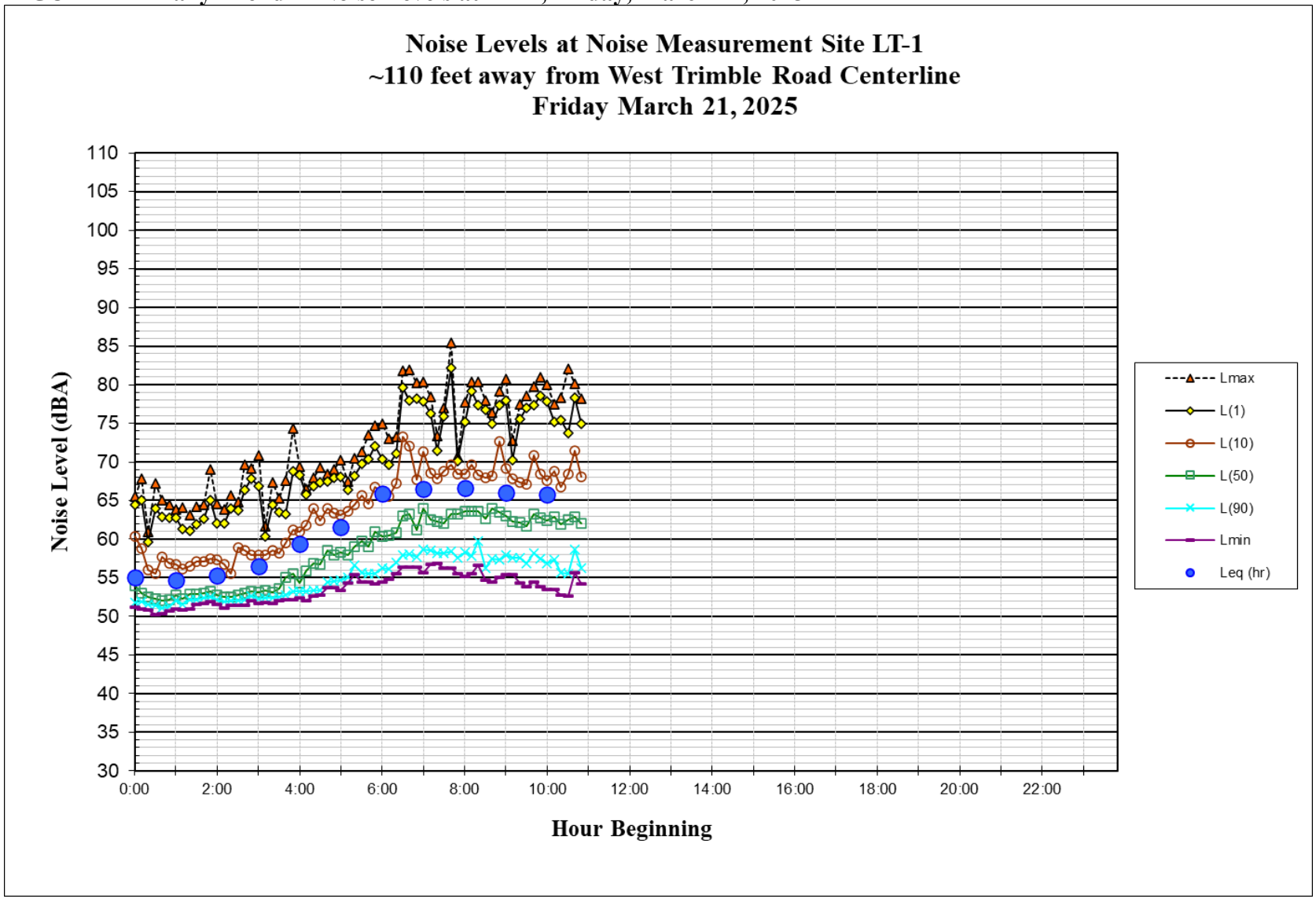


FIGURE A5 Daily Trend in Noise Levels at LT-2, Tuesday, March 18, 2025

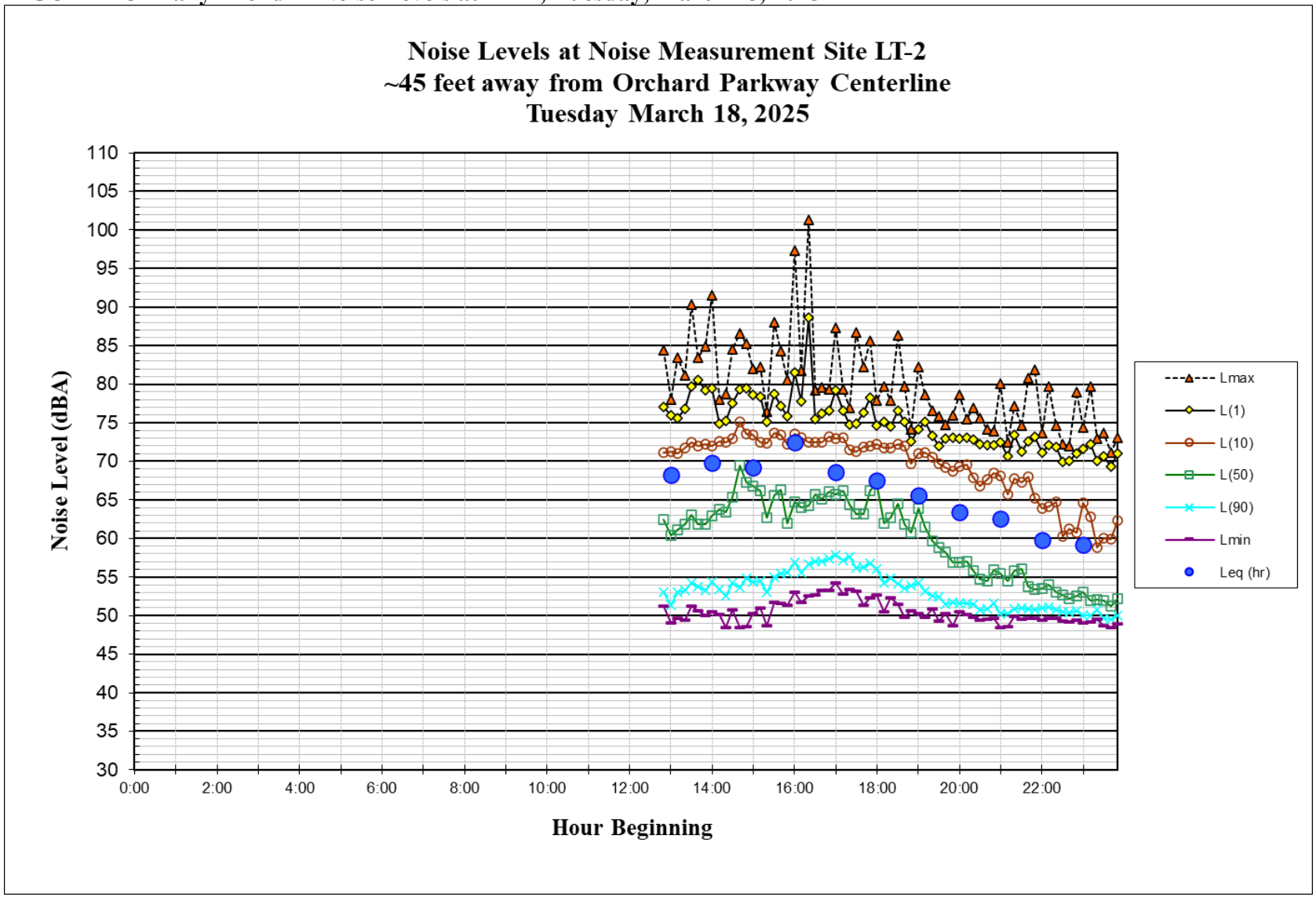


FIGURE A6 Daily Trend in Noise Levels at LT-2, Wednesday, March 19, 2025

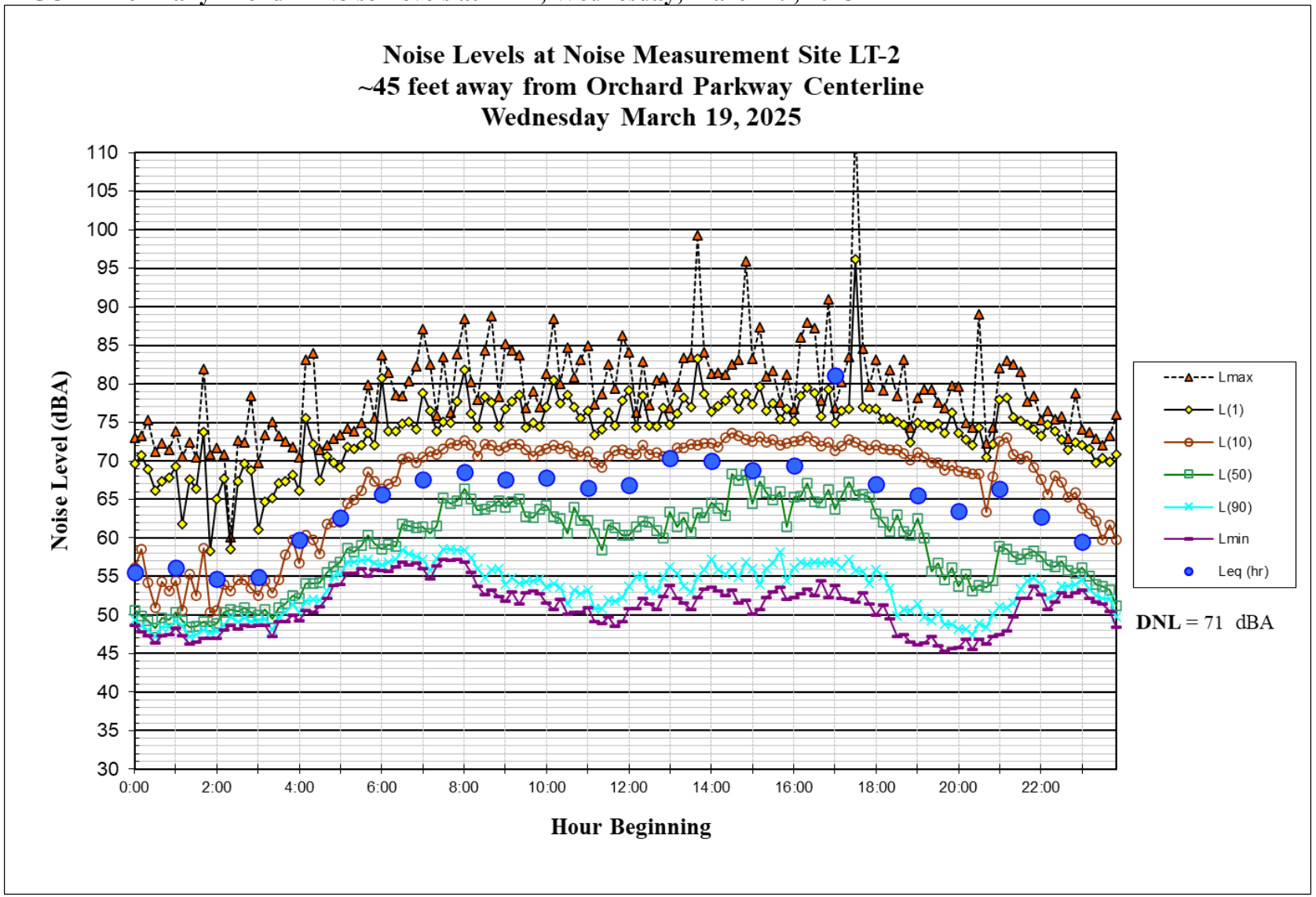


FIGURE A7 Daily Trend in Noise Levels at LT-2, Thursday, March 20, 2025

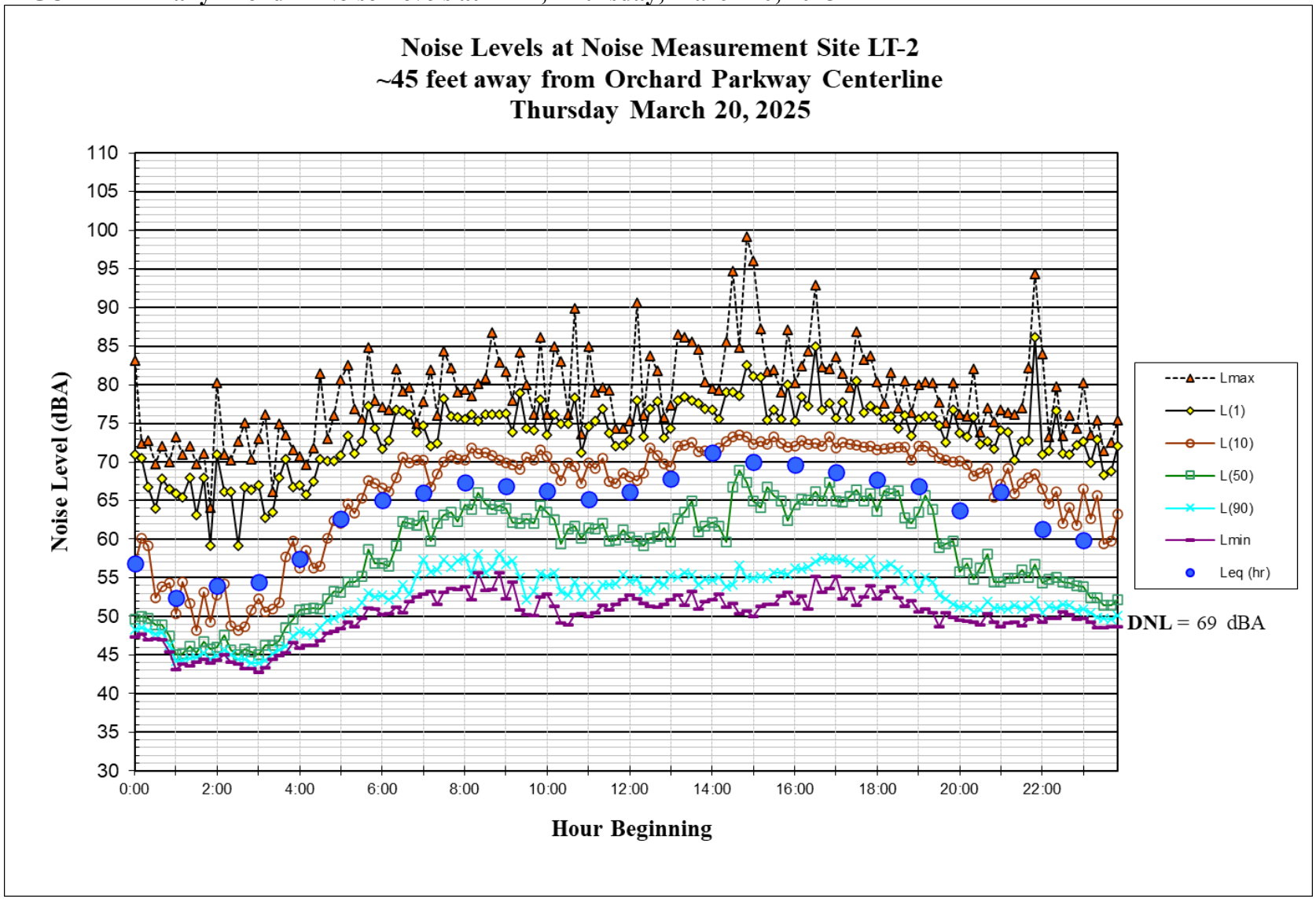
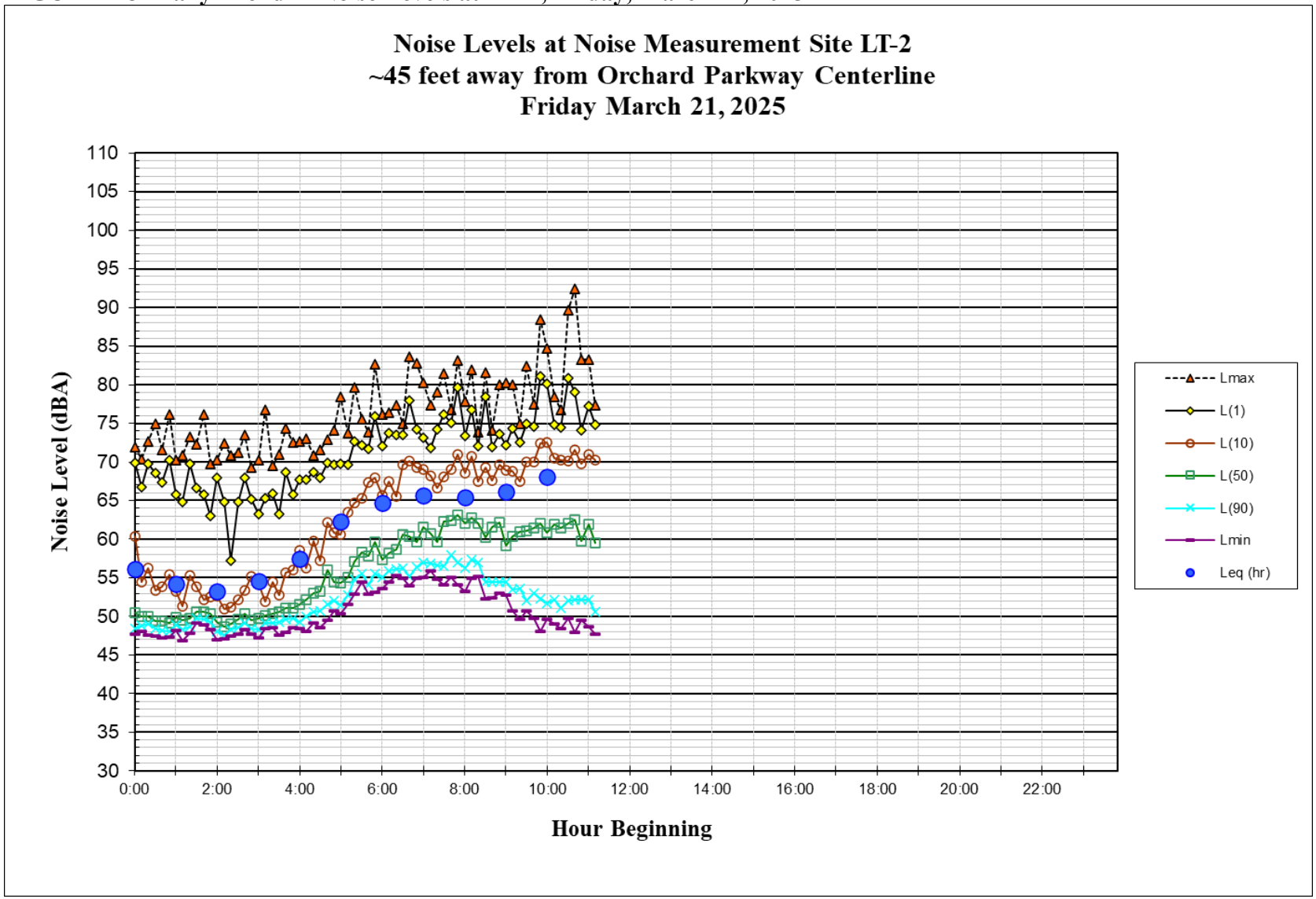


FIGURE A8 Daily Trend in Noise Levels at LT-2, Friday, March 21, 2025



APPENDIX B – Source Levels for SoundPLAN model

Basic source assumptions made for the SoundPLAN model:

- Generator source level from the specification sheet was 74 dBA at 23 feet (7 meters) assuming KD3000 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank.

- Sound data for the Hybrid Closed-Circuit Cooling Towers (CCCT) was provided for 18 cells with the following specification –

Cooling Tower Definition

Manufacturer	Marley	Fan Speed (99.5%)	643 rpm
Product	MHF	Fan Tip Speed (99.5%)	11120 fpm
Model	MHF7109EAKBNC3	Fan Motor Speed (99.5%)	1790 rpm
Cells	18	Fan Motor Capacity per cell	45 Hp
Fan	5.5 ft, 5 Blades , Low Sound	Fan Motor Output per cell	44.29 BHp
Fans per cell	3		
Model Group	Standard Single Flow, Copper Wet Coil (A)		

Sound

Sound Pressure Level (SPL) expressed in dB (re: 20x10-6 Pa)
Sound Power Level (PWL) expressed in dB (re: 1x10-12 watts)

Distance	Location	Octave Band Center Frequency (Hz) 63	125	250	500	1000	2000	4000	8000	Overall dBA
5 ft	Air Inlet Face SPL	85	86	90	83	78	73	69	68	85
5 ft	Cased Face SPL	81	76	75	72	68	62	59	55	74
5 ft	Fan Discharge SPL	88	91	88	86	84	80	77	74	89
50 ft	Air Inlet Face SPL	84	76	82	75	72	66	57	54	78
50 ft	Cased Face SPL	80	64	67	66	63	61	59	55	69
50 ft	Fan Discharge SPL	74	79	79	73	71	63	60	56	76
	Tower PWL	112	111	112	106	104	97	93	89	109

Notes

- Sound Pressure Levels at Fan Discharge are measured on the cased face side opposite the motor, far enough outside the air stream to prevent air noise from affecting the reading.
- Sound pressure levels were measured and recorded in full conformance with CTI ATC-128 test code November 2019 revision published by the Cooling Technology Institute (CTI).

- Water Cooled Chillers chosen were the Daikin REYQ264XBYDA with source level of 69 dBA at 1 meter.

- Sound data for the Dedicated Outside Air System was taken from the Addison PRAK720 data sheet with the following information

Sound Data

	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Total DBA
Condenser fans	66.5	84.1	82	86.9	85.3	80.5	75	69.8	89.4
Supply	49	56	67	66.0	67.0	68.0	65	59	74

Other assumptions made in the model include:

- All noise sources as simplified point or area sources with no significant directivity. This may result in a slightly conservative result.
- The closest existing buildings were the only structures included in the model that provided any form of shielding.
- Receivers were modeled at a height of 5 feet (1.5 meter)
- Ground reflections corresponding to “hard ground” were included in the model since most of the area around the project site is a built environment.
- Excess attenuation due air absorption was included in this study.

APPENDIX N

Supplemental Transportation Analysis

Hexagon Transportation Consultants, Inc.

Memorandum

Date: June 11, 2025

To: Manjit Banwait & Renzel Balance, City of San Jose

From: Robert Del Rio, T.E.
Daniel Choi

Subject: Supplemental Transportation Review for 350-370 Trimble Road Site

Hexagon Transportation Consultants, Inc. conducted a supplemental transportation review for the proposed Northtown Data Center development at 350-370 Trimble Road (APN 101-02-013), located south of Trimble Road between Orchard Parkway and Guadalupe River. The site is currently vacant with the exception of surface parking on the "west" portion of the site. A Transportation Analysis (TA) report was completed and approved in October 2022 for a now entitled 208,000-square-foot manufacturing building at the southwest corner of the Trimble Road and Orchard Parkway intersection.

The development plans for the site now propose a data center development that includes an approximate 208,000 square-foot (s.f.) building on the vacant land at the southwest corner of the Trimble Road and Orchard Parkway intersection, referred to as Data Center North, and another approximate 207,000 s.f. building to on the surface parking lots adjacent to Guadalupe River, referred to as Data Center West, for a total of 415,000 s.f. of data center space. The office space within each of the two proposed buildings accounts for less than 10% of the total space, which is consistent with the data center land use. Access to the buildings would be via an existing right-in/right-out driveway on Trimble Road, a right-in/right-out driveway along Orchard Parkway, between the existing signalized driveway and Trimble Road, and the existing signalized site entrance on Orchard Parkway. The project site plan is shown on Figure 2.

Scope of Work

This supplemental transportation review documents the consistency of the revised site development plan with the approved TA study for the entitled 208,000 s.f. manufacturing space building. The supplemental analysis may be used to determine the extent of potential transportation improvements associated with the now proposed datacenter development versus that of the entitled 208,000 s.f. of manufacturing space.

Since the traffic study for the entitled 208,000 s.f. of manufacturing space building identified no adverse intersection effects and the proposed project is estimated to generate significantly less daily and peak hour trips than the entitled 208,000 sf of manufacturing space, there will be no adverse effects to intersection operations for the proposed datacenter project. Therefore, this scope of work includes an evaluation of the effects of the Northtown Data Center development on the transportation system in the following areas:

- Updated VMT Analysis and Mitigation Measures
- Project Trip Generation Evaluation and Comparison to Entitled Development
- Site Access and On-Site Circulation Review

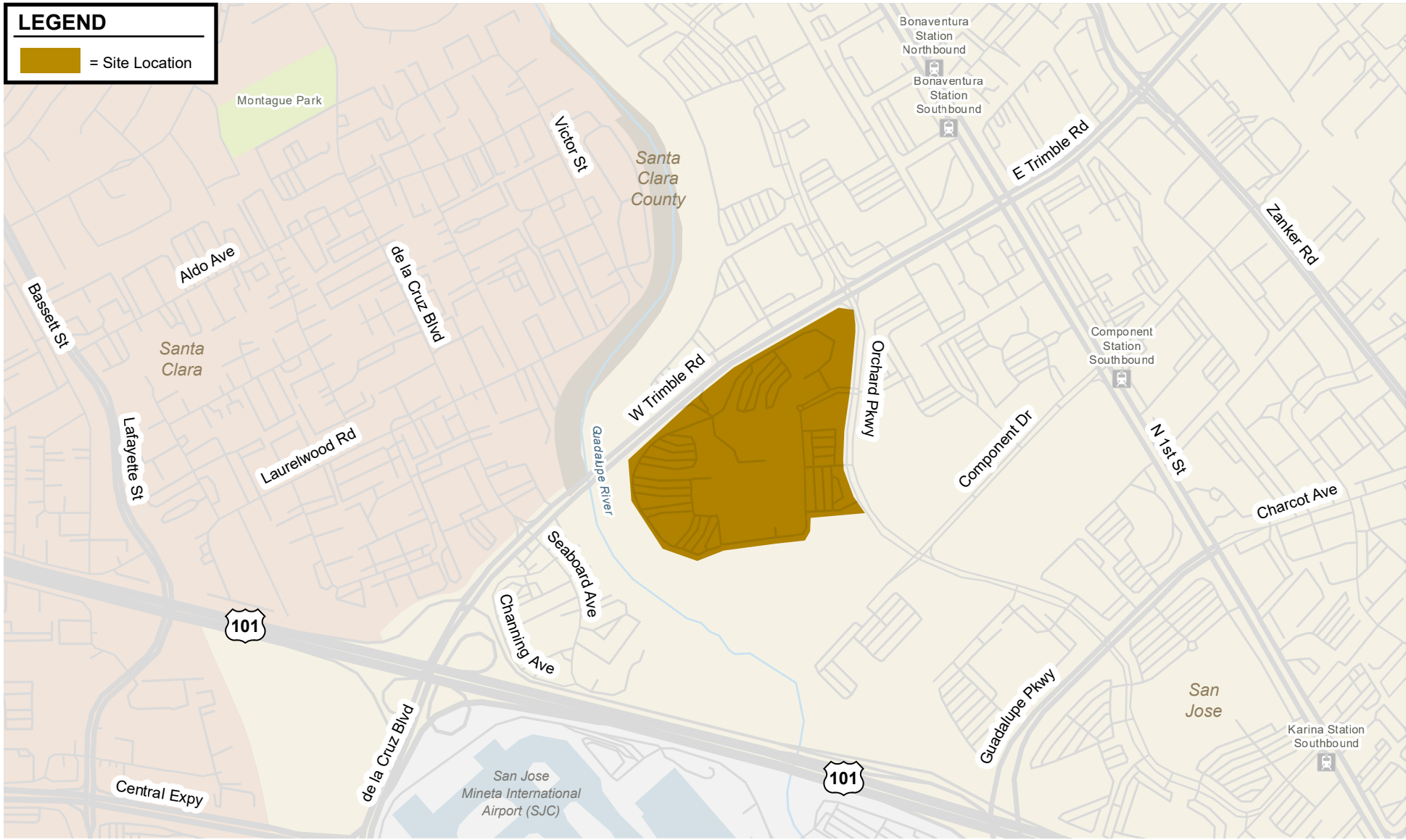


Figure 1
Project Site Location

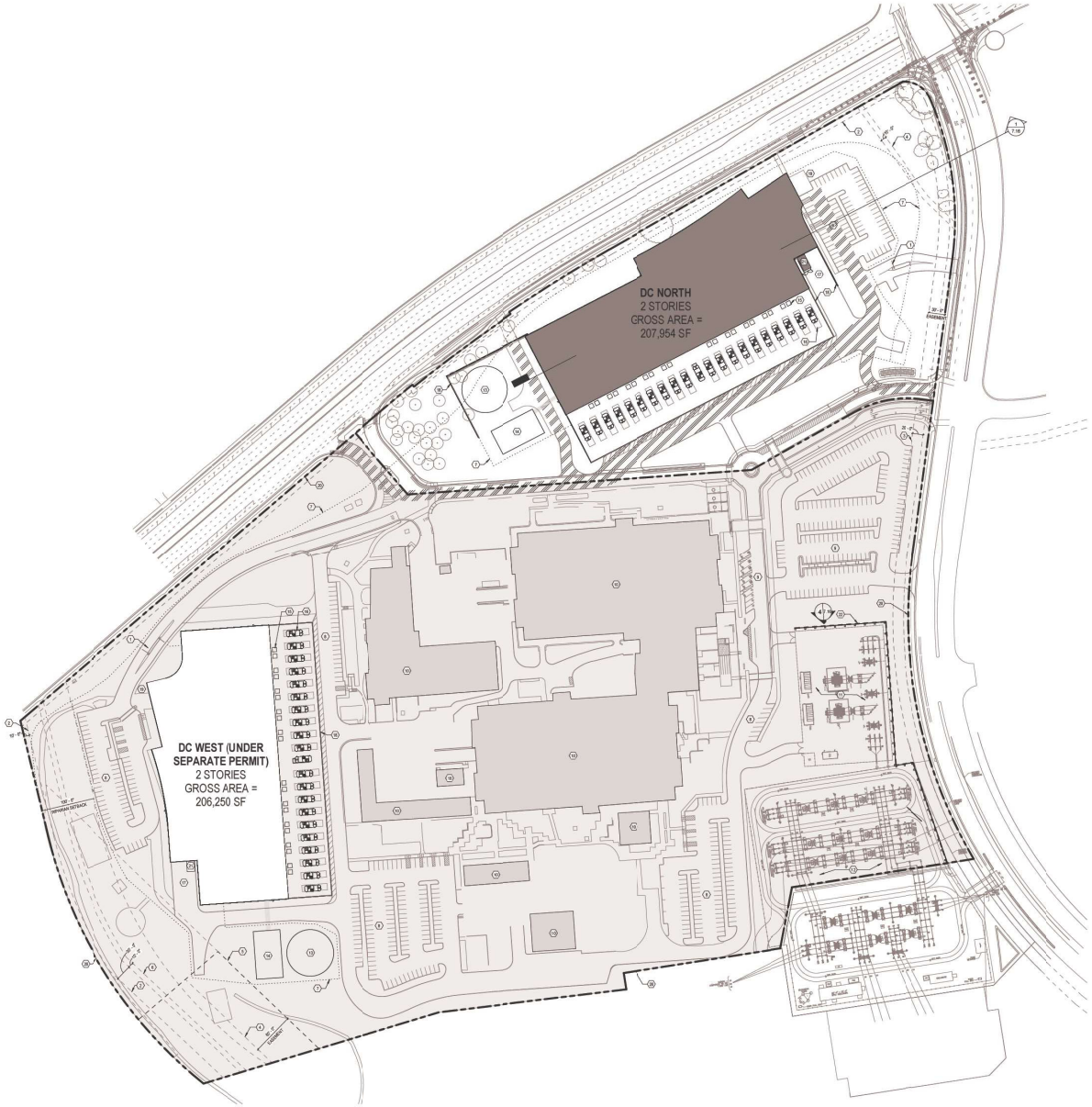


Figure 2
Project Site Plan

NORTH
Not to Scale

VMT Methodology

Evaluation of Screening Criteria

The project site is located within the planned North San Jose Area Development Policy (NSJADP) planned growth area. However, the existing VMT per employee in the project area exceeds the City's CEQA threshold of 16.53 VMT per employee. As a result, the project does not qualify for a VMT analysis exemption under the screening criteria, as it is not located in a planned growth area with low VMT. Therefore, a CEQA-level transportation analysis assessing the project's VMT impacts is required.

VMT Evaluation Tool

To determine whether a project would result in CEQA transportation impacts related to VMT, the City has developed the San Jose VMT Evaluation Tool to streamline the analysis for development projects. Based on the assessor's parcel number (APN) of a project, the VMT evaluation tool identifies the existing average VMT per capita and employee for the project area. Based on the project location, type of development, project description, and proposed trip reduction measures, the VMT evaluation tool calculates the project VMT.

VMT is typically calculated for common land uses such as residential, office, and industrial developments using the City's VMT tool. The City's VMT tool is not directly applicable to land uses such as data centers that are not reflective of one of the common land uses. Therefore, as recommended by City staff, the proposed data center space was converted to an equivalent amount of industrial space for the purpose of projecting VMT with the VMT tool. Data center uses are similar to industrial uses since both land uses have minimal amounts of office space. Therefore, the number and origination/destination of daily trips generated by both industrial and data center uses are expected to be similar.

Thresholds of Significance

If a project is found to have a significant impact on VMT, the impact must be addressed by either modifying the project to reduce its VMT to an acceptable level – below the established thresholds of significance – or mitigating the impact through multimodal transportation improvements or the implementation of a Trip Cap.

For projects with industrial employment uses, a significant adverse impact is identified when the project-generated VMT exceeds the existing regional average VMT per employee. The current regional average, serving as the threshold for significance, is 16.53 VMT per employee.

VMT Analysis

VMT of Existing Land Uses

The results of the VMT analysis using the VMT Evaluation Tool indicate that the existing VMT for employment uses in the project vicinity is 17.89 per employee. Therefore, the existing VMT levels for employment uses in the project vicinity currently exceed the regional average VMT.

Project-Level VMT Impact Analysis

Since the VMT Evaluation Tool does not include data center land use, daily trips were converted to equivalent light industrial space to provide an estimate of VMT. Based on the land use conversion (applying standard ITE daily trip generation rates), a 415,000 s.f. data center is estimated to generate the same number of daily trips as 85,000 square feet of general light industrial (see Table 1).

Table 1
Trip Generation Conversion

Land Use		Size	Daily Rate	Daily Trip
Data Center (ITE #160)		415,000 Square Feet	0.99	411
General Light Industrial (ITE #110)	**Equivalent Industrial Space [1] =**	**85,000 Square Feet**	4.87	411

Source: ITE Trip Generation Manual, 11th Edition 2021
[1]The City's VMT Evaluation Tool does not include a specific category for Data Center use. Consequently, the proposed project's trip generation was converted to an equivalent General Light Industrial (ITE #110) land use and assessed using the tool's Industrial category.

Using the City's VMT Evaluation Tool, the project is projected to generate a VMT per employee of 17.88 (see Figure 3), which exceeds the established threshold. Therefore, the project would result in a significant VMT impact on the transportation system based on the City's VMT impact criteria. Detailed evaluation sheets for the VMT analysis are provided in Appendix A.

Project Impacts and Mitigation Measures

Project Impact: The VMT generated by the project (17.88 per employee) exceeds the impact threshold of 16.53 VMT per employee, resulting in a significant impact. Consequently, mitigation measures are required to reduce the project's VMT impact.

Mitigation Measures: The following programmatic TDM measures would mitigate the project's VMT impacts:

- TDM Measure: Provide Commute Trip Reduction Marketing/Education: The project should provide commute trip reduction marketing/education to future employees of the project. This could include providing information packets with employee orientation describing alternative commute methods.
- TDM Measure: Provide Ride Sharing Program: The project should provide ride-sharing programs by facilitating carpool for interested future employees.

With the implementation of the mitigation measures recommended above, the project's VMT per employee would be reduced to 16.23 (see Figure 4), which is below the impact threshold of 16.53, reducing the project's VMT impact to less-than-significant levels.

VMT Impact Comparison

The entitled project was shown to have significant impacts on VMT that could also be mitigated by implementing programmatic TDM measures. The measures that were identified to mitigate the entitled manufacturing development impact to VMT included the following:

- Telecommuting and Alternative Work Schedules: Encourage employees to telecommute from home when possible, or to shift work schedules such that travel occurs outside of peak congestion periods. This strategy reduces commute trips, thereby reducing VMT. At a minimum, the measure would require that 65% of employees work a 4/40 work week schedule (10-hour workdays for four days a week). **Or**

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

EMPLOYMENT ONLY

The tool estimates that the project would generate per non-industrial worker VMT and per industrial worker VMT above the City's threshold.

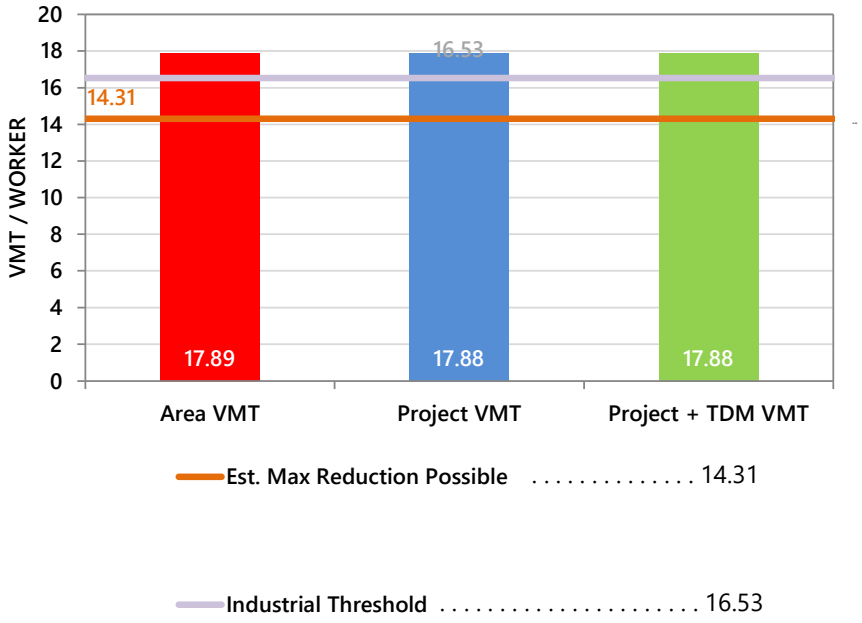


Figure 3
VMT Analysis

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

EMPLOYMENT ONLY

The tool estimates that the project would generate per non-industrial worker VMT below the City's threshold.

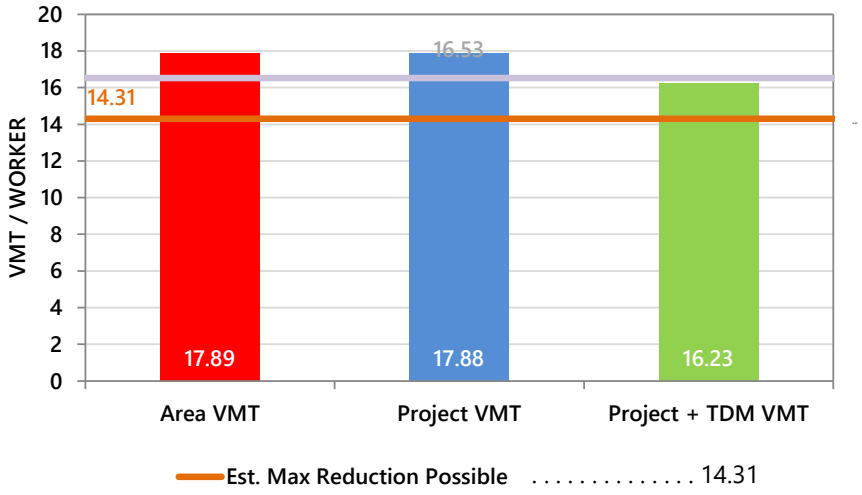


Figure 4
VMT Analysis with Recommended Mitigation Measures

- Operate a Free Direct Shuttle: Provide direct shuttle service to the project site from areas with high concentrations of employees. This strategy reduces drive-alone commute trips, thereby reducing VMT. At a minimum, the measure would require at least 20% participation by employees. **Or**
- Subsidize Vanpool: Provide subsidies for individuals forming new vanpools for their commute. This encourages the use of vanpools, reducing drive-alone trips, and thereby reducing VMT. The project would be required to subsidize 100% of the cost of the vanpool cost with at least 20% employee participation.

In addition, as part of its Conditions of Approval, the entitled project also was required to remove the pork chop islands located at the southwest and southeast corners of the Orchard Parkway/Trimble Road intersection along with a signal modification and implementation of a protected intersection to accommodate Class-IV bikeways to improve pedestrian safety and access. This multi-modal infrastructure improvement would further reduce the VMT generated by the project.

Per the VMT analysis for the proposed project, implementation of the identified programmatic TDM measures would mitigate the project's VMT impact. However, the project also will be required to implement the multi-modal infrastructure improvements at the Orchard Parkway/Trimble Road intersection as part of its Conditions of Approval.

Cumulative (GP Consistency) Evaluation

Projects must demonstrate consistency with the Envision San José 2040 General Plan to address cumulative impacts. Consistency with the City's General Plan is based on the project's density, design, and conformance to the General Plan goals and policies. If a project is determined to be inconsistent with the General Plan, a cumulative impact analysis is required per the City's Transportation Analysis Handbook.

According to the Envision San Jose 2040 General Plan, the project site is designated for industrial park and combined industrial/commercial uses. These designations support a wide range of industrial activities, including research and development, manufacturing, assembly, testing, office, and retail uses, provided that any hazardous or nuisance characteristics can be mitigated through design controls.

As the combined industrial/commercial designation allows a variety of industrial activities, the proposed project aligns with the Envision San Jose 2040 General Plan and does not require a General Plan Amendment (GPA). The project would contribute to achieving the General Plan's long-range transportation goals and is expected to result in a less-than-significant cumulative impact.

Trip Generation Comparison

Entitled Project Trips

Based on the approved October 2022 study, the entitled 208,000 s.f. manufacturing building project was estimated to generate 2,117 daily vehicle trips, including 197 trips during the AM peak hour and 187 trips during the PM peak hour.

Proposed Project Trips

Trip generation rates for Data Center (Land Use #160) from the ITE Trip Generation Manual, 11th Edition (2021) were applied to the proposed project. After accounting for location-based and VMT

reductions, the proposed project, consisting of a total of 415,000 s.f. of data center space, is estimated to generate 378 daily trips, including 42 AM peak hour trips and 34 PM peak hour trips.

Project Trip Comparison

The proposed project would generate 1,739 fewer daily trips, 155 fewer AM peak hour trips, and 153 fewer PM peak hour trips than the entitled 208,000 s.f. manufacturing building on the project site. The project trip estimate comparison is summarized in Table 1.

Intersection Levels of Service

An intersection level of service analysis was not conducted, as the proposed project would generate less traffic than the entitled project and would result in substantially less effect on intersection operations than those identified for the entitled project in the 2022 study. Furthermore, there were no physical intersection improvements required of the approved 208,000 s.f. manufacturing building on the site.

Site Access

The proposed project would construct two new buildings located near the northern (Data Center North) and western (Data Center West) portions of the project site. Access to the Data Center North site is proposed to be provided via a right-in-right-out driveway along Orchard Parkway, just south of Trimble Road and the existing signalized site driveway along Orchard Parkway. Access to the Data Center West site is proposed to be provided via a right-in-right-out driveway along Trimble Road and the existing signalized driveway along Orchard Parkway.

Driveway Operations

The maximum number of peak-hour project trips at each site access point are shown in Figure 5 and summarized as follows:

- Unsignalized Northern Orchard Parkway Right-Turn Driveway: 9 AM inbound trips and 12 PM outbound trips
- Signalized (Orchard Parkway) Full-Access Driveway: 9 AM inbound trips and 4 PM outbound trips
- Trimble Road Right-Turn-Only Driveway: 6 AM inbound trips and 8 PM outbound trips

The small number of project trips at each driveway equates to no greater than one vehicle entering or exiting each access point every five minutes during peak hours. Given the relatively small number of project trips at each driveway, all driveways are expected to operate adequately and significant traffic operational issues at the project driveways are not expected.

Sight Distance at Project Driveways

Adequate sight distance (sight distance triangles) should be provided at the unsignalized project site driveways along Trimble Road and Orchard Parkway in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards. Proper sight distance reduces the likelihood of collisions at driveways or intersections and allows drivers to exit safely by identifying sufficient gaps in traffic.

The minimum acceptable sight distance is typically based on AASHTO stopping sight distance, which varies depending on roadway speeds. Trimble Road and Orchard Parkway have posted speed limits of 40 and 35 miles per hour (mph), respectively. The AASHTO stopping sight distances for these speeds

Table 1
Project Trip Generation Estimates

							AM Peak Hour						PM Peak Hour					
	Reduction	VMT			Daily			Split		Trips				Split		Trips		
Land Use	Percentage	Existing	Project	Size	Rate	Trips	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Entitled Land Use[1]																		
#760 - Research and Development Center				**208,000 Square Feet**		**2,117**				**161**	**36**	**197**				**30**	**157**	**187**
Proposed Land Use																		
#160 - Data Center				415,000 Square Feet	0.99	411	0.11	55%	45%	25	21	46	0.09	30%	70%	11	26	37
Location-Based Reduction[2]	*8%*					*-33*				*-2*	*-2*	*-4*				*-1*	*-2*	*-3*
VMT-Based Reduction[3]	*0.06%*	17.89	17.88			*0*				*0*	*0*	*0*				*0*	*0*	*0*
Project Trips After Reductions						**378**				**23**	**19**	**42**				**10**	**24**	**34**
Net Project Trips (Proposed - Entitlement)						**-1,739**				**-138**	**-17**	**-155**				**-20**	**-133**	**-153**

Source: ITE Trip Generation Manual, 11th Edition 2021 (average trip rates per 1,000 square feet)

[1] Entitled project trips were obtained from the *350 West Trimble Road Manufacturing Development Transportation Analysis* , dated October 26, 2022, Table 5 – Project Trip Generation Estimates.

[2] The project site is located within a Suburb with Multifamily Housing area based on the City of San Jose VMT Evaluation Tool (February 29, 2019 version - updated in 2023). The location-based vehicle mode shares are obtained from Table 17 of the City of San Jose Transportation Analysis Handbook (April 2023). The trip reductions are based on the percent of mode share for all of the other modes of travel beside vehicle.

[3] Existing and project VMT per employee were estimated using the City of San Jose VMT Evaluation Tool. It is assumed that every percent reduction in VMT per-employee is equivalent to one percent reduction in peak-hour vehicle trips.

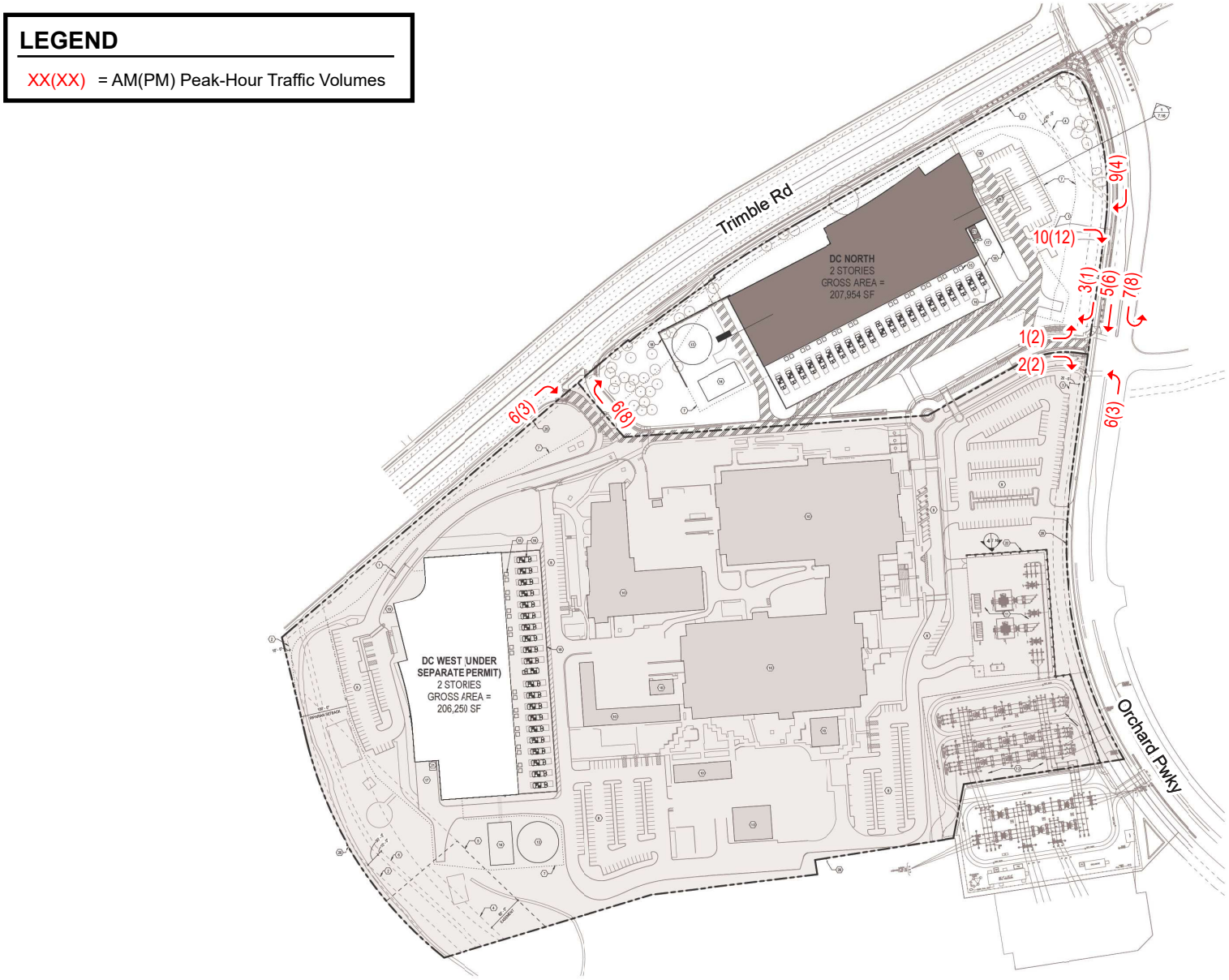


Figure 5
Gross Project Trips at Driveways

are 305 feet and 250 feet. Therefore, drivers exiting the project driveways must have a clear view of 250 feet to the north along Orchard Parkway and 305 feet to the west along Trimble Road. Both roads currently prohibit on-street parking along the project frontages.

Field observations indicate that the project driveway along Trimble Road is located along a straight segment of Trimble Road, ensuring that adequate stopping sight distances would be available at this driveway to allow vehicles to enter and exit the site safely.

The project proposes two unsignalized right-in-right-out driveways along Orchard Parkway. The northernmost driveway, would be located approximately 400 feet south of Trimble Road and along a segment of Orchard Parkway that has some roadway curvature north of the driveway. While a direct line of sight of greater than 250 feet is possible, street trees combined with the roadway curvature may cause difficulty for some drivers to see oncoming southbound vehicles along Orchard Parkway. City staff have indicated that the proposed project will be required to remove the northern Orchard Parkway driveway due to the sight distance issues and low volume of project trips.

The southernmost driveway located approximately 300 feet south of the signalized project access along Orchard Parkway is located along a straight segment of Orchard Parkway and adequate sight distance to the north is provided to and through the signalized project access, ensuring that adequate stopping sight distances should be available at this driveways to allow vehicles to enter and exit the site safely.

Recommendation: City staff have indicated that the proposed project will be required to remove the northern Orchard Parkway driveway due to the sight distance issues and low volume of project trips.

Queuing Analysis

A vehicle queuing analysis was completed for left-turn movements at the Orchard Parkway and the Project Access intersection where the project would add trips. The queuing analysis is presented for informational purposes only, since the City of San Jose has not defined a policy related to queuing. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:
P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average # of vehicles in the queue per lane (vehicles per hour per lane/signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles for a particular left-turn movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

Existing left-turning traffic was taken from existing counts from 2017. These traffic volumes likely represent an overestimate of existing traffic conditions today and represent a conservative estimate in the queuing analysis. The vehicle queue estimates and a tabulated summary of the findings are provided in Table 2. Peak hour volume summaries for the intersection is provided in Appendix B. The queue analysis sheets are provided in Appendix C.

Eastbound Left-Turn

The eastbound left-turn pocket currently provides approximately 125 feet of vehicle storage, accommodating about five vehicles. The analysis shows that the left-turn pocket could accommodate the 95th percentile queue, with and without the addition of project-generated trips.

Site Circulation

The project site is split into three distinct areas: the proposed Data Center North, the proposed Data Center West, and the existing buildings on-site (350 W Trimble Bldg 90 and 370 W Trimble Lumileds). The signalized project entrance along Orchard Parkway provides primary access to the project site. A traffic circle is present at the end of the entry drive. Access roads from the traffic circle lead to the proposed Trimble Road driveway entrance towards the west and towards the parking areas for the existing buildings on-site towards the south.

Table 2
Queuing Analysis Summary

	Orchard Parkway & Project Driveway EBL 1 Lane	
	AM	PM
Existing		
Cycle/Delay [1] (sec)	68	68
Volume (vphpl)	8	85
95th %. Queue (veh/ln.)	1	4
95th %. Queue (ft./ln) [2]	25	100
Storage (ft./ ln.)	125	125
Adequate (Y/N)	Y	Y
Existing Plus Project		
Cycle/Delay [1] (sec)	68	68
Volume (vphpl)	9	87
95th %. Queue (veh/ln.)	1	4
95th %. Queue (ft./ln) [2]	25	100
Storage (ft./ ln.)	125	125
Adequate (Y/N)	Y	Y

Notes:
EBL = eastbound left movement
[1] Vehicle queue calculations based on cycle length for signalized intersections
[2] Assumes 25 Feet Per Vehicle Queued.

Data Center North

Passenger vehicle parking for the Data Center North building would be located near the northeast portion of the project site. All drive aisles within the parking lot for the Data Center North building measure at least 24 feet in width, meeting the City of San Jose's minimum requirement of 24 feet. Passenger vehicle access to and from the parking lot for Data Center North is provided via the northernmost driveway from Orchard Parkway. The northernmost driveway from Orchard Parkway measures 26 feet in width, providing adequate width for two-way operations. The site plan shows an

entry gate at this entrance. The entry gate is located approximately 75 feet from the sidewalk, providing queue space for at least three vehicles from the sidewalk along Orchard Parkway. Employees would only access the Data Center North site from the northernmost right-in right-out driveway along Orchard Parkway. Trucks and emergency vehicles are expected to use the signalized entry south of this driveway.

Three fire access roads from the signalized entry drive measure 20 feet in width. The site plan shows fire access gates at all entrances by fire access roads. These entrances should provide signage so that vehicles do not enter the fire only access roads and have to back out onto the entry drive.

Recommendation: Clear signage should be installed at the entrance to each fire access road indicating that these access roads are designated for emergency vehicles only.

Data Center West

Passenger vehicle parking for the Data Center West building would be located near the west portion of the project site. All drive aisles within the parking lot for the Data Center West building measure at least 24 feet in width, meeting the City of San Jose's minimum requirement of 24 feet. The Trimble Road driveway is divided by a median island. Both entry and exit lanes measure at least 24 feet in width. Passenger vehicle access to and from the parking lot for Data Center West is provided via the right-turn driveway along Trimble Road and the signalized project entrance along Orchard Parkway. Both entrances lead to an access road that accesses the Data Center West parking lot. The site plan shows an entry gate at the access point to the Data Center West parking lot. The entry gate is located within the project site and any on-site queuing would not extend to City streets.

Existing Buildings

The parking areas for the existing buildings on-site would be reconstructed and remain in similar areas fronting Orchard Parkway. All redesigned parking areas for the existing buildings on-site measure at least 24 feet in width, meeting the City of San Jose's minimum requirement of 24 feet. The proposed southernmost driveway along Orchard Parkway measures 26 feet in width, meeting the City's minimum requirement. Passenger vehicle access to and from the parking lots for the existing buildings is provided via the signalized project entrance along Orchard Parkway and the proposed southernmost right-turn driveway along Orchard Parkway. Vehicles could also use the proposed right-turn driveway along Trimble Road.

Truck and Emergency Vehicle Access

The site plan shows that fire trucks and emergency vehicles would utilize the signalized project entrance along Orchard Parkway for the Data Center North building and the right-turn driveway along Trimble Road for the Data Center West building. Similarly, deliveries from larger trucks would exclusively use the Trimble Road driveway and navigate through the project site to access loading docks at the respective buildings. The site plan shows primarily 26-foot-wide access roads to and from the Trimble Road driveway. All fire access routes measure at least 20 feet in width, providing adequate width for fire engines. As previously discussed, both the entry and exit lanes from the Trimble Road driveway measure at least 24 feet in width, providing adequate width for delivery trucks to enter and exit the site.

The site plan shows loading areas in both the Data Center North and Data Center West buildings. The loading area for the Data Center North building is located near the east side of the building. Delivery vehicles would enter using the Trimble Road entrance and navigate through the site via the 26-foot-wide access road that connects the Trimble Road driveway to the traffic circle on-site. Approximately 200 feet after entering the project site, another 30-foot-wide drive aisle connects the access road to the

Data Center North loading/parking area. The site plan shows a gate that would restrict access to the Data Center North site. The gate is located well within the drive aisle so that no on-site queues would occur while waiting for the gate to open. The site plan shows a turnaround space that would allow trucks to back into the loading area.

The loading area for the Data Center West building is located near the southwest corner of the building. Trucks would enter using the Trimble Road entrance and navigate through the site via continuous 26-foot-wide drive aisles to the loading area. A turnaround area near the loading area allows trucks to back into the loading area.

Truck Turning Templates

Truck turning templates were completed for the loading areas at both the Data Center North and Data Center West buildings, as well as each truck entrance along Trimble Road and Orchard Parkway. It is presumed trucks entering the site to reach the Data Center North loading dock would use the Trimble Road entrance and trucks entering the site to reach the Data Center West loading dock would use the signalized entrance along Orchard Parkway. All trucks would utilize the Trimble Road driveway for exiting both data center sites.

As shown in Figure 6, WB-67 truck with trailer representing the largest semi-trailer trucks accessing the site would be able to pull into and out of the loading docks and the project driveways along Trimble Road and Orchard Parkway without any issues. The existing traffic circle/roundabout on-site near the signalized project entrance will be redesigned so that the landscaping is removed and replaced with a mountable, drivable roundabout so that trucks can drive over the center.

Data centers typically do not have frequent or reoccurring truck trips. Truck trips would be uncommon on a day-to-day basis and would not have a noticeable effect on on-site traffic operations on a daily basis.

There is adequate sight distance at the project driveway along Trimble Road, which would allow exiting trucks to see along the western approach along Trimble Road, including the sidewalks where pedestrians may be crossing the project driveway.

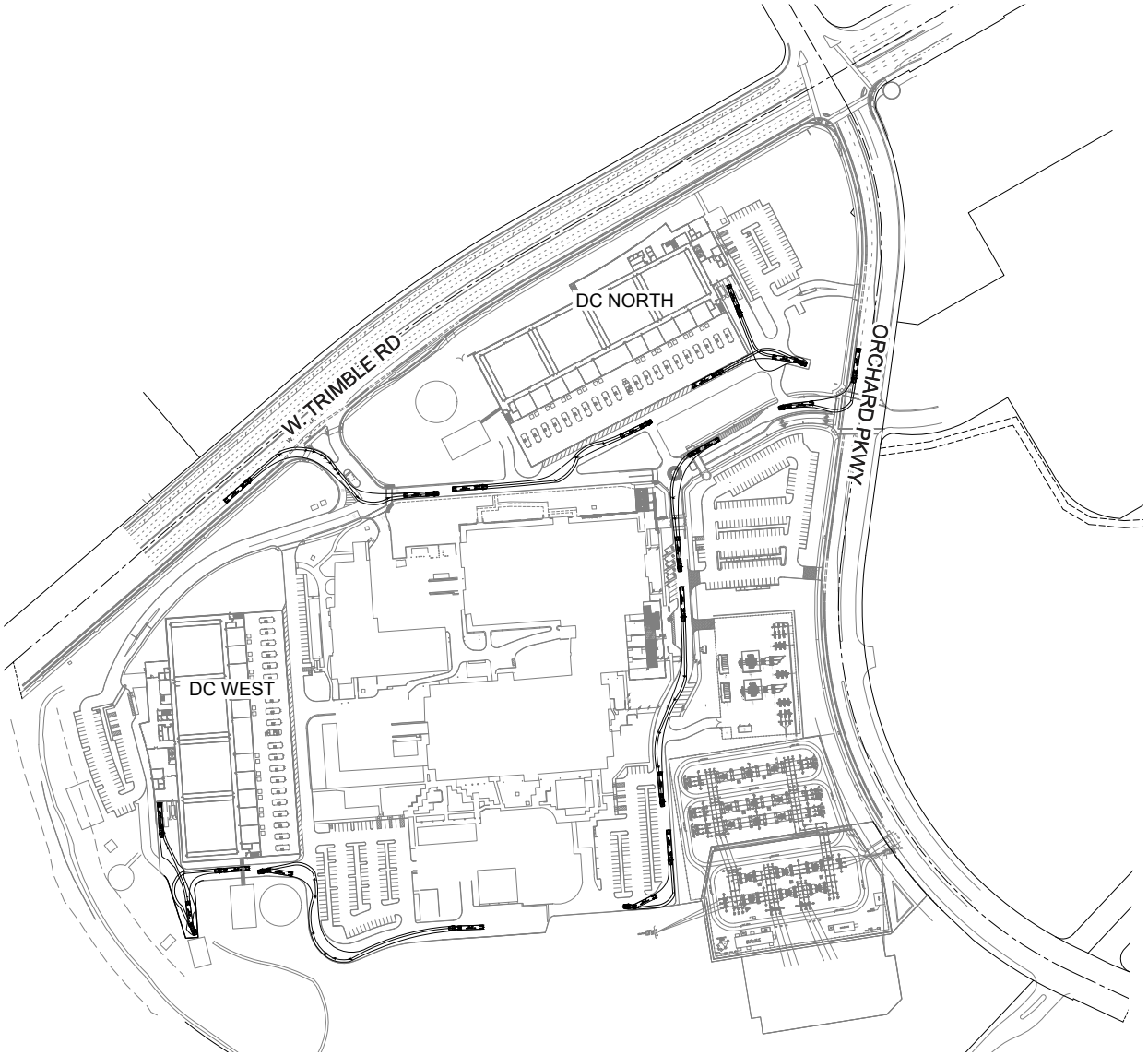
Pedestrian, Bicycle, and Transit Facilities

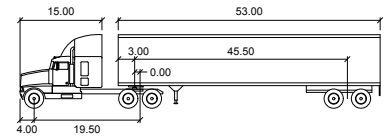
All new development projects in San Jose should encourage multi-modal travel, consistent with the goals of the City's General Plan. It is the goal of the General Plan that all development projects accommodate and encourage the use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and vehicle miles traveled. In addition, the adopted City Bike Master Plan establishes goals, policies, and actions to make bicycling a daily part of life in San Jose. The Master Plan includes designated bike lanes along all City streets, as well as on designated bike corridors. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

Pedestrian and Bicycle Facilities

The San Jose Better Bike Plan 2025 and Envision 2040 General Plan, as described below, identify planned improvements to the bicycle network within the City and provide policies and goals that are intended to promote and encourage the use of multi-modal travel options and reduce the identified project impacts to the roadway system.

The City's Zoning Code does not specify minimum bicycle parking requirements for data centers. Similar uses with low employment typically require one bicycle parking space per ten employees. The





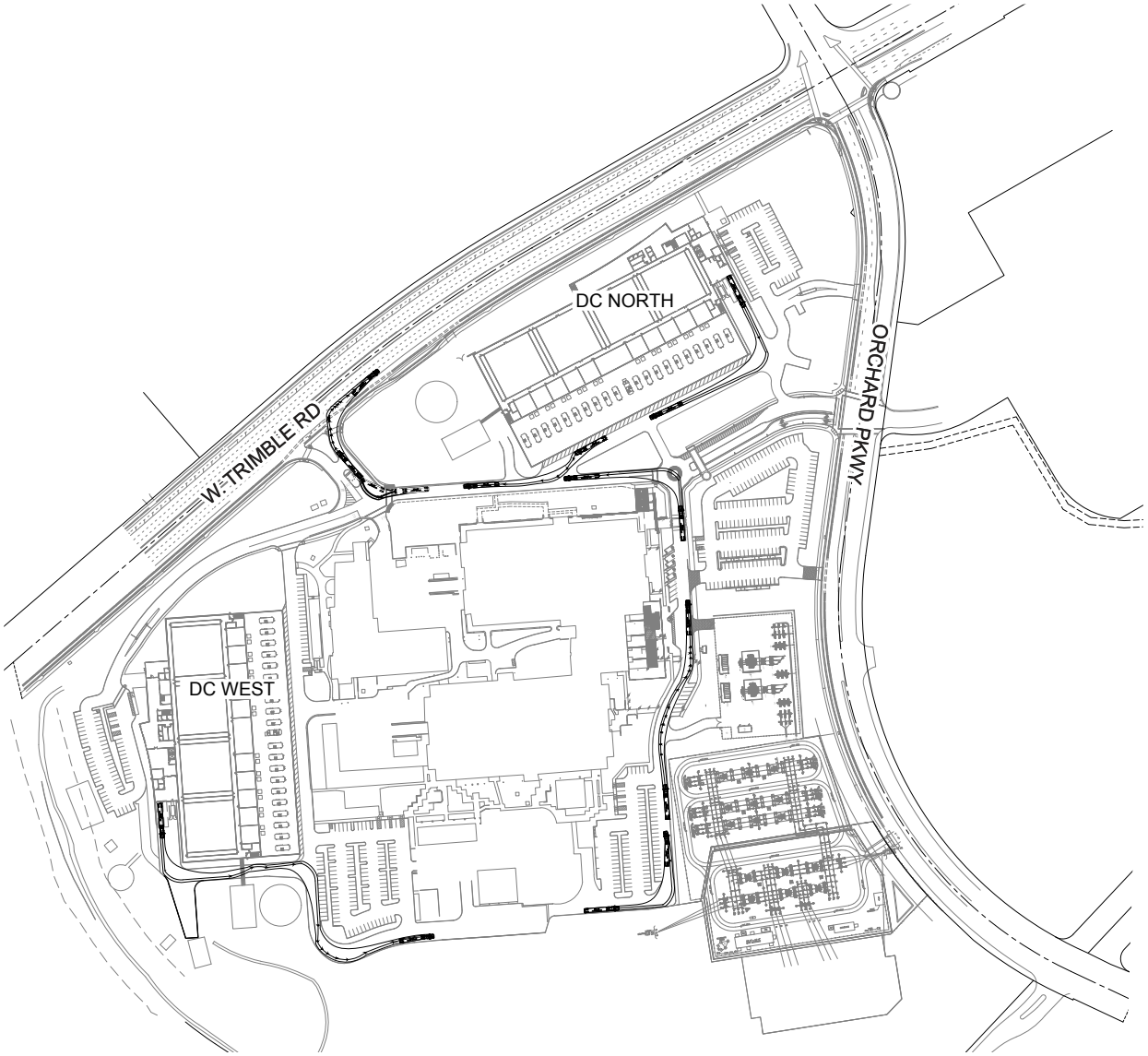
WB-67

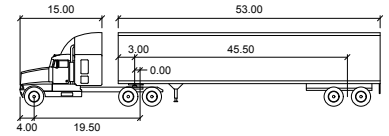
feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

Figure 6A
Truck Turning Template - Entry Entering Movements

NORTH
Not to Scale





WB-67

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

Figure 6B
Truck Turning Template - Exiting Entering Movements

NORTH
Not to Scale

proposed number of employees in currently unknown. The project would provide 5 short-term bicycle parking spaces and 1 long-term bicycle parking space at each the Data Center North and Data Center West sites, totaling 10 short-term bicycle parking spaces and 2 long-term bicycle parking spaces.

Baywheels operates bikeshare in the City of San Jose. The closest bike share stations are located south of US 101, approximately 1.5 miles away, which is further than most employees would walk to from the project site.

Pedestrian and Bicycle Facility Improvements

The San Jose Better Bike Plan 2025 indicates that a variety of bicycle facilities are planned in the study area, some of which would benefit the project and adhere to the goals of the Envision 2040 General Plan. Specifically, Class IV protected bike lanes are planned for:

- Trimble Road, along its entire length
- Orchard Parkway, along its entire length

The project would not impede the implementation of the planned bicycle facilities. The project will however be required to construct Class IV bike lanes (7-foot bikeways) per the Better Bike Plan 2025 along the Trimble Road project frontage with reconstruction of all existing curb ramps at the right-in, right-out project driveway along Trimble Road. The project would also be required to remove the pork-chop island on the southwest corner of the Orchard Parkway/Trimble Road intersection as part of its frontage improvements.

Recommendation: The project applicant should discuss with city staff to determine whether the proposed number of bicycle parking spaces is adequate, or if additional bicycle parking spaces would be required.

Recommendation: Per City staff, the project will be required to construct a class IV protected bikeway along its Trimble Road frontage per the San Jose Better Bike Plan 2025.

Transit Facilities

The project site is served by VTA light rail, which operates along First Street in the project vicinity. The nearest light rail station is Component Station, which is located approximately ½ mile east of the project site. A small number of employees of the proposed project may utilize light rail. The new riders due to the proposed project could be accommodated by the current available capacity of light rail in the study area and improvement of the existing transit service would not be necessary with the project.

Transit Facility Improvements

There is an existing bus duck-out along the Trimble Road frontage. There are currently no bus routes that operate along Trimble Road near the project vicinity. The project applicant should coordinate with VTA to confirm whether the existing duck-out along the Trimble Road frontage can be removed as part the construct of the Class IV protected bike lanes.

Recommendation: The project should coordinate with VTA to confirm whether the existing bus duck-out along the Trimble Road frontage can be removed.

Transportation Demand Management (TDM) Requirements

The proposed project, consistent with the goals of the Envision 2040 General Plan and the targets of Climate Smart San Jose Plan, is required to comply with the City's TDM policy. The TDM Program requires the project to coordinate with the City to develop a TDM Plan that meets its TDM Point

Targets. The project will be responsible for implementing measures identified in the TDM Plan to reduce the number of vehicle trips generated by the project. However, if a project component passes the TDM screening criteria, it is not required to develop a TDM Plan as part of San Jose Municipal Code requirements.

Evaluation of TDM Screening Criteria

Per the TDM screening criteria, the project as proposed would not meet screening criteria for small infill industrial project. The project will not meet the applicable screening criteria for small infill industrial projects. Therefore, the project will be required to submit and have approved a TDM Plan per City policy.

Proposed TDM Measures

The City's TDM policy requires other uses such as the proposed project to achieve a minimum of 5 TDM points. The project proposes the following TDM measures to meet this requirement:

- MI01: Provide Bike Network Improvements (2 points)
- MI05: Provide Pedestrian Network Improvements (2 points)
- TP13: Provide Rideshare Programs (1 point)

The project TDM report can be found in Appendix D.

Annual Compliance and Monitoring Requirements

The project is classified as a smaller (Level 1) project. Due to the project proposing at least one programmatic TDM measure, the project must submit a completed TDM Compliance Form and associated administrative fees to the City Department of Transportation annually.

Conclusions

The results of the supplemental review for the 350-370 Trimble Road site indicate that the proposed project would have mitigable VMT impacts and fewer adverse effects on transportation facilities compared to the entitled project. Additionally, the following recommendations were identified from the site access and on-site circulation review:

- The City has indicated that the proposed project will be required to remove the northern Orchard Parkway driveway due to the sight distance issues and low volume of project trips.
- Clear signage should be installed at the entrance to each fire access road indicating that these access roads are designated for emergency vehicles only.
- The project applicant should discuss with city staff to determine whether the proposed number of bicycle parking spaces is adequate, or if additional bicycle parking spaces would be required.
- The project will be required to construct class IV bikeway along its Trimble Road frontage per the San Jose Better Bike Plan 2025.
- The project should coordinate with VTA to confirm whether the existing bus duck-out along the Trimble Road frontage can be removed.

Supplemental Transportation Review for Northtown Data Center Site

Technical Appendices

APPENDIX O

Administrative Draft Water Supply Assessment

ADMINISTRATIVE DRAFT
WATER SUPPLY ASSESSMENT

NORTHTOWN DATA CENTER

May 2025

TODD GROUNDWATER

1301 Marina Village Parkway, Suite 320
Alameda, CA 94501
510.747.6920
www.toddgroundwater.com

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1. INTRODUCTION

1.1. PROJECT DESCRIPTION

LBA Realty (LBA) is working on behalf of a client to develop two new data center buildings near the San José Airport. San José Municipal Water System (SJMWS) is providing a Water Supply Assessment (WSA) that will be included with an Environmental Impact Report (EIR) and related environmental documentation for the project to comply with CEQA.

The Northtown Data Center will consist of two buildings, designated Data Center West and Data Center North at the southeast corner of the intersection of Orchard Parkway and Trimble Road in San José, California. Both buildings are two stories, the Data Center West building has an area of 206,250 square feet, and Data Center North has an area of 207,594 square feet, for a total building area of 414,204 square feet. Each building will incorporate approximately 30,000 square feet of office space with 50 full-time equivalent staff on site 24 hours a day, 7 days a week.

Domestic water demand is expected to be small and met by an estimated 1.14 acre-feet per year (AFY) of potable water. An estimated water demand of 980.9 AFY would be used for mechanical cooling, and 15.7 AFY for irrigation. Mechanical cooling and irrigation at the site can be served by recycled water. The SJMWS would be the retailer for the Project. **Figure 1** shows the general location of the data center located within the service area of SJMWS.

1.2. BACKGROUND

The California Water Code section 10910 (also termed Senate Bill 610 or SB610) requires that a water supply assessment (WSA) be provided to cities and counties for projects (of a specified type and size) that are subject to the California Environmental Quality Act (CEQA). Under the California Water Code Section 10912, a residential or commercial "project" is any of the following:

- A proposed residential development of more than 500 dwelling units
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 units square feet of floor space
- A mixed-use project that includes one or more of the projects specified in Section 10912
- A project that would demand an amount of water equal to, or greater than, the amount of water required by a 500-dwelling unit project.

The Northtown Data Center Project includes an approximate water use of 997.7 AFY. The total water demand will exceed the threshold for the amount of water required by a

500-dwelling unit project. For comparison, water demand for dwelling units in San José is on the order of 0.2 AFY per unit, or about 100 AFY for 500 units.

The City of San José recognizes the Northtown Data Center as subject to CEQA and SB610. Cities and counties are mandated to identify the public water system that might provide the Project's water supply and then to request a WSA, which includes a discussion regarding whether the public water system's total projected water supplies (available in normal, single dry, and multiple dry years during a 20-year projection) will meet the projected water demand associated with the proposed Project in addition to the public water system's existing and planned future uses. The SJMWS is the public water provider for the Northtown Data Center and the water supply and demand information for the SJMWS is presented herein.

A foundational document for preparation of the WSA is the Urban Water Management Plan (UWMP) for the area of the City of San José served by SJMWS. The 2020 UWMP, which was adopted in June 2021, is available and relevant data have been updated by the City where applicable. WSAs and UWMPs both require water supply reliability information to be provided for the water service area in five-year increments over a 20-year planning horizon.

1.3. PURPOSE

The purpose of this WSA is to document the City's existing and future water supplies for its SJMWS service area and compare them to the area's future water demand including that of the proposed Project. This comparison, conducted for both normal and drought conditions, is the basis for an assessment of water supply sufficiency in accordance with the requirements of California Water Code section 10910 (Senate Bill 610).

2. PROJECT WATER DEMAND AND SUPPLY

This section addresses water demands for the proposed land uses. Both potable and recycled water will meet water demands for this project. The primary water uses for this project will be for domestic usage, the cooling system, and landscape irrigation. Domestic water will be supplied by potable water, while demand for the other water uses will be met with recycled water.

2.1. EXISTING WATER USE

The Northtown Data Center site includes existing commercial and industrial areas. These uses will remain after development of the data center. The area where the data center will be constructed is largely vacant and has been for some time. While existing water use of the development area may include minor irrigation, water use over the past five years has been minimal and for this WSA, it is assumed to be 0 AFY.

2.2. ESTIMATED FUTURE POTABLE WATER DEMAND

Estimation of the future water demand for the proposed Project involves application of water demand factors. Commercial water usage can be calculated using demand factors by square footage of the facility or by number of employees at the facility.

The only demand for potable water will be domestic use by the facility employees. One method to estimate data center employee water use is to use the water demand factor of 29 gpd/employee for "office or industrial jobs" in North San José (Envision San José, 2010). This water demand factor assumes one shift per day, with employees working only on weekdays. LBA estimates that there will be 50 full-time-equivalent employees on site 24/7. Consequently, the total annual demand was calculated to account for employees on both weekdays and weekends. At 29 Gal/day for 50 full-time- equivalent employees over 260 workdays/year, the total demand would be 371,000 gal or 1.14 AF. **Table 1** documents the domestic water use calculations.

2.3. ESTIMATED FUTURE RECYCLED WATER USE

Most of the water used by the Northtown Development will be recycled water. Recycled water will be used for the facility's critical cooling system and outdoor irrigation. It is understood that this facility will only use recycled water for its critical cooling system. The project plans to use 18 hybrid closed-circuit cooling towers (CCCT) for each of the two data center buildings. **Figure 2** shows the basic water flow associated with the cooling towers. As shown, influent make-up water enters a holding basin and flows through the evaporative section of the cooling towers, indirectly removing heat from the closed-circuit facility water loop. A portion of the heated water evaporates or drifts from the cooling tower. The remaining heated water falls into the cooling tower basin for recirculation. As the recirculated water reaches a certain concentration, it is drained – or blown down – from the basin to the wastewater system. The make-up water system includes treatment to reduce biological fouling, corrosion, and calcium

carbonate ($CaCO_3$) scaling. Note that this "single tower" illustration represents all the towers combined for a given data center building (pers. comm. Kirby, N, Feb 2025).

The annual recycled water demand for critical cooling was calculated based on the total energy demand and the local ambient temperature variations, factoring in the water conservation techniques. The critical cooling water usage needs are provided by the cooling tower manufacturer, Marley, and the water treatment supplier, Nalco Water, and likely represent the worst-case scenario. The instantaneous water demand would vary based on local temperatures data center load fluctuations and the resulting water evaporation, blowdown and drift performance of the cooling towers (pers. comm. Kirby, N, Feb 2025). The critical cooling system is expected to operate 24 hours a day and 7 days a week throughout the year. The annual recycled water consumption for critical cooling is estimated to be 319.6 million gallons per year, or 980.9 AFY, as shown in **Table 2**. The cooling tower demand estimates used in this WSA were developed by AlfaTech Consulting Engineers and are provided in **Appendix A**.

An estimate of the total water demand for irrigation was calculated based on the proposed landscape palette for the site. Outdoor landscaping is expected to cover 390,000 square feet, about 9 acres. The estimated volume of water needed to support the landscaping is 5,100,000 gallons or 15.7 AFY (pers. comm. Calderone, A, Jan 2025). This is reasonable for the area's typical low-water demand landscaping. Total water supply for irrigation is expected to be satisfied by recycled water.

In summary, this project is estimated to utilize 980.9 AFY of recycled water for critical cooling operations and 15.7 AFY for irrigation for a total 996.5 AFY of recycled water (**Table 2**).

2.4. FUTURE WATER CONSERVATION

The sole use for potable water is indoor domestic use. No additional water conservation is expected for this indoor use. Recycled water will be used to satisfy the cooling and irrigation demand. As recycled water is a drought resilient water supply, it is not anticipated that the project will reduce water use during drought conditions.

2.5. PROJECT WATER SUPPLY

The project plans to use potable water for domestic uses only and recycled water for cooling and irrigation. The project proponent has plans to build out the recycled water infrastructure and is responsible for connecting the Data Center to the existing SJMWS infrastructure. No potable supply back up will be provided for the cooling at the project site. The project is scheduled to be completed in the second half of 2028.

3. SAN JOSÉ MUNICIPAL WATER SYSTEM DEMAND

This section summarizes water demand for the SJMWS service area, the retailer for the proposed Project area. The first part describes the factors affecting total water demand, including climate, population, and employment, plus the mix of customer types, such as residential, commercial, and industrial. The second part documents water demands, not only under normal climatic conditions, but also during drought.

Figure 1 shows the SJMWS service areas and the project location in the North San José portion of the SJMWS service area.

3.1. CLIMATE

Climate has a considerable influence on water demand on a seasonal and annual basis. Generally, for a project, this influence increases with the portion of water demand for outside uses, specifically landscape irrigation, but the demand for recycled water for this project's evaporative cooling system also will be affected. As noted above, the cooling water demand accounts for variations in local ambient temperature.

Table 3 summarizes representative climate data for the City, including average monthly and annual rainfall and evapotranspiration (ETO) from the California Irrigation Management Information System, Union City (CIMIS) station (CIMIS, 2025). The City has a semi-arid, Mediterranean climate, characterized by dry summers and wet winters with year-round moderate-to-warm temperatures. Reflecting this pattern, water demand in the City is greater in the summer than in the winter.

As it would for the entire region, climate change may affect future water supply availability for the City by reducing water availability, changing local precipitation patterns, and increasing water demands. As discussed in greater detail below, the City largely relies on groundwater but is increasing its recycled water supply source to help offset potable demand.

3.2. POPULATION

City population, a key factor in water demand, is analyzed in the 2020 UWMP. **Table 4** reproduces the UWMP population and employment values for the City's SJMWS water service area with projections to 2045.

3.3. CURRENT WATER USE SECTORS AND WATER DEMAND

Table 5 documents the historical water demand for the SJMWS service area by water use sectors for 2020 from the most recent UWMP. The water use sectors (customer types) are listed on the left. Recycled water demand in 2020 was 4,097 AFY with recycled water used for non-potable demands for irrigation and industrial uses (such as cooling towers).

3.4. PROJECTED WATER DEMAND

Table 6 summarizes the projected water demands for the SJMWS service area from 2025 to 2045. This table is from the SJMWS 2020 UWMP. The 21,643 AFY used in 2020 (**Table 5**) is expected to almost double to 40,965 AFY by 2045.

Several projects that rely on recycled water have been approved and in the process of approval since the 2020 UWMP. Two large industrial uses with adopted WSAs total 2,363 AFY and five smaller irrigation projects expected to use less than 75 AFY. The expected project demand is another 997.7 AFY. While this total of projected recycled water demand (3,435 AFY) larger than the anticipated increase recycled water supply by 2035, it is within 3.6 percent of the expected increase by 2045 (3,316). SJMWS will most likely be able to meet this recycled water demand but may need to accelerate plans to increase recycled water supply availability in the short term.

The projected water demand is primarily based on population growth and land use projections, as indicated in the San José Envision General Plan (2010). It was assumed in the 2010 General Plan that the water demand would increase in proportion to population and employment. The 2020 UMWP has incorporated per capita water demand reduction due to conservation, particularly for residential customers. The potable demand for this proposed project is within the increase projected by the General Plan and UWMP.

4. SAN JOSÉ MUNICIPAL WATER SYSTEM WATER SUPPLY

4.1. WATER SUPPLY

The water supply for the North San José/Alviso area currently is provided primarily by the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy water system, with local groundwater serving as a backup water supply. Recycled water has been used in the area since 1999. Proposed sources of water supply include additional imported water from the Hetch Hetchy water system, groundwater from the Santa Clara Valley groundwater basin (which is managed by Valley Water in collaboration with local water agencies), and additional recycled water. In addition, water conservation is anticipated to reduce water demand from current projected amounts.

4.2. WHOLESALE WATER SUPPLY

4.2.1. SFPUC

North San José/Alviso is provided water from the SFPUC Hetch Hetchy pipeline by means of two turnouts. In 2009, SJMWS accepted both a master Water Supply Agreement (the agreement common to all Bay Area Water Supply and Conservation Agency (BAWSCA) agencies), and a Water Sales Contract (specific to SJMWS). The City of San José currently has a contract for up to 5,041 AFY (4.5 million gallons per day or MGD); this contract is both temporary and interruptible. The Water Supply Agreement with SFPUC was amended and restated in 2018 and 2021, and will remain in place until June 30, 2034.

The supply for the City of San José is interruptible but the supply cannot be interrupted until ten years after San José has received notice of SFPUC's intention to reduce or interrupt deliveries. San José, SFPUC, an BAWSCA continue to work on long-term reliable water supply strategies to ensure sufficient and reliable water supply for the region.

As part of the Water Supply Agreement, SJMWS may purchase excess water, providing that the combined purchases of SJMWS and the City of Santa Clara do not exceed 9 MGD. SJMWS is committed to purchasing the maximum amount of water available and reducing its reliance on other sources due to the uncertainties regarding the availability and sustainability of the groundwater basin. Links to the most recent Water Supply Agreement and Water Sales Contract are included in the references.

4.3. GROUNDWATER SUPPLY (VALLEY WATER)

Groundwater has long been a source of supply for SJMWS. Groundwater is available from local subbasins of the Santa Clara Valley groundwater basin (designated by DWR as

groundwater basin number 2-9.02), which are managed by SCVWD in collaboration with other agencies. SJMWS currently operates groundwater production wells in the Coyote and Santa Clara subbasins, which are within basin boundaries shown on **Figure 1**. The SJMWS currently has four wells in the North San José service area, two of which are permitted for active use; additional City wells located in other service areas are not able to provide water supply to the project's service area.

4.3.1. Santa Clara Valley Groundwater Basin

Most SJMWS service areas, including North San José, Evergreen, and Edenvale, overlie the Santa Clara subbasin, which occupies a structural trough between the Diablo Range on the east and the Santa Cruz Mountains on the west. It extends from the northern border of Santa Clara County to Coyote Narrows. The Santa Clara Valley is drained to the north by tributaries to San Francisco Bay including Coyote Creek and the Guadalupe River.

The principal water bearing formations of the Santa Clara subbasin are alluvial deposits of unconsolidated to semi-consolidated gravel, sand, silt, and clay (DWR, 2004). The permeability of the valley alluvium is generally high and most large production wells derive their water from it (DWR, 1975). The southern portion and margins of the subbasin are unconfined areas, characterized by permeable alluvial fan deposits. A confined zone is created by an extensive clay aquitard in the northern portion of the subbasin (SCVWD, 2001). This aquitard divides the water-bearing units into an upper zone and a lower zone; the latter is tapped by most of the local wells.

Groundwater in the Santa Clara subbasin is recharged through natural infiltration along stream channels and by direct percolation of precipitation. In addition, SCVWD maintains an active managed aquifer recharge program. Groundwater flow generally is from the margins of the basin toward San Francisco Bay.

4.3.2. Water Resources Management

Valley Water is the groundwater management agency in Santa Clara County (as authorized by the California legislature under the Santa Clara Valley Water District Act) and has the primary responsibility for managing the Santa Clara Valley groundwater basin. Valley Water has worked for decades to minimize subsidence and protect groundwater resources through managed aquifer recharge of the groundwater basin, water conservation, development of surface water, imported water, and recycled water supplies.

The Sustainable Groundwater Management Act (SGMA), passed in 2014, required medium and high priory basins to establish Groundwater Sustainability Agencies (GSA) and to prepare Groundwater Sustainability Plans (GSPs) or Alternatives to GSPs (Alternative Plan). Santa Clara subbasin is a high priority basin that is not critically overdrafted. SGMA listed Valley Water as one of 18 exclusive agencies to comply with SGMA. Valley Water submitted their 2016 Groundwater Management Plan (GWMP) as their first Alternative Plan to DWR in 2016. In 2021, Valley Water submitted an updated

GWMP to fulfill the periodic evaluation of the Alternative Plan under SGMA. The 2021 GWMP contains detailed information about groundwater management, a hydrogeological conceptual model of the basin, an update of basin conditions (including groundwater levels and water quality, conjunctive water management plans, basin management programs (including minimum thresholds), and detailed descriptions of their monitoring networks (Valley Water, 2021).

Valley Water is dedicated to providing a reliable water supply to the people and businesses of Santa Clara County. Valley Water maintains flexible management of the water resources to meet these water needs in the future and to manage potential risk. The groundwater supply management program is intended to replenish the groundwater basin, sustain the basin's water supplies, help mitigate groundwater overdraft, and sustain storage reserves for use during dry periods. Valley Water operates artificial recharge systems to augment groundwater supply. Valley Water also conserves local surface water, provides imported water, operates water treatment plants, maintains water conveyance systems, supports water recycling, and encourages water conservation. Valley Water works to maintain each subbasin at "full" capacity, banking water locally to protect against drought or emergency water supply interruptions. This strategy allows Valley Water to carry over surplus water in the subbasins from wet to dry periods.

4.3.3. Available Groundwater

The total available groundwater in a normal year, or sustainable yield, of the Santa Clara Subbasin is determined by Valley Water. While Valley Water is the GSA and responsible for overseeing the sustainable operation of the basin, they do not directly provide groundwater to retailers like SJMWS. Valley Water maintains local sources, recharge ponds, and imported water contracts as potential tools in the operation of the basin (Valley Water, 2021).

SJMWS - North San José

The SJMWS currently has four wells in North San José (the area of the proposed project). The wells, installed in 1981 and 1983, are 600 to 615 feet in depth with screens generally between 200 and 615 feet in depth. The combined capacity of the four wells is reported at 6,500 GPM (City of San José, 2021). However, only two of the wells are active wells in routine use, while the other two are maintained and permitted as a backup, emergency supply source. No additional wells would be needed to meet the small potable demand for the proposed project.

No entitlement or water rights to groundwater are indicated because the Santa Clara Valley groundwater basin has not been adjudicated and groundwater entitlements or rights have not otherwise been defined.

4.4. RECYCLED WATER

The City of San José operates the South Bay Water Recycling (SBWR) system and distributes recycled water produced at the San José-Santa Clara Water Regional Wastewater Facility (RWF) located in Alviso. The SBWR program delivers disinfected tertiary treated wastewater from the RWF through an extensive recycled water distribution system consisting of over 150 miles of pipeline. The recycled water is used for non-potable purposes such as agriculture, industrial cooling and processing, and irrigation of golf courses, parks, and schools. During the peak summer season, SBWR diverts between 15 and 20 MGD of recycled water for irrigation and industrial uses to over 900 customers throughout San José, Santa Clara, and Milpitas (City of San José, 2021).

Recycled water can provide for landscape irrigation, ornamental features (fountains), toilet flushing, and specific industrial uses. In 2020, total recycled water use in SJMWS service areas amounted to 4,097 AF.

SJMWS currently has programs in place to encourage the use of more recycled water, including:

- Lower cost of recycled water than potable water.
- Regulatory approval for recycled water usage.
- Ordinances requiring the use of recycled water for irrigation where available.
- Prohibition against the use of potable water for uses appropriate to recycled water.
- Support for developers' expansion of system to areas where recycled water is unavailable.

By 2045, recycled water use in SJMWS is expected to be 7,413 AFY, an 81 percent increase from current volumes (City of San José, 2021). This WSA only looks at the long-term water system capacity. The ability of the recycled water to meet the peak demand of the project will be determined by the infrastructure designed and implemented by the project proponent.

4.5. WATER SUPPLY IN NORMAL AND DROUGHT PERIODS

Table 7 summarizes current water supply sources by volume in 2020 and **Table 8** shows projected water supply reported in five-year increments to provide a long-term overview. The recycled water supply for the project (996.5 AFY) is listed separately, because the UWMP did not include this specific project in the growth assumptions. Accordingly, it is considered as additive to the projected system wide recycled water supply as documented in the UWMP. While the recycled water supply is available, the proposed project includes plans to extend the recycled water infrastructure and connect the Data Center to the existing infrastructure. As indicated, SJMWS has multiple sources of water supply which include imported water from the San Francisco Public Utility Commission (SFPUC), groundwater from the Santa Clara Valley groundwater basin

(which is managed by Valley Water in collaboration with local water agencies), and recycled water. In addition, water conservation is anticipated to reduce water demand from current projected amounts.

While **Tables 7 and 8** document current and future water supply under normal conditions, **Tables 9, 10 and 11** quantify the amount of potable water supply during normal and drought conditions, for current conditions and for projected conditions within the SJMWS service area. These tables were presented in the SJMWS 2020 UWMP to document the expected changes in potable supplies. Recycled water supplies are not included in these tables as no change is expected from normal conditions.

Water supplies in a single dry year are shown in **Table 10**. During dry periods, a reduction of imported water volume from SFPUC is expected, based on their supply reliability analysis. The difference between water supply and demand during a single dry year is expected to be met through conservation measures. These measures are identified and discussed in SJMWS' Water Shortage Contingency Plan.

Table 11 shows the available potable water supplies for multiple dry years, similar to those that occurred from 1987 through 1992 and 2012 through 2015. As with the single dry year, SFPUC supplies would be reduced in line with the reliability analysis, 46 to 64 percent. Valley Water supplies, both imported water and groundwater, would also be reduced. However, Valley Water plans to manage the reductions through short term water conservation, use of reserves, and supplemental water sources.

In the first year of drought, Valley Water would rely on available reserves. In subsequent years, as reserves are depleted, Valley Water would need to rely on short-term water use reductions and supplemental supplies. SJMWS would coordinate regularly with Valley Water during any dry period to utilize supplies which are most readily available (City of San José, 2021).

5. COMPARISON OF SUPPLY AND DEMAND

The WSA must compare supply and demand for the service area where the Project is located. **Tables 9, 10, and 11** show water supply projections for the SJMWS Service Area in five-year increments to 2045 for normal, single-dry, and multiple-dry years, respectively. The tables exclude recycled water, which is drought resilient and 100 percent available in all years. **Tables 9, 10, and 11** are based on the assumptions outlined in the UWMP and summarized in Section 4.5. While the demand is expected to be higher than the project supply, the shortfalls will be met through water conservation and programs detailed in the Water Shortage Contingency Plan (WSCP).

The project is scheduled for completion in the second half of 2028. For potable supply, SJMWS projects an increase of 3,534 AFY for 2025, and 6,610 AFY for 2030. For recycled water, SJMWS projects a demand increase of 679 AFY for 2025, and 1,359 AFY for 2030.

Potable water supply is sufficient to meet the projected domestic use (1.14 AFY). Recycled water supply is sufficient to meet the project cooling uses and irrigation demand (996.5 AFY).

6. CONCLUSIONS

Findings of this WSA are summarized below.

- The Northtown Data Center is located in the North San José portion of the SJMWS service area.
- A WSA as per SB610 is required because the project is anticipated to use more than the equivalent demand of 500 residences.
- SJMWS, the Project water supply retailer, has a water supply portfolio including local groundwater, imported water from SFPUC and Valley Water, and recycled water.
- Sufficient water supplies are available to serve the Project's water demands including the small potable use and the non-potable demand to be served by recycled water.

Contingent upon the development of the appropriate infrastructure for recycled water, the project has sufficient water supply.

7. REFERENCES

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San José Municipal Water System, Urban Water Management Plan 2020, June 2021.

Santa Clara Valley Water District (SCVWD), Santa Clara Valley Water District Groundwater Management Plan, July 2001.

Valley Water, Groundwater Management Plan for Santa Clara and Llagas Subbasins, 2021.

TABLES

Table 1. Estimation of Future Potable Water Demand, Project

Water Demand	Avg Daily Demand (GPD)	Avg Demand (AFY)
Domestic Use for Employees	1,015	1.14
Total	1,015	1.14

Notes:

Based on estimated demand of 29 GPD/employee (Envision San José, 2010) for 50 FTE employees

Table 2. Estimation of Future Recycled Water Demand, Project

Water Demand	Avg Daily Demand (GPD)	Avg Demand (AFY)
Landscaping irrigation[1]	13,980	15.7
Cooling system[2]	875,672	980.9
Total	889,653	996.5

Sources:

1. Pers. Comms. Calderone, A, Jan 2025
2. Pers. Comms. Kirby, N, Mar 2024

Table 3. Local Climate Data

Month	Average Total Monthly Evapotranspiration (2010-2024)	Average Total Monthly Precipitation (in) (2010-2024)	Average Temperature (F) (2010-2024)	Average Minimum Temperature (F) (2010-2024)	Average Maximum Temperature (F) (2010-2024)
January	1.4	3.1	48.8	39.7	59.7
February	2.0	2.3	50.8	40.6	62.1
March	3.2	2.8	53.6	43.9	64.1
April	4.6	1.4	56.6	47.2	67.4
May	5.4	0.5	58.9	50.6	69.6
June	6.2	0.1	62.9	54.0	74.7
July	6.4	0.0	64.8	56.4	76.4
August	5.6	0.0	65.2	56.9	77.0
September	4.4	0.1	64.5	54.9	77.3
October	3.2	0.8	61.0	49.9	74.4
November	1.7	1.6	53.0	42.6	65.1
December	1.3	3.8	48.8	39.6	59.3
Annual	**45.4**	**16.6**	**57.4**	**48.0**	**68.9**

Source: California Irrigation Management Information Systems (https://cimis.water.ca.gov/) from Station 171, Union City

Table 4. Current and Projected Population and Employment in SJMWS Service Area

Year	2020	2025	2030	2035	2040	2045
Population	132,644	150,368	168,092	194,985	217,685	222,661
Jobs	90,001	94,006	95,626	100,473	111,355	118,367

Source: UWMP 2020 Tables 3-2, 3-3

Table 5. Historical Water Demand by Water Use Sectors (AFY)

Water Use Sector	Actual 2020 Water Demand (AFY)	
Water Use Sector	**Level of Treatment when delivered**	**Volume (AFY)**
Single-Family Residential	Drinking Water	7,920
Multi-Family Residential	Drinking Water	2,694
Commercial	Drinking Water	1,040
Industrial	Drinking Water	1,837
Institutional/Government	Drinking Water	176
Landscape Irrigation	Drinking Water	2,873
System Losses/Fire Service		1,006
Recycled Water	Non Potable Water	4,097
TOTAL		**21,643**

Source: UWMP 2020 Tables 4-1 and 4-3

Table 6. Projected Water Demand by Water Use Sectors (AFY)

Customer Type	Projected Water Demand (AFY)				
	2025	2030	2035	2040	2045
Potable Demand					
Single-Family Residential	9,107	10,293	10,917	12,338	12,621
Multi-Family Residential	2,932	3,171	3,463	3,763	3,849
Commercial/Institutional	1,642	1,920	2,436	3,376	3,446
Industrial	2,562	3,197	4,086	5,546	5,665
Institutional/Governmental	208	239	286	356	365
Landscape Irrigation	3,401	3,930	4,586	5,584	5,712
Losses	1,228	1,406	1,569	1,852	1,894
Non-Potable Demand					
Recycled Water	4,776	5,456	6,279	7,368	7,413
TOTAL	**25,856**	**29,612**	**33,622**	**40,183**	**40,965**

Source: 2020 UWMP Table 4-2 (with recycled water)

Table 7. Current Water Supply (AFY)

Supply Type	Existing Water Supply (AFY) 2020
Groundwater	885
Imported - Valley Water	11,930
Imported SFPUC	4,731
Recycled Water	4,097
TOTAL	**21,643**

Source: 2020 UWMP Table 6-9

Table 8. Projected Water Supply (AFY)

Supply Type	Projected Water Supply (AFY)				
	2025	2030	2035	2040	2045
Potable Supply (Valley Water, Groundwater, SFPUC)*	21,080	24,156	27,343	32,815	33,552
Recycled Water Supply - System wide*	4,776	5,456	6,279	7,368	7,413
Recycled Water Supply - Project	1,093	1,093	1,093	1,093	1,093
TOTAL	**26,949**	**30,705**	**34,715**	**41,276**	**42,058**

*Source: 2020 UWMP Table 6-10

Table 9. Normal Year Supply and Demand Comparison, Potable (AFY)

		2025	2030	2035	2040	2045
Normal Year	**Supply totals**	21,080	24,156	27,343	32,815	33,552
	Demand totals	21,080	24,156	27,343	32,815	33,552
	Difference	0	0	0	0	0

Note: Table excludes recycled water which is 100% available in all years

Source: UWMP 2020 Table 7-5

Table 10. Single Dry Year Supply and Demand Comparison, Potable (AFY)

		2025	2030	2035	2040	2045
Single Dry Year	**Supply totals**	19,265	22,330	25,505	30,977	31,257
	Demand totals	21,080	24,156	27,342	32,814	33,553
	Difference	(1,815)	(1,826)	(1,837)	(1,837)	(2,296)

Note: Table excludes recycled water which is 100% available in all years

Source: UWMP 2020 Table 7-6

Difference is expected to be made up through the Water Shortage Contingency Plan (WSCP)

Table 11. Multiple Dry Years Supply and Demand Comparison, Potable (AFY)

		2025	2030	2035	2040
First Year	**Supply Totals**	19,265	22,330	25,505	30,977
	Demand Totals	21,080	24,156	27,342	32,814
	Difference	(1,815)	(1,826)	(1,837)	(1,837)
Second Year	**Supply Totals**	19,421	22,508	26,140	30,666
	Demand Totals	21,695	24,793	28,437	32,962
	Difference	(2,274)	(2,285)	(2,297)	(2,296)
Third Year	**Supply Totals**	20,036	23,145	27,235	30,813
	Demand Totals	22,310	25,431	29,531	33,110
	Difference	(2,274)	(2,286)	(2,296)	(2,297)
Fourth Year	**Supply Totals**	20,652	23,783	28,329	30,636
	Demand totals	22,926	26,068	30,626	33,258
	Difference	(2,274)	(2,285)	(2,297)	(2,622)
Fifth Year	**Supply Totals**	21,267	24,420	29,200	30,784
	Demand Totals	23,541	26,705	31,720	33,405
	Difference	(2,274)	(2,285)	(2,520)	(2,621)

Note: Table excludes recycled water which is 100% available in all years

Source: UWMP 2020 Table 7-7

Difference is expected to be made up through the Water Shortage Contingency Plan (WSCP)

FIGURES

Alviso &
North San Jose

Project Location

Evergreen

Edenvale

Coyote
Valley

Map Extents

Project
Location

Santa
Clara
Subbasin

N

0 10
Miles

N

0 3
Scale in Miles

Project Location
Santa Clara Subbasin

Alviso & North San Jose Service Areas
Evergreen Service Area
Edenvale and Coyote Valley Service Areas

February 2025

TODD GROUNDWATER

Figure 1
Project Location with Municipal Water System Service Areas

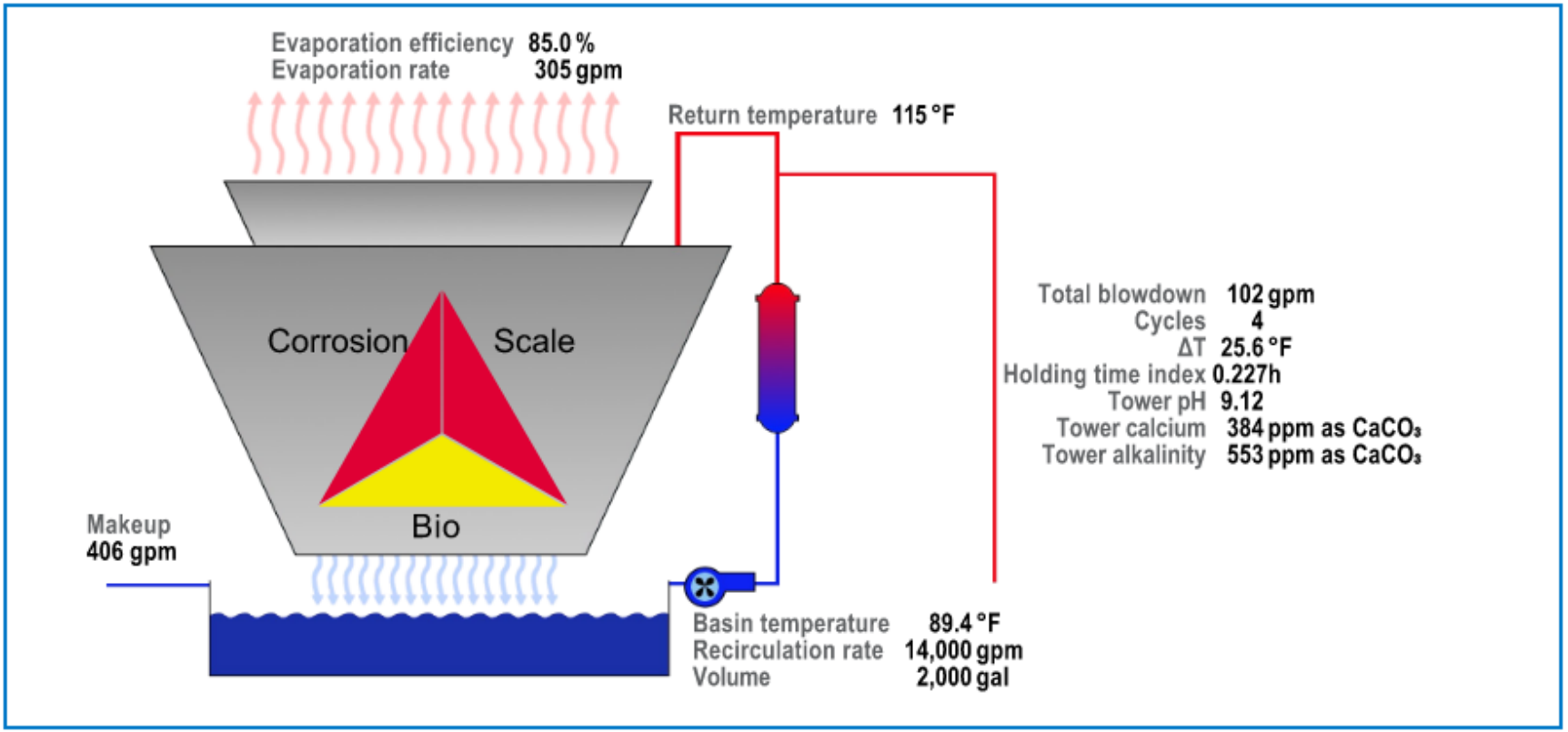

Figure 2: Cooling Tower Water Usage Diagram

APPENDIX A

			Data Center East					Data Center West					Total (DCE + DCW)				
			Peak Demand (GPM)	Daily Average (GPM)	Annual Average (GPM)	Annual Consumption		Peak Demand (GPM)	Daily Average (GPM)	Annual Average (GPM)	Annual Consumption		Peak Demand (GPM)	Daily Average (GPM)	Annual Average (GPM)	Annual Consumption	
						(MGY)	(AFY)				(MGY)	(AFY)				(MGY)	(AFY)
Water In	**Recycled Water (RW)**	Cooling Tower Make-Up Water	410.47	303.98	303.98	159.77	490.33	410.47	303.98	303.98	159.77	490.33	820.95	607.97	607.97	319.55	980.65
		RW Subtotal	410.47	303.98	303.98	159.77	490.33	410.47	303.98	303.98	159.77	490.33	820.95	607.97	607.97	319.55	980.65
	Domestic Water (DW)	Administration Building In (RRs, Bkrms, shower, etc.)	10	0.07	0.07	0.04	0.11	10	0.07	0.07	0.04	0.11	20	0.14	0.14	0.07	0.22
		DW Subtotal	10	0.07	0.07	0.04	0.11	10	0.07	0.07	0.04	0.11	20	0.14	0.14	0.07	0.22
	Water In Subtotal		**420.47**	**304.05**	**304.05**	**159.81**	**490.44**	**420.47**	**304.05**	**304.05**	**159.81**	**490.44**	**840.95**	**608.11**	**608.11**	**319.62**	**980.88**
Water Out	**Atmosphere**	Cooling Tower Evaporation	305	225.87	225.87	118.72	364.33	305	225.87	225.87	118.72	364.33	610	451.74	451.74	237.44	728.67
		Cooling Tower Drift	3.47	2.57	2.57	1.35	4.15	3.47	2.57	2.57	1.35	4.15	6.95	5.15	5.15	2.7	8.3
		Atmosphere Subtotal	308.47	228.44	228.44	120.07	368.48	308.47	228.44	228.44	120.07	368.48	616.95	456.89	456.89	240.14	736.97
	Sanitary Sewer (SS)	Cooling Tower Blowdown	102	75.54	75.54	39.7	121.84	102	75.54	75.54	39.7	121.84	204	151.08	151.08	79.41	243.69
		Administration Building Out (RRs, Bkrms, shower, etc.)	10	0.07	0.07	0.04	0.11	10	0.07	0.07	0.04	0.11	20	0.14	0.14	0.07	0.22
		SS Subtotal	112	75.61	75.61	39.74	121.95	112	75.61	75.61	39.74	121.95	224	151.22	151.22	79.48	243.91
	Water Out Subtotal		**420.47**	**304.05**	**304.05**	**159.81**	**490.43**	**420.47**	**304.05**	**304.05**	**159.81**	**490.43**	**840.95**	**608.11**	**608.11**	**319.62**	**980.88**

Source: AlfaTech Consulting Engineers, Mar 2025