

## MEMORANDUM

**DATE:** May 15, 2024

**To:** Bryant Matute, Project Manager, HRI Development

**FROM:** Jason Lui, Associate/Senior Noise Specialist

**SUBJECT:** Noise and Vibration Impact Analysis Memorandum for the 42500 Washington Street Project in Riverside County, California

### INTRODUCTION

This noise and vibration impact analysis has been prepared to evaluate the potential noise and vibration impacts and reduction measures associated with the 42500 Washington Street Project (project) in the unincorporated Bermuda Dunes Community of Riverside County, California. This report is intended to satisfy the County of Riverside’s (County) requirements and the California Environmental Quality Act for a project-specific noise and vibration impact analysis by examining the impacts of the proposed uses on the project site and evaluating the reduction measures that the project requires. All references cited in this memorandum are included in Attachment A.

### PROJECT LOCATION

The 2.44-acre vacant project site is located at 42500 Washington Street in the unincorporated Bermuda Dunes Community in Riverside County, California. Access to the project site is provided by Washington Street. The regional and project location is shown on Figure 1 (all figures are provided in Attachment B).

### PROJECT DESCRIPTION

The proposed project would construct 43 multifamily residential dwelling units and a child daycare/preschool building. The residential community will include approximately 7,357 square feet (sf) of open space, which would consist of courtyards and a community room. In addition, the proposed residential community would include approximately 5,723 sf of solar roof area. The child daycare/preschool will consist of a 9,990 sf building and 20,607 sf of open space, including a playground area. A total of 118 parking spaces will be provided, of which 20 would be designated for the child daycare/preschool, 90 would be designated for the residential community, 3 stalls would be Americans with Disabilities Act (ADA) compliant, and 5 stalls would be for electric vehicles. The proposed project would also include drought-tolerant plants and efficient irrigation systems for all landscaped areas. Once operational, the proposed project would generate approximately 969 average daily trips (ADT). Figure 2 shows the project’s site plan.

Construction would include site preparation, grading, building construction, and the installation of landscaping and irrigation, lighting, storm drain facilities, and underground utilities. Construction of the proposed project is anticipated to commence in May 2023 and would end approximately in June 2024. Site preparation, grading, and building activities would involve the use of standard earthmoving equipment such as large excavators, cranes, and other related equipment.

## CHARACTERISTICS OF SOUND

Sound is increasing to such disagreeable levels in the environment that it can threaten quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity is the average rate of sound energy transmitted through a unit of area perpendicular to the direction in which the sound waves are traveling. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

### Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike the linear scale (e.g., inches or pounds), decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) is 10 times more intense than 0 dB, 20 dB is 100 times more intense than 0 dB, and 30 dB is 1,000 times more intense than 0 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 0 dB. The decibel scale increases on a logarithmic scale, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with increasing distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations) the sound decreases 3 dB for each doubling of distance in a hard site environment. Line source (noise in a relatively flat environment with absorptive vegetation) decreases 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level ( $L_{eq}$ ) is the total sound energy of time-weighted average noise over a sample period. However, the predominant rating scales for human communities in the State of California are the  $L_{eq}$  and Community Noise Equivalent Level (CNEL) or the day-night average noise level ( $L_{dn}$ ) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly  $L_{eq}$  for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noises occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours).  $L_{dn}$  is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and  $L_{dn}$  are within 1 dBA of each other and are normally interchangeable.

Other noise rating scales of importance when assessing the annoyance factor include the maximum instantaneous noise level ( $L_{max}$ ), which is the highest sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by  $L_{max}$ , which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the  $L_{10}$  noise level represents the noise level exceeded 10 percent of the time during a stated period. The  $L_{50}$  noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The  $L_{90}$  noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the  $L_{eq}$  and  $L_{50}$  are approximately the same.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

### Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear (the threshold of pain). A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less developed areas. Table A lists the definitions of acoustical terms, and Table B shows common sound levels and their sources.

**Table A: Definitions of Acoustical Terms**

Term	Definitions
Decibel, dB	A unit of measurement that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter deemphasizes 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. (All sound levels in this report are A-weighted, unless reported otherwise.)
L <sub>01</sub> , L <sub>10</sub> , L <sub>50</sub> , L <sub>90</sub>	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period.
Equivalent Continuous Noise Level, L <sub>eq</sub>	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dBA to sound levels occurring in the evening from 7:00 PM to 10:00 PM and after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level, L <sub>dn</sub>	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM.
L <sub>max</sub> , L <sub>min</sub>	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time; usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that 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 1991).

**Table B: Common Sound Levels and Their Noise Sources**

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	—
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	—
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	—
Near Freeway Auto Traffic	70	Moderately Loud	—
Average Office	60	Quiet	One-half as loud
Suburban Street	55	Quiet	—
Light Traffic; Soft Radio Music in Apartment	50	Quiet	One-quarter as loud
Large Transformer	45	Quiet	—
Average Residence without Stereo Playing	40	Faint	One-eighth as loud
Soft Whisper	30	Faint	—
Rustling Leaves	20	Very Faint	—
Human Breathing	10	Very Faint	Threshold of Hearing
—	0	Very Faint	—

Source: Compiled by LSA Associates, Inc. (2015).

## FUNDAMENTALS OF VIBRATION

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items sitting on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Although the perceptibility threshold is approximately 65 vibration velocity decibels (VdB), human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. A vibration level that causes annoyance is well below the damage risk threshold for typical buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile-driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with both ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) from the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (FTA 2018). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction of the project could result in ground-borne vibration that may be perceptible and annoying.

Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for train-induced ground-borne vibration to cause even cosmetic building damage, it is not uncommon for construction processes (e.g., blasting and pile driving) to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2018). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS velocity is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. The vibration velocity level in decibels is defined as the following:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where “ $L_v$ ” is the vibration velocity in decibels (VdB), “ $V$ ” is the RMS velocity amplitude, and “ $V_{ref}$ ” is the reference velocity amplitude, or  $1 \times 10^{-6}$  inches/second (in/sec) used in the United States.

## REGULATORY SETTING

### Federal Guidelines

#### *Federal Transit Administration*

**Noise.** The construction noise criteria included in the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (2018) were used to evaluate potential construction noise impacts because Section 9.52.020(H) of the County’s Code of Ordinances (Ordinance No. 847)

does not have daytime construction noise level limits. Table C shows the FTA’s Detailed Assessment Daytime Construction Noise Criteria based on the composite noise levels for each construction phase.

**Table C: Detailed Assessment Daytime Construction Noise Criteria**

Land Use	Daytime 1-hour $L_{eq}$ (dBA)
Residential	80

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).  
 dBA = A-weighted decibels  
 $L_{eq}$  = equivalent continuous sound level

**Vibration.** Vibration standards included in the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) were used in this analysis because the County of Riverside does not have vibration standards. Table D provides the criteria for assessing the potential for interference or annoyance from vibration levels in a building, while Table E lists the potential vibration building damage criteria associated with construction activities.

**Table D: Interpretation of Vibration Criteria for Detailed Analysis**

Land Use	Max $L_v$ (VdB) <sup>1</sup>	Description of Use
Workshop	90	Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration.
Residential Day	78	Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20X).
Residential Night and Operating Rooms	72	Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100X) and other equipment of low sensitivity.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).  
<sup>1</sup> As measured in 1/3-Octave bands of frequency over the frequency range 8 to 80 Hz.  
 FTA = Federal Transit Administration       $L_v$  = velocity in decibels      VdB = vibration velocity decibels  
 Hz = Hertz      Max = maximum

**Table E: Construction Vibration Damage Criteria**

Building Category	PPV (in/sec)	Approximate $L_v$ (VdB) <sup>1</sup>
Reinforced concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).  
<sup>1</sup> RMS vibration velocity in decibels (VdB) re 1  $\mu$ in/sec.  
 $\mu$ in/sec = microinches per second       $L_v$  = velocity in decibels      RMS = root-mean-square  
 FTA = Federal Transit Administration      PPV = peak particle velocity      VdB = vibration velocity decibels  
 in/sec = inch/inches per second

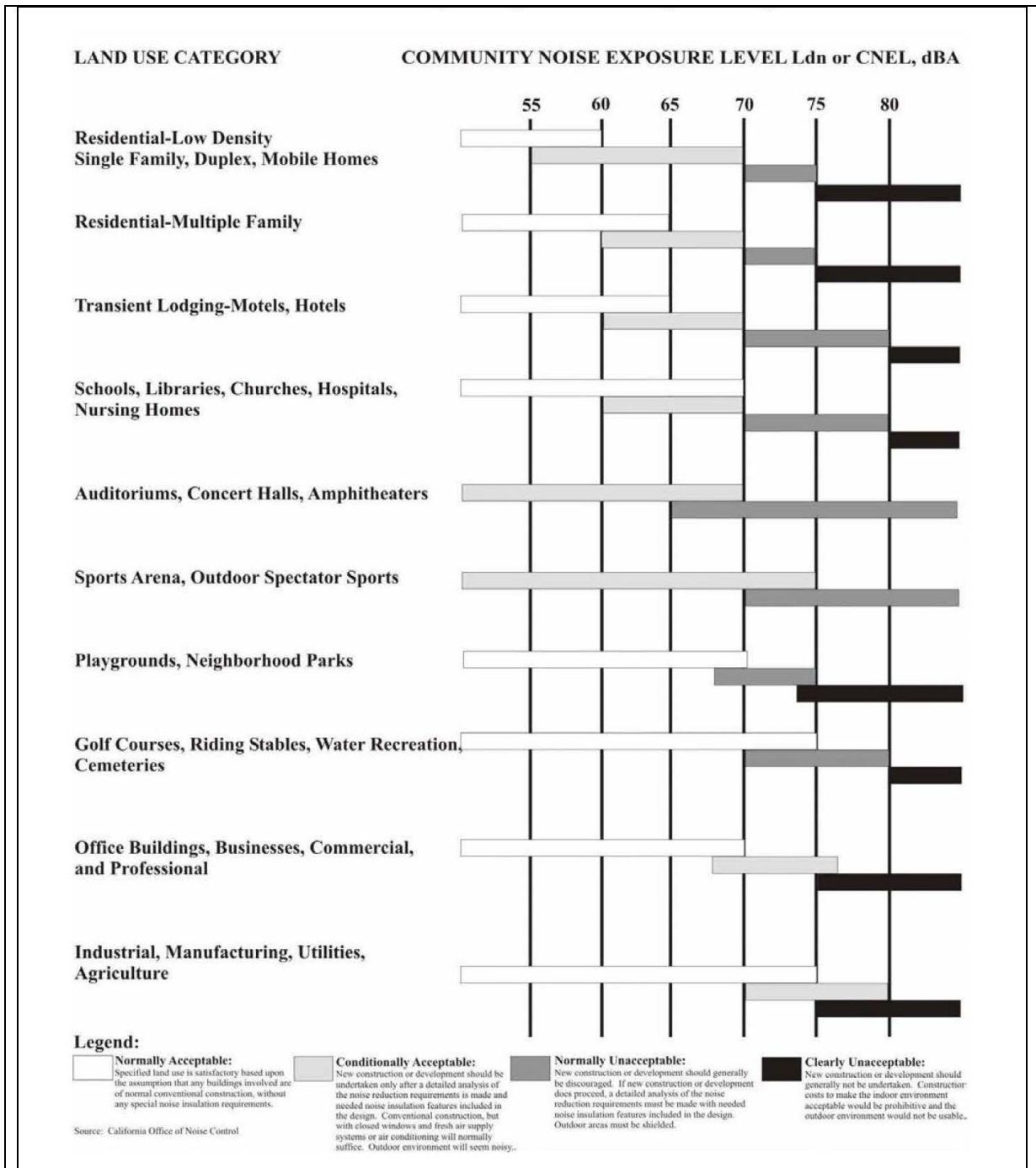
## Local Regulations

### *County of Riverside*

**General Plan Noise Element.** The County of Riverside General Plan Noise Element has established allowable exterior ambient noise levels for various land uses and contains policies to protect noise-sensitive land uses from noise emitted by outside sources and prevent new projects from generating adverse noise levels on adjacent properties. The allowable exterior ambient noise levels for each land use are summarized in the County's land use compatibility categories for community noise exposure, as shown in Table F. The following policies are applicable to the proposed project:

- **Policy N 1.1:** Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.
- **Policy N 1.3:** Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL: Schools, hospitals, rest homes, long-term care facilities, mental care facilities, residential uses, libraries, passive recreation uses, and places of worship.
- **Policy N 1.4:** Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.
- **Policy N 1.5:** Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.
- **Policy N 2.3:** Mitigate exterior and interior noises to the levels listed in Table G to the extent feasible, for stationary sources.
- **Policy N 3.5:** Require that a noise analysis be conducted by an acoustical specialist for all proposed projects that are noise producers. Include recommendations for design mitigation if the project is to be located either within proximity of a noise-sensitive land use, or land designated for noise-sensitive land uses.
- **Policy N 4.1:** Prohibit facility-related noise received by any sensitive use from exceeding the following worst-case noise levels:
  - 45 dBA—10-minute  $L_{eq}$  between 10:00 p.m. and 7:00 a.m.
  - 65 dBA—10-minute  $L_{eq}$  between 7:00 a.m. and 10:00 p.m.
- **Policy N 4.2:** Develop measures to control non-transportation noise impacts.
- **Policy N 4.3:** Ensure any use determined to be a potential generator of significant stationary noise impacts be properly analyzed and ensure that the recommended mitigation measures are implemented.
- **Policy N 4.4:** Require that detailed and independent acoustical studies be conducted for any new or renovated land uses or structures determined to be potential major stationary noise sources.

**Table F: Land Use Compatibility for Community Noise Exposure**



Source: County of Riverside General Plan Noise Element, Table N-1 (December 2015).



**Table G: Stationary Source Land Use Noise Standards**

Land Use	Land Use	Interior Standards	Exterior Standards
Residential	10:00 p.m. to 7:00 a.m.	40 dBA $L_{eq}$ (10 minute)	45 dBA $L_{eq}$ (10 minute)
	7:00 a.m. to 10:00 p.m.	55 dBA $L_{eq}$ (10 minute)	65 dBA $L_{eq}$ (10 minute)

Source: County of Riverside General Plan Noise Element, Table N-2 (December 2015).

Note: These are only preferred standards; final decision will be made by the Riverside County Planning Department and Office of Public Health.

dBA = A-weighted decibels

$L_{eq}$  = equivalent continuous sound level

- Policy N 7.1:** New land use development within Airport Influence Areas shall comply with airport land use noise compatibility criteria contained in the corresponding airport land use compatibility plan for the area. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix I-1 of the General Plan and summarized in the Policy Area section of the affected Area Plan.
- Policy N 7.3:** Prohibit new residential land uses, except construction of a single-family dwelling on a legal residential lot of record, within the current 60 dB CNEL contours of any currently operating public-use, or military airports. The applicable noise contours are as defined by the Riverside County Airport Land Use Commission and depicted in Appendix I-1 of the General Plan, as well as in the applicable Area Plan’s Airport Influence Area section.
- Policy N 7.4:** Check each development proposal to determine if it is located within an airport noise impact area as depicted in the applicable Area Plan’s Policy Area section regarding Airport Influence Areas. Development proposals within a noise impact area shall comply with applicable airport land use noise compatibility criteria.
- Policy N 9.3:** Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures.
- Policy N 13.1:** Minimize the impacts of construction on adjacent uses within acceptable practices.
- Policy N 13.2:** Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.
- Policy N 13.3:** Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see Policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as:

- a. Temporary noise attenuation fences;
  - b. Preferential location of equipment; and
  - c. Use of current noise suppression technology and equipment.
- **Policy N 13.4:** Require that all construction equipment utilize noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

**County Code.** Section 9.52.020(H) of the County’s Code of Ordinances (Ordinance No. 847) exempts sound emanating from private construction projects located 0.25 mile or more from an inhabited dwelling. In addition, Section 9.52.020(I) limits the hours of private construction projects located within 0.25 mile from an inhabited dwelling. Construction shall not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, or between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

## THRESHOLD OF SIGNIFICANCE

The County has established CEQA significance thresholds that are consistent with the *State CEQA Guidelines*. According to the County and *State CEQA Guidelines*, the project would result in a significant noise and vibration impact if the project would result in:

- **Airport Noise**
  - For a project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
  - For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?
- **Noise Effects by the Project**
  - Would the project result in 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, noise ordinance, or applicable standards of other agencies?
  - Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?

The recommendations related to noise level increases from the Federal Agency Review of Selected Airport Noise Analysis Issues (Federal Interagency Committee on Noise [FICON] 1992) were used because the County does not define noise increases that are considered substantial. Although the recommendations were specifically developed to assess aircraft noise issues, these recommendations are applicable for environmental noise impact assessments. Also, the County’s land use compatibility categories for community noise exposure in Table F are considered the applicable noise standards instead of impact criteria from the FICON recommendations. Table H provides noise increases that are considered substantial based on the existing ambient noise level without the project.

**Table H: Substantial Noise Increases**

Existing Ambient Noise Level without Project	Noise Increase
< 60 dBA	5 dBA or more
60 to 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Source: Federal Agency Review of Selected Airport Noise Analysis Issues (FICON 1992).  
 dBA = A-weighted decibels

**EXISTING SETTING**

**Overview of the Existing Noise Environment**

The primary existing noise sources in the project area are transportation facilities. Traffic on Washington Street is a steady source of ambient noise. Other sources of noise in the project area include commercial activity.

**Existing Land Uses in the Project Vicinity**

Land uses surrounding the project site include:

- **North:** Commercial uses
- **East:** Single-family residential uses
- **South:** Utility and single- and multifamily residential uses
- **Southwest:** Healthcare clinic (commercial use) across Washington Street
- **West:** Dental office (commercial use) across Washington Street

**Ambient Noise Measurements**

*Long-Term Noise Level Measurements*

Two long-term (24-hour) noise level measurements were conducted from November 2, 2022, to November 3, 2022, using a Larson Davis Spark dosimeter (Model 706RC) to establish the existing ambient noise levels at residential land uses near the project site. Tables I and J show hourly  $L_{eq}$  results from the long-term noise level measurements, and Table K shows the daytime and nighttime noise level range ( $L_{eq}$  and  $L_{max}$ ) along with the calculated CNEL from the long-term noise level measurements at LT-1 and LT-2. As shown in Table K, the daytime noise levels ranged from 48.0 to 58.0 dBA  $L_{eq}$  at monitoring location LT-1 and from 47.8 to 55.5 dBA  $L_{eq}$  at monitoring location LT-2. The daytime maximum instantaneous noise levels ranged from 63.8 to 76.0 dBA  $L_{max}$  at LT-1 and from 62.4 to 73.6 dBA  $L_{max}$  at LT-2. The calculated daily noise levels were 56.3 dBA CNEL at LT-1 and 54.8 dBA CNEL at LT-2. The long-term noise level measurement survey sheets are provided in Attachment C. Figure 3 shows the long-term monitoring locations.

**Existing Aircraft Noise**

Airport-related noise levels are primarily associated with aircraft engine noise made while aircraft are taking off, landing, or running their engines while still on the ground. Crown Aero Airport (Bermuda Dunes Airport) is the closest airport to the proposed project site and is located approximately 1.42 miles northeast of the project site. Based on the Riverside County General Plan and Riverside

**Table I: Long-Term (24-Hour) Noise Level Measurement Results at LT-1**

No.	Start Time	Date	Noise Level (dBA)		
			L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
1	2:00 PM	11/2/22	50.3	64.5	41.2
2	3:00 PM	11/2/22	51.6	67.1	45.3
3	4:00 PM	11/2/22	51.6	64.7	44.2
4	5:00 PM	11/2/22	53.6	69.9	45.2
5	6:00 PM	11/2/22	52.1	67.0	43.3
6	7:00 PM	11/2/22	50.6	64.3	41.8
7	8:00 PM	11/2/22	48.0	67.3	41.6
8	9:00 PM	11/2/22	48.9	67.7	41.5
9	10:00 PM	11/2/22	49.5	67.6	42.2
10	11:00 PM	11/2/22	46.5	60.7	41.8
11	12:00 AM	11/3/22	45.8	59.6	39.5
12	1:00 AM	11/3/22	43.7	55.9	38.9
13	2:00 AM	11/3/22	44.9	61.6	37.5
14	3:00 AM	11/3/22	44.3	56.5	37.7
15	4:00 AM	11/3/22	47.5	61.9	39.2
16	5:00 AM	11/3/22	50.1	67.4	41.9
17	6:00 AM	11/3/22	53.7	65.9	47.0
18	7:00 AM	11/3/22	56.5	68.3	50.0
19	8:00 AM	11/3/22	53.6	63.8	46.1
20	9:00 AM	11/3/22	55.2	66.7	48.1
21	10:00 AM	11/3/22	58.0	76.0	48.0
22	11:00 AM	11/3/22	52.5	66.9	45.1
23	12:00 PM	11/3/22	52.0	69.1	43.5
24	1:00 PM	11/3/22	51.3	65.5	42.2

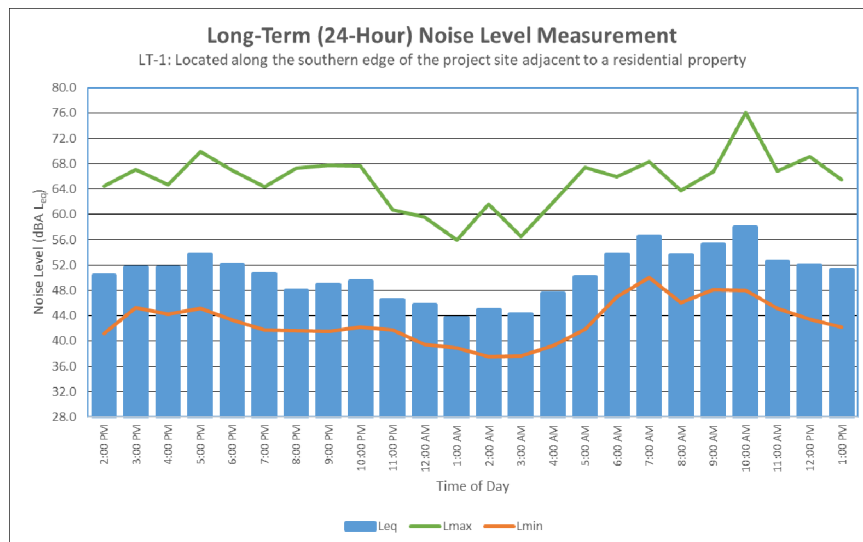
Source: Compiled by LSA Associates, Inc. (2022).

dBA = A-weighted decibels

L<sub>max</sub> = maximum instantaneous noise level

L<sub>eq</sub> = equivalent continuous sound level

L<sub>min</sub> = minimum instantaneous noise level



**Table J: Long-Term (24-Hour) Noise Level Measurement Results at LT-2**

No.	Start Time	Date	Noise Level (dBA)		
			L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
1	2:00 PM	11/2/22	49.2	64.4	41.8
2	3:00 PM	11/2/22	52.1	66.2	45.8
3	4:00 PM	11/2/22	51.2	62.7	43.9
4	5:00 PM	11/2/22	50.9	67.2	44.3
5	6:00 PM	11/2/22	51.9	71.0	44.5
6	7:00 PM	11/2/22	50.5	62.4	42.6
7	8:00 PM	11/2/22	47.8	65.6	41.1
8	9:00 PM	11/2/22	48.1	67.1	41.1
9	10:00 PM	11/2/22	48.5	65.1	41.6
10	11:00 PM	11/2/22	44.1	56.4	39.1
11	12:00 AM	11/3/22	44.0	59.2	37.5
12	1:00 AM	11/3/22	41.8	55.5	37.2
13	2:00 AM	11/3/22	43.2	58.7	35.8
14	3:00 AM	11/3/22	41.5	52.8	35.9
15	4:00 AM	11/3/22	46.0	60.7	37.3
16	5:00 AM	11/3/22	49.3	69.7	39.9
17	6:00 AM	11/3/22	51.7	64.0	43.4
18	7:00 AM	11/3/22	55.1	72.6	48.4
19	8:00 AM	11/3/22	51.9	65.2	44.8
20	9:00 AM	11/3/22	53.1	65.7	46.3
21	10:00 AM	11/3/22	55.5	73.6	46.3
22	11:00 AM	11/3/22	50.9	65.8	43.8
23	12:00 PM	11/3/22	51.0	65.8	42.9
24	1:00 PM	11/3/22	50.2	63.8	42.3

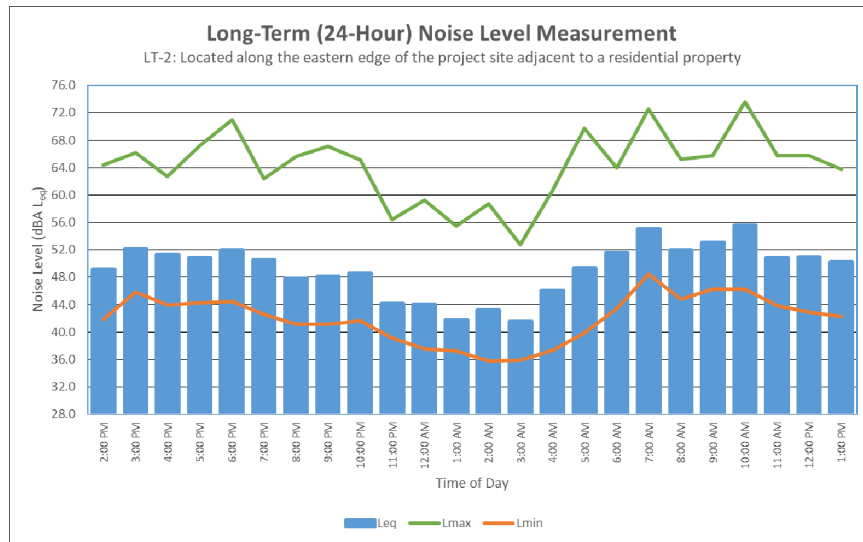
Source: Compiled by LSA Associates, Inc. (2022).

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous sound level

L<sub>max</sub> = maximum instantaneous noise level

L<sub>min</sub> = minimum instantaneous noise level



**Table K: Long-Term Ambient Noise Monitoring Results**

Monitor No.	Location	Noise Level (dBA)				CNEL	Noise Sources
		Daytime		Nighttime			
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>		
LT-1	Along the southern edge of the project site adjacent to the residential property at 42605 Byron Place	48.0-58.0 (53.2)	63.8-76.0	43.7-53.7 (48.6)	55.9-67.6	56.3	Faint traffic noise on Washington Street
LT-2	Along the eastern edge of the project site adjacent to the residential property at 78135 Calico Glen Drive	47.8-55.5 (51.8)	62.4-73.6	41.5-51.7 (46.9)	52.8-69.7	54.8	Faint traffic noise on Washington Street

Source: Compiled by LSA Associates, Inc. (2023).

Note: Long-term (24-hour) noise level measurements were conducted from November 2, 2022, to November 3, 2022.

dBA = A-weighted decibels

CNEL = Community Noise Equivalent Level

L<sub>eq</sub> = equivalent continuous sound level

L<sub>max</sub> = maximum instantaneous noise level

County Airport Land Use Compatibility Plan (RCALUC 2004), the project is located outside the 55 dBA CNEL noise contour of the airport. The daycare/preschool and residential uses are normally acceptable up to 65 and 70 dBA CNEL, respectively, based on the County’s Land Use Compatibility for Community Noise Exposure shown in Table F. Based on the above, the proposed project would not expose people residing or working in the project area to excessive noise levels. Therefore, noise generated from the operation of public airports or public use airports would be less than significant.

Additionally, the project site would not be exposed to noise levels that approach or exceed the normally acceptable noise levels of 65 dBA CNEL and 70 dBA CNEL for daycare/preschool and residential uses, respectively, based on the County’s Land Use Compatibility for Community Noise Exposure shown in Table F because there are no private airstrips or heliports within the vicinity of the project site. Based on the above, the proposed project would not expose people residing or working in the project area to excessive noise levels. Therefore, no impacts would occur from the operation of private airstrips or heliports, and the topics above are not further discussed.

### Existing Traffic Noise

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to evaluate traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The existing (2022) average daily traffic (ADT) volumes were obtained from the *Traffic Analysis Report for the 42500 Washington Street Project* (LSA 2023b). The Riverside County vehicle mix was used for traffic on these roadway segments. Table L provides the existing traffic noise levels in the project vicinity. These traffic noise levels are representative of a worst-case scenario that assumes a flat terrain and no shielding between the traffic and the noise contours. Attachment D provides the specific assumptions used in developing these noise levels and model printouts.

**Table L: Existing Without Project Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Washington Street North of Avenue 42	24,460	201	428	920	76.2
Washington Street South of Avenue 42	24,720	202	431	926	76.2
Washington Street North of Avenue of the States	24,000	199	423	908	76.1
Washington Street Between Avenue of the States and Project Driveway	25,815	208	444	953	76.4
Washington Street Between Project Driveway and Hidden River Road	26,015	209	446	958	76.4
Washington Street Between Hidden River Road and Palm Royale Drive	26,245	210	448	964	76.5
Washington Street Between Palm Royale Drive and Fred Waring Drive	24,430	201	428	919	76.2
Washington Street South of Fred Waring Drive	22,980	193	411	882	75.9
Avenue 42 West of Washington Street	10,930	106	222	475	72.1
Avenue 42 East of Washington Street	10,610	104	218	465	72.0
Avenue of the States West of Washington Street	3,290	< 50	< 50	65	58.2
Hidden River Road East of Washington Street	740	< 50	< 50	< 50	52.0
Palm Royale Drive West of Washington Street	510	< 50	< 50	< 50	49.9
Palm Royale Drive East of Washington Street	3,210	< 50	< 50	< 50	57.9
Fred Waring Drive West of Washington Street	21,750	186	396	851	75.7
Fred Waring Drive East of Washington Street	17,360	161	341	732	74.7

Source: Compiled by LSA Associates, Inc. (2022).

Notes: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

dBA = A-weighted decibels

CNEL = Community Noise Equivalent Level

ft = foot/feet

## IMPACTS

### Short-Term Construction Noise Impacts

Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site and would incrementally raise noise levels on roadways leading to the site. The pieces of construction equipment for construction activities would move on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the project vicinity. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 84 dBA), the effect on longer-term ambient noise levels would be small because the number of daily construction-related vehicle trips is small compared to existing daily traffic volume on Washington Street.

The building construction phase would generate the most trips out of all of the construction phases, at 86 trips per day based on the California Emissions Estimator Model (CalEEMod) (Version 2020.4.0) results attachment to the *Air Quality and Greenhouse Gas Technical Memorandum for the 42500 Washington Street Project* (LSA 2023a). The roadway that would be used to access the project site is Washington Street. Based on Table L, Washington Street has an estimated existing daily traffic volume of 22,980 near the project site. Based on the information above, construction-related traffic would increase by up to 0.02 dBA. A noise level increase of less than 3 dBA would not be perceptible

to the human ear in an outdoor environment. Therefore, no short-term construction-related impacts associated with worker commutes and transport of construction equipment and material to the project site would occur, and no noise reduction measures would be required.

The second type of short-term noise impact is related noise generated from construction activities. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. The proposed project anticipates site preparation, grading, building construction, paving, and architectural coating phases of construction. These various sequential phases change the character of the noise generated on a project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table M lists the  $L_{max}$  recommended for noise impact assessments for typical construction equipment included in the *FHWA Highway Construction Noise Handbook* (2006), based on a distance of 50 ft between the equipment and a noise receptor.

**Table M: Typical Construction Equipment Noise Levels**

Equipment Description	Acoustical Usage Factor <sup>1</sup> (%)	Maximum Noise Level ( $L_{max}$ ) at 50 feet <sup>2</sup>
Backhoe	40	80
Compactor (ground)	20	80
Compressor	40	80
Crane	16	85
Dozer	40	85
Dump Truck	40	84
Excavator	40	85
Flatbed Truck	40	84
Man Lift (Forklift)	20	85
Front-End Loader	40	80
Generator	50	82
Grader	40	85
Jackhammer	20	85
Pavement Scarifier	20	85
Paver	50	85
Pickup Truck	40	55
Pneumatic Tools	50	85
Pump	50	77
Rock Drill	20	85
Roller	20	85
Scraper	40	85
Tractor	40	84
Welder	40	73

Source: Table 9.1, *FHWA Highway Construction Noise Handbook* (FHWA 2006).

Note: The noise levels reported in this table are rounded to the nearest whole number.

<sup>1</sup> Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

<sup>2</sup> Maximum noise levels were developed based on Specification 721.560 from the CA/T program to be consistent with the City of Boston, Massachusetts, Noise Code for the “Big Dig” project.

CA/T = Central Artery/Tunnel

FHWA = Federal Highway Administration

$L_{max}$  = maximum instantaneous noise level



Table N lists the anticipated construction equipment for each construction phase based on the CalEEMod (Version 2020.4.0) results attachment to the *Air Quality and Greenhouse Gas Technical Memorandum for the 42500 Washington Street Project* (LSA 2023a). Table N shows the combined  $L_{max}$  and  $L_{eq}$  noise level at 50 ft from all of the equipment in each phase as well as the  $L_{max}$  and  $L_{eq}$  noise levels for each equipment at 50 ft based on the equipment quantity, reference instantaneous maximum ( $L_{max}$ ) noise level at 50 ft, and the acoustical usage factor. As shown in Table N, construction noise levels would reach up to 92.3 dBA  $L_{max}$  or 87.1  $L_{eq}$  at a distance of 50 ft.

**Table N: Summary of Construction Phase, Equipment, and Noise Levels**

Construction Phase	Construction Equipment	Quantity	Reference Noise Level at 50 ft (dBA $L_{max}$ )	Acoustical Usage Factor <sup>1</sup> (%)	Noise Level at 50 ft (dBA)		Combined Noise Level at 50 ft (dBA)	
					$L_{max}$	$L_{eq}$	$L_{max}$	$L_{eq}$
Site Preparation	Grader	1	85	40	85.0	81.0	88.6	84.7
	Front-End Loader	1	80	40	80.0	76.0		
	Scraper	1	85	40	85.0	81.0		
Grading	Grader	1	85	40	85.0	81.0	89.2	85.2
	Bulldozer	1	85	40	85.0	81.0		
	Front-End Loaders	2	80	40	83.0	79.0		
Building Construction	Crane	1	85	16	85.0	77.0	91.0	85.1
	Forklifts	2	85	20	88.0	81.0		
	Generator	1	82	50	82.0	79.0		
	Front-End Loader	1	80	40	80.0	76.0		
	Welders	3	73	40	77.8	73.8		
Paving	Paver	1	85	50	85.0	82.0	92.3	87.1
	Paving Equipment	1	85	20	85.0	78.0		
	Rollers	2	85	20	88.0	81.0		
	Front-End Loader	1	80	40	80.0	76.0		
	Concrete Mixer Truck	1	85	40	85.0	81.0		
Architectural Coating	Air Compressors	1	80	40	80.0	76.0	80.0	76.0

Source: Compiled by LSA Associates, Inc. (2022).

<sup>1</sup> The acoustical usage factor is the percentage of time during a construction noise operation that a piece of construction equipment operates at full power.

dBA = A-weighted decibels

ft = foot/feet

$L_{eq}$  = equivalent continuous sound level

$L_{max}$  = maximum instantaneous noise level

Table O shows the calculated noise levels generated from project construction activities during the noisiest construction phase at the closest property lines surrounding the project site. As shown in Table O, the closest residential property lines are located approximately 320 ft to the east and 80 ft and 200 ft to the south from the center of the project site and would be subject to short-term construction noise levels of 76.2 dBA  $L_{max}$  (71.0 dBA  $L_{eq}$ ), 88.2 dBA  $L_{max}$  (83.0 dBA  $L_{eq}$ ), and 80.3 dBA  $L_{max}$  (75.1 dBA  $L_{eq}$ ), respectively. Although noise generated by project construction activities would be higher than the ambient noise levels at other residences in the project area, construction noise levels would not exceed the FTA construction noise standard of 80 dBA  $L_{eq}$  for residential land uses except for the residence south of the project at 42605 Byron Place. Therefore, noise impacts from project construction activities would be potentially significant. Implementation of the mitigation measures listed below, which include the installation of minimum 10 ft high temporary construction barriers

**Table O: Construction Noise Level**

Land Use	Direction	Reference Noise Level at 50 ft (dBA)		Distance <sup>1</sup> (ft)	Distance Attenuation (dBA)	Noise Level (dBA)	
		L <sub>max</sub>	L <sub>eq</sub>			L <sub>max</sub>	L <sub>eq</sub>
Residential (78135 Calcio Glen Drive)	East	92.3	87.1	320	16.1	76.2	71.0
Residential (42605 Byron Place)	South	92.3	87.1	80	4.1	88.2	83.0
Residential (42780 Washington Street)	South	92.3	87.1	200	12.0	80.3	75.1

Source: Compiled by LSA Associates, Inc. (2024).

<sup>1</sup> Distance from the center of the project site to the residential property line.

dBA = A-weighted decibels

ft = foot/feet

L<sub>eq</sub> = equivalent continuous sound level

L<sub>max</sub> = maximum instantaneous noise level

along the south project construction boundary, would be necessary to reduce construction noise levels below the FTA construction noise standard of 80 dBA L<sub>eq</sub>. A minimum 10 ft high temporary construction barrier along the southern project construction boundary would reduce construction noise levels by a minimum of 8 dBA and would reduce construction noise levels to 75 dBA L<sub>eq</sub> (83 dBA – 8 dBA = 75 dBA) at the residence south of the project at 42605 Byron Place, which would be less than significant. The mitigation measures listed below would be required to reduce construction noise impacts. With implementation of the mitigation measures described below, noise generated by project construction equipment activities would be reduced to a less than significant level.

- The construction contractor shall limit construction activities to between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May, pursuant to Section 9.52.020(I) of the County’s Code of Ordinances. Construction is prohibited outside these hours.
- The construction contractor shall install a minimum 10 ft high temporary construction barrier along the southern construction boundary to shield the residence at 42605 Byron Place. The temporary construction barrier may be any material that has a minimum Sound Transmission Class (STC) rating of 28.
- During all project site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers’ standards.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and the noise-sensitive receptors nearest the project site during all project construction.
- The construction contractor shall place all stationary construction equipment so that the emitted noise is directed away from the sensitive receptors nearest the project site.

**Short-Term Construction Vibration Impacts**

This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and assesses the potential for building damage using vibration levels in PPV (in/sec).

Vibration levels calculated in RMS velocity are best for characterizing human response to building vibration, whereas vibration levels in PPV are best for characterizing damage potential.

Table P shows the reference vibration levels at a distance of 25 ft for each type of standard construction equipment from the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Project construction is expected to require the use of large bulldozers and loaded trucks, which would generate ground-borne vibration levels of up to 87 VdB (0.089 PPV [in/sec]) and 86 VdB (0.076 PPV [in/sec]), respectively, when measured at 25 ft.

**Table P: Vibration Source Amplitudes for Construction Equipment**

Equipment	Reference PPV/L <sub>v</sub> at 25 ft	
	PPV (in/sec)	L <sub>v</sub> (VdB) <sup>1</sup>
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
<b>Large Bulldozer<sup>2</sup></b>	<b>0.089</b>	<b>87</b>
Caisson Drilling	0.089	87
<b>Loaded Trucks<sup>2</sup></b>	<b>0.076</b>	<b>86</b>
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

<sup>1</sup> RMS vibration velocity in decibels (VdB) is 1 μin/sec.

<sup>2</sup> The equipment shown in **bold** is expected to be used on site.

μin/sec = microinches per second

ft = foot/feet

FTA = Federal Transit Administration

in/sec = inches per second

L<sub>v</sub> = vibration velocity in decibels

PPV = peak particle velocity

RMS = root-mean-square

VdB = vibration velocity decibels

The greatest vibration levels are anticipated to occur during the site preparation and grading phase. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts normally occur within the buildings.

The formula for vibration transmission is provided below:

$$L_v \text{ dB (D)} = L_v \text{ dB (25 ft)} - 30 \text{ Log (D/25)}$$

$$\text{PPV}_{\text{equip}} = \text{PPV}_{\text{ref}} \times (25/\text{D})^{1.5}$$

Table Q lists the projected vibration levels from various construction equipment expected to be used on the project site in the active construction area to the nearest buildings in the project vicinity. As shown in Table Q, the closest non-residential building and residential building are located approximately 205 ft to the north and 220 ft to the south from the center of the project site and would experience a vibration level of up to 60 VdB and 59 VdB, respectively. These vibration levels would not result in community annoyance because they would not exceed the FTA community annoyance threshold of 84 VdB for uses that are not as sensitive to vibration and 78 VdB for daytime residences. Other building structures that surround the project site would experience lower vibration levels because they are farther away.

**Table Q: Potential Construction Vibration Annoyance**

Land Use	Direction	Equipment/ Activity	Reference Vibration Level (VdB) at 25 ft	Distance to Structure (ft) <sup>1</sup>	Vibration Level (VdB)
Commercial (42430 Washington Street)	North	Large bulldozers	87	205	60
		Loaded trucks	86	205	59
Residential (78135 Calico Glen Drive)	East	Large bulldozers	87	330	53
		Loaded trucks	86	330	52
Utility (42540 Washington Street)	South	Large bulldozers	87	215	59
		Loaded trucks	86	215	58
Residential (42605 Byron Place)	South	Large bulldozers	87	295	55
		Loaded trucks	86	295	54
Residential (42780 Washington Street)	South	Large bulldozers	87	220	59
		Loaded trucks	86	220	58
Healthcare Clinic (42540 Washington Street)	Southwest	Large bulldozers	87	450	49
		Loaded trucks	86	450	48
Dental Office (42505 Washington Street)	West	Large bulldozers	87	435	50
		Loaded trucks	86	435	49

Source: Compiled by LSA Associates, Inc. (2024).

Note: The FTA-recommended annoyance threshold of 84 VdB for offices (and other similar areas not as sensitive to vibration) and 78 VdB for daytime residence was used to assess potential construction vibration annoyance.

<sup>1</sup> Distance from center of the project site to the building structure.

ft = foot/feet

FTA = Federal Transit Administration

VdB = vibration velocity decibels

Similarly, Table R lists the projected vibration levels from various construction equipment expected to be used on the project site at the project construction boundary to the nearest buildings in the project vicinity. As shown in Table R, the commercial, residential, and utility buildings to the north, east, and south of the project site are approximately 6 ft, 6 ft, and 8 ft from the project construction boundary and would experience a vibration level of up to 0.757 PPV (in/sec), 0.757 PPV (in/sec), and 0.492 PPV (in/sec), respectively. These vibration levels would have the potential to result in building damage because these buildings would be constructed equivalent to non-engineered timber and masonry and vibration levels would exceed the FTA vibration damage threshold of 0.20 PPV (in/sec). The implementation of mitigation measures to restrict heavy construction equipment (e.g., large bulldozers) or require the use of light construction equipment (e.g., small bulldozers and trucks) within 15 ft from the building structure would reduce construction vibration levels to 0.191 in/sec (PPV) or below.

Other building structures that surround the project site would experience lower vibration levels because they are farther away and would be constructed equivalent to non-engineered timber and masonry. Therefore, construction vibration impacts from project construction would be less than significant with the implementation of mitigation measures to restrict heavy construction equipment (e.g., large bulldozers) or require the use of light construction equipment (e.g., small bulldozers and trucks) within 15 ft from the building structure.

**Table R: Potential Construction Vibration Damage**

Land Use	Direction	Equipment/ Activity	Reference Vibration Level at 25 ft	Distance to Structure (ft) <sup>1</sup>	Vibration Level
			PPV (in/sec)		PPV (in/sec)
Commercial (42430 Washington Street)	North	Large bulldozers	0.089	6	0.757
		Loaded trucks	0.076	6	0.646
Residential (78135 Calico Glen Drive)	East	Large bulldozers	0.089	6	0.757
		Loaded trucks	0.076	6	0.646
Utility (42540 Washington Street)	South	Large bulldozers	0.089	8	0.492
		Loaded trucks	0.076	8	0.420
Residential (42605 Byron Place)	South	Large bulldozers	0.089	150	0.006
		Loaded trucks	0.076	150	0.005
Residential (42780 Washington Street)	South	Large bulldozers	0.089	110	0.010
		Loaded trucks	0.076	110	0.008
Healthcare Clinic (42540 Washington Street)	Southwest	Large bulldozers	0.089	115	0.009
		Loaded trucks	0.076	115	0.008
Dental Office (42505 Washington Street)	West	Large bulldozers	0.089	110	0.010
		Loaded trucks	0.076	110	0.008

Source: Compiled by LSA Associates, Inc. (2022).

Note: The FTA-recommended building damage threshold is 0.20 PPV [in/sec] at the receiving non-engineered timber and masonry building.

<sup>1</sup> Distance from the project construction boundary to the building structure.

ft = foot/feet

in/sec = inches per second

FTA = Federal Transit Administration

PPV = peak particle velocity

### Long Term Traffic Noise Impacts

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77 108) was used to evaluate traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The existing (2022), opening year (2024), cumulative (2024), and horizon year (2045) without and with project ADT volumes were obtained from the *Traffic Analysis Report for the 42500 Washington Street Project* (LSA 2023b). The Riverside County vehicle mix was used for traffic on these roadway segments. Tables S, T, U, and V provide the traffic noise levels for the existing (2022), opening year (2024), cumulative year (2024), and horizon year (2045) without and with project scenarios, respectively. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between traffic and the location where the noise contours are drawn. Attachment D provides the specific assumptions used in developing these noise levels and model printouts.

As shown in Tables S, T, U, and V, the project-related traffic would increase noise levels by up to 0.6 dBA. Although traffic noise levels may exceed the County’s noise standard, the ambient noise level increase would not be substantial because noise level increases less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, traffic noise impacts from project-related traffic on off-site sensitive receptors would be less than significant. No mitigation measures are required.

**Table S: Existing (2022) Without and With Project Traffic Noise Levels**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Washington Street North of Avenue 42	24,460	201	428	920	76.2	24,690	202	431	925	76.2	0.0
Washington Street South of Avenue 42	24,720	202	431	926	76.2	25,410	206	439	943	76.3	0.1
Washington Street North of Avenue of the States	24,000	199	423	908	76.1	24,690	202	431	925	76.2	0.1
Washington Street Between Avenue of the States and Project Driveway	25,815	208	444	953	76.4	27,005	214	457	982	76.6	0.2
Washington Street Between Project Driveway and Hidden River Road	26,015	209	446	958	76.4	27,115	215	458	985	76.6	0.2
Washington Street Between Hidden River Road and Palm Royale Drive	26,245	210	448	964	76.5	26,930	214	456	981	76.6	0.1
Washington Street Between Palm Royale Drive and Fred Waring Drive	24,430	201	428	919	76.2	24,970	204	434	932	76.3	0.1
Washington Street South of Fred Waring Drive	22,980	193	411	882	75.9	23,060	193	412	884	75.9	0.0
Avenue 42 West of Washington Street	10,930	106	222	475	72.1	11,160	108	225	481	72.2	0.1
Avenue 42 East of Washington Street	10,610	104	218	465	72.0	10,840	106	221	472	72.1	0.1
Avenue of the States West of Washington Street	3,290	< 50	< 50	65	58.2	3,440	< 50	< 50	66	58.4	0.2
Hidden River Road East of Washington Street	740	< 50	< 50	< 50	52.0	740	< 50	< 50	< 50	52.0	0.0
Palm Royale Drive West of Washington Street	510	< 50	< 50	< 50	49.9	590	< 50	< 50	< 50	50.5	0.6
Palm Royale Drive East of Washington Street	3,210	< 50	< 50	< 50	57.9	3,280	< 50	< 50	< 50	57.9	0.0
Fred Waring Drive West of Washington Street	21,750	186	396	851	75.7	21,910	187	398	855	75.7	0.0
Fred Waring Drive East of Washington Street	17,360	161	341	732	74.7	17,670	163	345	741	74.8	0.1

Source: Compiled by LSA Associates, Inc. (2022).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

**Table T: Opening Year (2024) Without and With Project Traffic Noise Levels**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Washington Street North of Avenue 42	25,440	206	439	944	76.3	25,670	207	442	950	76.4	0.1
Washington Street South of Avenue 42	25,710	208	442	951	76.4	26,400	211	450	968	76.5	0.1
Washington Street North of Avenue of the States	24,960	204	434	932	76.3	25,650	207	442	949	76.4	0.1
Washington Street Between Avenue of the States and Project Driveway	26,850	214	455	979	76.6	28,040	220	469	1,007	76.8	0.2
Washington Street Between Project Driveway and Hidden River Road	27,055	215	458	984	76.6	28,155	220	470	1,010	76.8	0.2
Washington Street Between Hidden River Road and Palm Royale Drive	27,290	216	460	989	76.6	27,975	219	468	1,006	76.8	0.2
Washington Street Between Palm Royale Drive and Fred Waring Drive	25,405	206	439	943	76.3	25,945	209	445	956	76.4	0.1
Washington Street South of Fred Waring Drive	23,910	198	422	906	76.1	23,990	198	423	908	76.1	0.0
Avenue 42 West of Washington Street	11,370	109	228	487	72.3	11,600	110	231	494	72.4	0.1
Avenue 42 East of Washington Street	11,040	107	223	478	72.2	11,270	108	226	484	72.3	0.1
Avenue of the States West of Washington Street	3,440	< 50	< 50	66	58.4	3,590	< 50	< 50	68	58.6	0.2
Hidden River Road East of Washington Street	760	< 50	< 50	< 50	52.1	760	< 50	< 50	< 50	52.1	0.0
Palm Royale Drive West of Washington Street	520	< 50	< 50	< 50	50.0	600	< 50	< 50	< 50	50.6	0.6
Palm Royale Drive East of Washington Street	3,340	< 50	< 50	< 50	58.0	3,410	< 50	< 50	< 50	58.1	0.1
Fred Waring Drive West of Washington Street	22,620	191	406	873	75.8	22,780	192	408	877	75.9	0.1
Fred Waring Drive East of Washington Street	18,050	165	350	751	74.9	18,360	167	354	760	74.9	0.0

Source: Compiled by LSA Associates, Inc. (2022).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

**Table U: Cumulative (2024) Without and With Project Traffic Noise Levels**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					Increase from Baseline Conditions
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	
Washington Street North of Avenue 42	26,230	210	448	963	76.5	26,460	211	451	969	76.5	0.0
Washington Street South of Avenue 42	26,960	214	457	981	76.6	27,650	218	464	998	76.7	0.1
Washington Street North of Avenue of the States	26,160	210	448	962	76.5	26,850	214	455	979	76.6	0.1
Washington Street Between Avenue of the States and Project Driveway	27,900	219	467	1,004	76.7	29,090	225	480	1,032	76.9	0.2
Washington Street Between Project Driveway and Hidden River Road	28,195	220	470	1,011	76.8	29,295	226	482	1,037	77.0	0.2
Washington Street Between Hidden River Road and Palm Royale Drive	28,430	222	473	1,017	76.8	29,115	225	480	1,033	76.9	0.1
Washington Street Between Palm Royale Drive and Fred Waring Drive	26,535	212	452	971	76.5	27,075	215	458	984	76.6	0.1
Washington Street South of Fred Waring Drive	25,250	205	437	939	76.3	25,330	206	438	941	76.3	0.0
Avenue 42 West of Washington Street	11,660	110	231	495	72.4	11,890	112	234	502	72.5	0.1
Avenue 42 East of Washington Street	11,370	109	228	487	72.3	11,600	110	231	494	72.4	0.1
Avenue of the States West of Washington Street	3,770	< 50	< 50	69	58.8	3,920	< 50	< 50	71	58.9	0.1
Hidden River Road East of Washington Street	760	< 50	< 50	< 50	52.1	760	< 50	< 50	< 50	52.1	0.0
Palm Royale Drive West of Washington Street	520	< 50	< 50	< 50	50.0	600	< 50	< 50	< 50	50.6	0.6
Palm Royale Drive East of Washington Street	3,340	< 50	< 50	< 50	58.0	3,410	< 50	< 50	< 50	58.1	0.1
Fred Waring Drive West of Washington Street	22,960	193	410	882	75.9	23,120	194	412	886	75.9	0.0
Fred Waring Drive East of Washington Street	18,190	166	352	755	74.9	18,500	168	356	764	75.0	0.1

Source: Compiled by LSA Associates, Inc. (2022).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet



**Table V: Horizon Year (2045) Without and With Project Traffic Noise Levels**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					Increase from Baseline Conditions
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	
Washington Street North of Avenue 42	28,060	220	469	1,008	76.8	28,290	221	471	1,013	76.8	0.0
Washington Street South of Avenue 42	28,880	224	478	1,027	76.9	29,570	227	485	1,044	77.0	0.1
Washington Street North of Avenue of the States	28,250	221	471	1,012	76.8	28,940	224	478	1,029	76.9	0.1
Washington Street Between Avenue of the States and Project Driveway	30,090	230	491	1,056	77.1	31,280	236	504	1,083	77.2	0.1
Washington Street Between Project Driveway and Hidden River Road	30,350	231	494	1,062	77.1	31,450	237	506	1,087	77.3	0.2
Washington Street Between Hidden River Road and Palm Royale Drive	30,475	232	495	1,065	77.1	31,160	235	503	1,081	77.2	0.1
Washington Street Between Palm Royale Drive and Fred Waring Drive	28,505	222	474	1,018	76.8	29,045	225	480	1,031	76.9	0.1
Washington Street South of Fred Waring Drive	27,980	219	468	1,006	76.8	28,060	220	469	1,008	76.8	0.0
Avenue 42 West of Washington Street	13,320	120	253	541	73.0	13,550	121	255	547	73.1	0.1
Avenue 42 East of Washington Street	13,660	122	257	550	73.1	13,890	123	260	556	73.2	0.1
Avenue of the States West of Washington Street	4,000	< 50	< 50	72	59.0	4,150	< 50	< 50	73	59.2	0.2
Hidden River Road East of Washington Street	800	< 50	< 50	< 50	52.3	800	< 50	< 50	< 50	52.3	0.0
Palm Royale Drive West of Washington Street	1,250	< 50	< 50	< 50	53.8	1,330	< 50	< 50	< 50	54.0	0.2
Palm Royale Drive East of Washington Street	3,830	< 50	< 50	< 50	58.6	3,900	< 50	< 50	< 50	58.7	0.1
Fred Waring Drive West of Washington Street	26,950	214	456	981	76.6	27,110	215	458	985	76.6	0.0
Fred Waring Drive East of Washington Street	24,400	201	427	918	76.2	24,710	202	431	926	76.2	0.0

Source: Compiled by LSA Associates, Inc. (2022).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

### Long-Term Off-Site Stationary Noise Impacts

Heating, ventilation, and air conditioning (HVAC) equipment and playground noise associated with the project would potentially affect the existing off-site sensitive land uses. The following provides a detailed noise analysis and discussion of each stationary noise source.

#### HVAC Equipment

The project would include rooftop HVAC units with approximately 3.5 ft high parapets at the proposed multifamily residential building and the child daycare/preschool building, based on the roof plan and project plans. The HVAC equipment could operate 24 hours per day. Each residential and child daycare/preschool HVAC unit would generate a noise level of 44.4 dBA at 50 ft. It is estimated that there would be a total of 41 HVAC units. Table W summarizes the noise levels generated from the HVAC units at the closest residences to the east and south. The detailed HVAC noise analysis and noise calculations are provided in Attachment E. As shown in Table W, noise generated from HVAC units would not exceed the County’s daytime noise standard of 65 dBA  $L_{eq}$  (10 minutes) and the increase in daytime ambient noise levels would reach up to 1.2 dBA. Also, noise generated from HVAC units would not exceed the County’s nighttime noise standard of 45 dBA  $L_{eq}$  (10 minutes) except for the residence east of the project site and the increase in nighttime ambient noise levels would reach up to 3.1 dBA. This ambient noise level increase is not considered substantial because the increase is less than 5 dBA when the average nighttime ambient noise level is below 60 dBA. Therefore, noise impacts from on-site HVAC equipment would be less than significant. No mitigation measures are required.

**Table W: Rooftop HVAC Noise Levels**

Land Use	Direction	Number of HVAC Units	Reference Noise Level at 50 ft (dBA $L_{eq}$ )	Combined Noise Level (dBA $L_{eq}$ )	Daytime/ Nighttime Noise Standard (dBA $L_{eq}$ )	Exceed?	Average Daytime/ Nighttime Ambient Noise Level (dBA $L_{eq}$ )	Daytime/ Nighttime Ambient Noise Level Increase (dBA)
Residential	East	41	44.4	47.0	65/45	No/Yes	51.8/46.9	1.2/3.1
Residential	South	41	44.4	39.4	65/45	No/No	53.2/48.6	0.2/0.5
Residential	South	41	44.4	39.3	65/45	No/No	53.2/48.6	0.2/0.5

Source: Compiled by LSA Associates, Inc. (2024).  
 dBA = A-weighted decibels  
 HVAC = heating, ventilation, and air conditioning  
 $L_{eq}$  = equivalent continuous sound level

#### Playground Noise

The project would include a playground associated with the child daycare/preschool building on the west side of the project site. Noise generated at the playground would include children conversing, children playing, and shouting that would potentially impact off-site adjacent land uses. Normal human conversations generate a noise level of 65 dBA  $L_{max}$  at 3 ft based on measurements conducted by LSA. Noise levels from continuous talking for 1 hour at 65 dBA  $L_{max}$  would be equivalent to 65 dBA  $L_{eq}$ . Shouting generates noise levels of 90 dBA  $L_{max}$  at 3 ft. Noise levels from

shouting at 90 dBA  $L_{max}$  are intermittent and would be equivalent to 79.2 dBA  $L_{eq}$ , assuming that the shouting would occur for a cumulative period of 5 minutes in any hour. Based on the daycare/preschool capacity of 166 children, it is assumed that there would be up to 83 children conversing and 83 children shouting. The existing property wall along the eastern and southern boundary of the project site are approximately 6 ft and 6.5 ft high and would provide a minimum noise reduction of 5 dBA and 6 dBA, respectively. The noise level reduction calculations provided by the existing property walls are provided in Attachment F.

Table X summarizes the noise levels generated from the playground at the closest residences to the east and south. The detailed playground noise analysis and noise calculations are provided in Attachment F. As shown in Table X, noise generated from playground activities would not exceed the County’s noise standard of 65 dBA  $L_{eq}$  (10 minutes). In addition, the increase in daytime ambient noise levels would reach up to 4.5 dBA. This ambient noise level increase is not considered substantial because the increase is less than 5 dBA when the average daytime ambient noise level is below 60 dBA. No noise impacts would occur during nighttime hours because the daycare/preschool would not operate during nighttime hours. Therefore, noise impacts from project operations would be less than significant. No mitigation measures are required.

**Table X: Playground Noise**

Land Use	Direction	No. of Children	Reference Noise Level at 3 ft (dBA $L_{eq}$ )	Combined Noise Level (dBA $L_{eq}$ )	Daytime Noise Standard (dBA $L_{eq}$ )	Exceed?	Average Daytime Ambient Noise Level (dBA $L_{eq}$ )	Ambient Noise Level Increase (dBA)
Residence	East	83	65.0	52.0	65	No	51.8	3.1
		83	79.2					
Residence	South	83	65.0	51.9	65	No	53.2	2.4
		83	79.2					
Residence	South	83	65.0	55.9	65	No	53.2	4.5
		83	79.2					

Source: Compiled by LSA Associates, Inc. (2024).

dBA = A-weighted decibels

ft = foot/feet

$L_{eq}$  = equivalent continuous sound level

**Long-Term Vibration Impacts**

The proposed project would not generate vibration. In addition, vibration levels generated from project-related traffic on the adjacent roadway (Washington Street) are unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. Vibration generated from project-related traffic on the adjacent roadways would be less than significant. No mitigation measures are required.

## REGULATORY COMPLIANCE MEASURES

The following measures would minimize construction noise and ensure that construction noise be only generated during allowable times:

- The construction contractor shall limit construction activities to between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May, pursuant to Section 9.52.020(I) of the County's Code of Ordinances. Construction is prohibited outside these hours.
- During all project site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and the noise-sensitive receptors nearest the project site during all project construction.
- The construction contractor shall place all stationary construction equipment so that the emitted noise is directed away from the sensitive receptors nearest the project site.

## MITIGATION MEASURES

### Short-Term Construction Noise Impacts

The following mitigation measure would reduce short-term construction-related noise impacts resulting from the proposed project:

- The construction contractor shall install a minimum 10 ft high temporary construction barrier along the southern construction boundary to shield the residence at 42605 Byron Place. The temporary construction barrier may be any material that has a minimum Sound Transmission Class (STC) rating of 28.

### Short-Term Construction Vibration Impacts

The following mitigation measure would reduce short-term construction-related vibration impacts resulting from the proposed project:

- The construction contractor shall restrict heavy construction (e.g., large bulldozers and loaded trucks) or require the use of light construction equipment (e.g., small bulldozers and pick-up trucks) within 15 ft from the building structure.

### Long-Term Aircraft Noise Impacts

No mitigation measures are required.

**Long-Term Traffic Noise Impacts**

No mitigation measures are required.

**Long-Term Stationary Noise Impacts**

No mitigation measures are required.

**Long-Term Vibration Impacts**

No mitigation measures are required.

Attachments: A: References  
B: Figures  
C: Noise Monitoring Survey Sheets  
D: FHWA Highway Traffic Noise Model Printouts  
E: HVAC Noise Analysis and Calculations  
F: Playground Noise Analysis and Calculations

## ATTACHMENT A

### REFERENCES

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## ATTACHMENT B

### FIGURES

Figure 1: Regional and Project Location

Figure 2: Site Plan

Figure 3: Noise Monitoring Locations

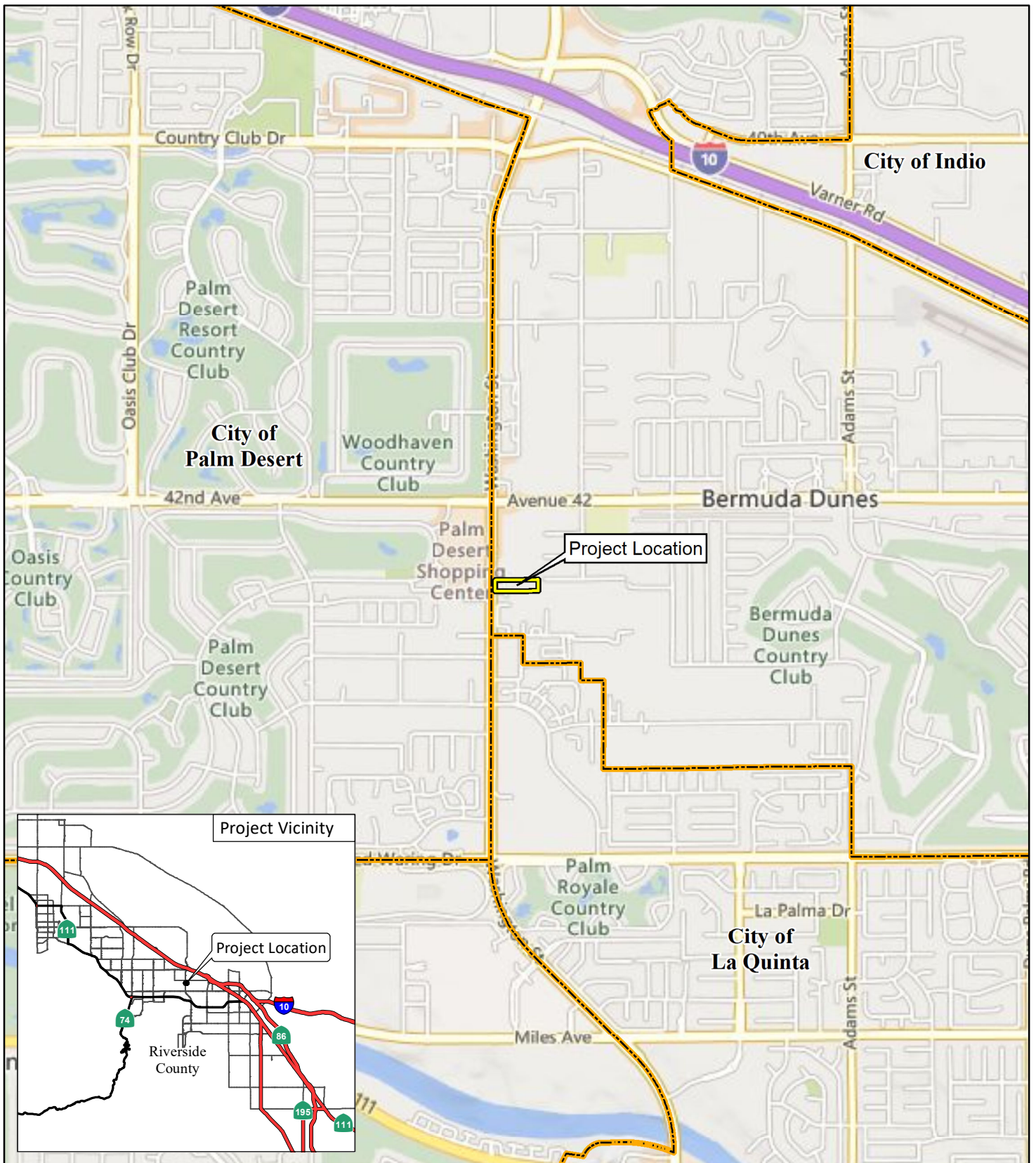




FIGURE 1

LSA

LEGEND

-  Project Location
-  City Boundary



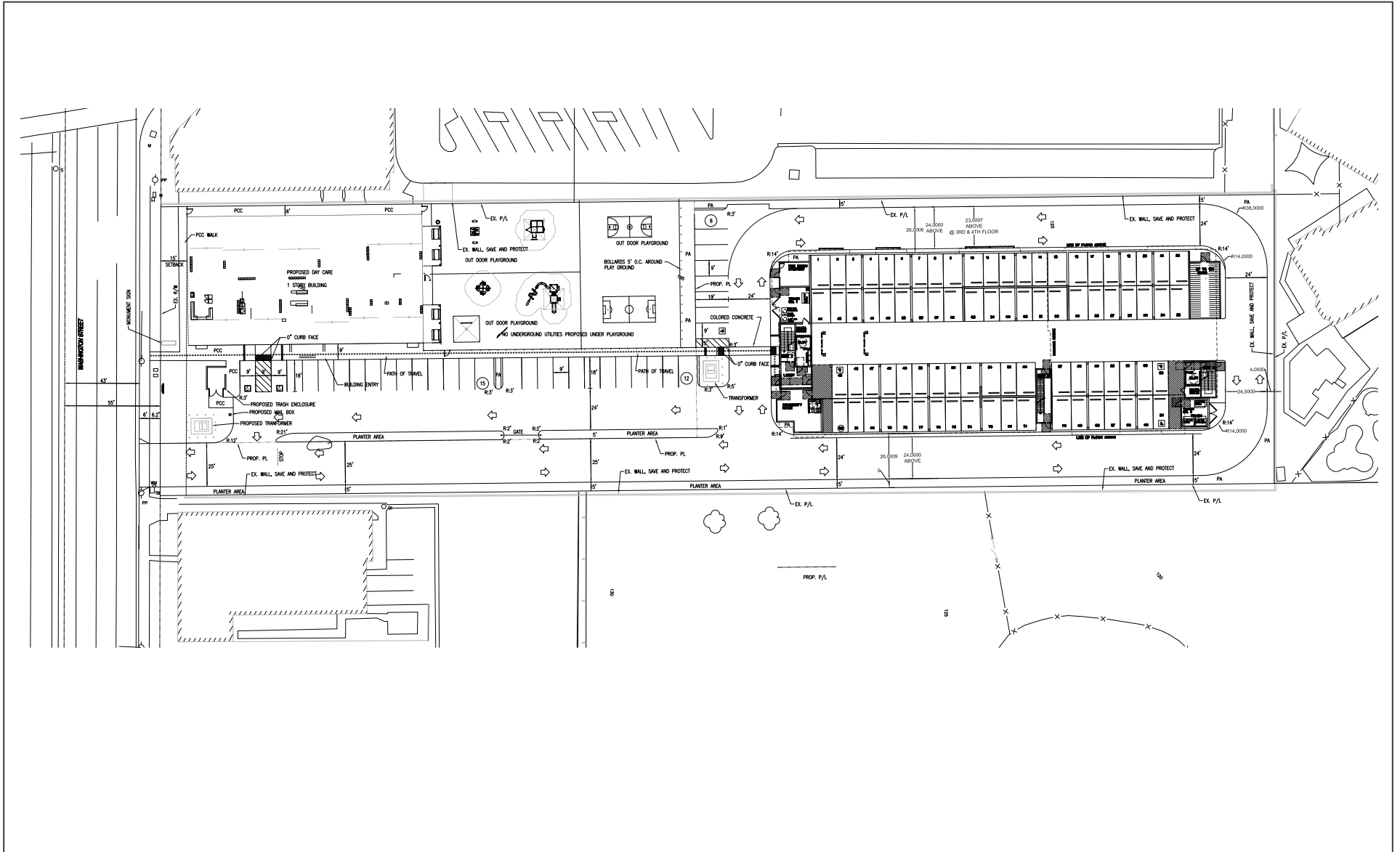
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FEET

SOURCE: Bing Road Maps (2021)

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42500 Washington Street, Bermuda Dunes  
Regional and Project Location





LSA

FIGURE 2



0 32 64

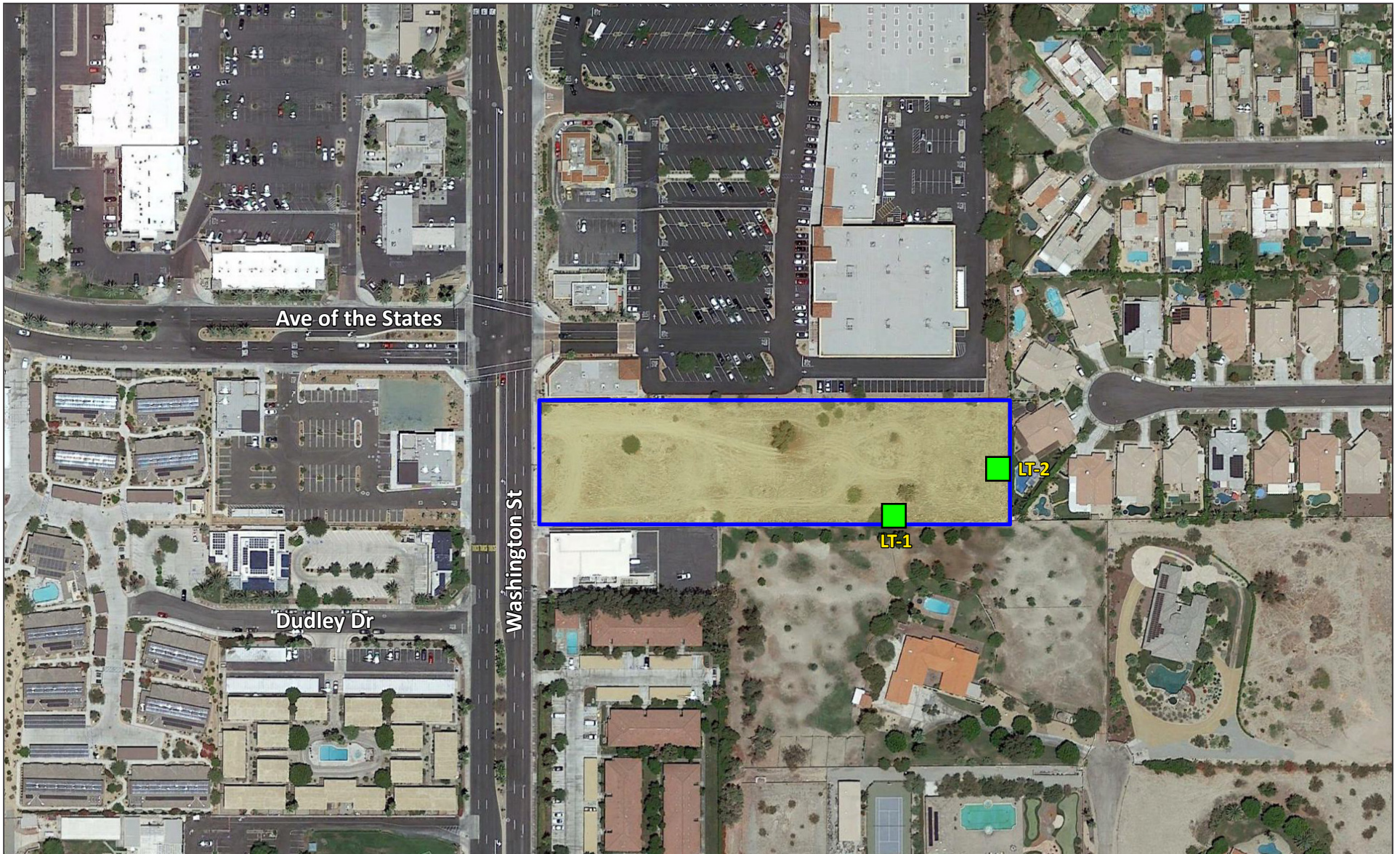
FEET

SOURCE: Daniel Beauchamp

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42500 Washington Street, Bermuda Dunes

Site Plan



LSA

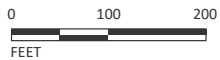
LEGEND



Project Location



LT-1 Long-term Noise Monitoring Location



SOURCE: Google Earth 2022

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FIGURE 3

42500 Washington Street, Bermuda Dunes  
Noise Monitoring Locations

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## ATTACHMENT C

### NOISE MONITORING SURVEY SHEETS

## Noise Measurement Survey – 24 HR

Project Number: HRD2001  
Project Name: 42500 Washington Street

Test Personnel: Kevin Nguyendo  
Equipment: Spark 706RC (SN:905)

Site Number: LT-1 Date: 11/2/22

Time: From 2:00 p.m. To 2:00 p.m.

Site Location: Located along the southern edge of the project site adjacent to the residential property at 42605 Byron Place.

Primary Noise Sources: Faint traffic noise from Washington Street.

Comments: 6.5 ft high existing property wall along southern boundary of the project site.

Photo:



# Noise Measurement Survey – 24 HR

Project Number: HRD2001  
Project Name: 42500 Washington Street

Test Personnel: Kevin Nguyendo  
Equipment: Spark 706RC (SN:906)

Site Number: LT-2 Date: 11/2/22

Time: From 2:00 p.m. To 2:00 p.m.

Site Location: Located along the eastern edge of the project site adjacent to the residential property at 78135 Calico Glen Drive.

Primary Noise Sources: Faint traffic noise from Washington Street.

Comments: 6 ft high existing property wall along the eastern boundary of the project site.

Photo:



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## ATTACHMENT D

### FHWA HIGHWAY TRAFFIC NOISE MODEL PRINTOUTS

TABLE Existing -01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue 42  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24460      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
201.0	428.0	919.7	1979.9

TABLE Existing -02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Avenue 42  
NOTES: 42500 Washington Street - Existing

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24720      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
202.4	431.0	926.2	1993.9

---



TABLE Existing -03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue of the States  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24000      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
198.5	422.7	908.1	1955.0

TABLE Existing -04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25815      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
208.1	443.6	953.3	2052.3

TABLE Existing -05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26015      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
209.2	445.9	958.2	2062.9

TABLE Existing -06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm Royale Drive  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26245      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
210.4	448.5	963.8	2075.1

TABLE Existing -07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred Waring Drive  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24430      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
200.8	427.7	918.9	1978.3

TABLE Existing -08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Fred Waring Drive  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 22980      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
193.0	410.7	882.2	1899.2

TABLE Existing -09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10930      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
106.1	221.8	474.6	1020.7

TABLE Existing -10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - Existing

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10610      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
104.2	217.5	465.3	1000.7

---



TABLE Existing -11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue of The States West of Washington Street  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3290      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	64.6	125.9

TABLE Existing -12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Hidden River Road East of Washington Street  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 740      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 51.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing -13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive West of Washington Street  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 510      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing -14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3210      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	93.6

TABLE Existing -15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - Existing

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21750      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
186.3	396.0	850.5	1830.9

---

TABLE Existing -16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17360      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
161.2	341.2	732.0	1575.5

TABLE Existing Plus Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue 42  
NOTES: 42500 Washington Street - Existing Plus Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24690      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
202.2	430.7	925.4	1992.3

---

TABLE Existing Plus Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Avenue 42  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25410      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
206.0	439.0	943.3	2030.8



TABLE Existing Plus Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue of the States  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24690      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
202.2	430.7	925.4	1992.3

TABLE Existing Plus Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway

NOTES: 42500 Washington Street - Existing Plus Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27005      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
214.3	457.0	982.3	2114.9

TABLE Existing Plus Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road

NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27115      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
214.9	458.3	985.0	2120.7

TABLE Existing Plus Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm  
Royale Drive

NOTES: 42500 Washington Street - Existing Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26930      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
213.9	456.2	980.5	2111.0

TABLE Existing Plus Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred Waring Drive

NOTES: 42500 Washington Street - Existing Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24970      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
203.7	433.9	932.4	2007.3

TABLE Existing Plus Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Fred Waring Drive  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23060      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
193.5	411.6	884.3	1903.7

TABLE Existing Plus Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11160      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
107.5	224.9	481.2	1034.9

TABLE Existing Plus Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10840      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
105.6	220.6	472.0	1015.1



TABLE Existing Plus Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Avenue of The States West of Washington Street

NOTES: 42500 Washington Street - Existing Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3440      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	66.1	129.5

TABLE Existing Plus Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Hidden River Road East of Washington Street  
NOTES: 42500 Washington Street - Existing Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 740      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 51.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

---

TABLE Existing Plus Project-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive West of Washington Street  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 590      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing Plus Project-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3280      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	95.0

TABLE Existing Plus Project-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21910      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
187.2	397.9	854.7	1839.8

TABLE Existing Plus Project-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17670      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
163.1	345.2	740.7	1594.2

TABLE 2024 (Opening Year)-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue 42  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25440      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
206.2	439.3	944.0	2032.4

TABLE 2024 (Opening Year)-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Avenue 42  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25710      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
207.6	442.4	950.7	2046.8



TABLE 2024 (Opening Year)-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue of the States  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24960      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
203.6	433.8	932.1	2006.8

TABLE 2024 (Opening Year)-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway

NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26850      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
213.5	455.3	978.6	2106.8

TABLE 2024 (Opening Year)-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27055      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
214.6	457.6	983.5	2117.5

TABLE 2024 (Opening Year)-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm Royale Drive  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27290      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
215.8	460.2	989.2	2129.8

TABLE 2024 (Opening Year)-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred Waring Drive  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25405      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
206.0	438.9	943.2	2030.6

TABLE 2024 (Opening Year)-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Fred Waring Drive  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23910      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
198.0	421.6	905.9	1950.1

TABLE 2024 (Opening Year)-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11370      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
108.7	227.6	487.2	1047.9

TABLE 2024 (Opening Year)-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11040      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
106.8	223.3	477.7	1027.5



TABLE 2024 (Opening Year)-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue of The States West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3440      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	66.1	129.5

TABLE 2024 (Opening Year)-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Hidden River Road East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 760      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Opening Year)-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 520      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Opening Year)-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3340      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	96.1

TABLE 2024 (Opening Year)-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 22620      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
191.1	406.4	873.0	1879.4

TABLE 2024 (Opening Year)-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18050      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
165.3	350.1	751.3	1616.9

TABLE 2024 (Opening Year) Plus Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street North of Avenue 42

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25670      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
207.4	441.9	949.7	2044.7

TABLE 2024 (Opening Year) Plus Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street South of Avenue 42

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26400      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
211.2	450.2	967.6	2083.2



TABLE 2024 (Opening Year) Plus Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street North of Avenue of the States

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25650      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
207.3	441.7	949.2	2043.6

TABLE 2024 (Opening Year) Plus Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28040      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
219.6	468.6	1007.2	2168.6

TABLE 2024 (Opening Year) Plus Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28155      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
220.2	469.9	1010.0	2174.5

TABLE 2024 (Opening Year) Plus Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm Royale Drive

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27975      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
219.3	467.9	1005.7	2165.3

TABLE 2024 (Opening Year) Plus Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred Waring Drive

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25945      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
208.8	445.1	956.5	2059.2

TABLE 2024 (Opening Year) Plus Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street South of Fred Waring Drive

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23990      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
198.5	422.6	907.9	1954.5

TABLE 2024 (Opening Year) Plus Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
110.1	230.6	493.7	1062.0

TABLE 2024 (Opening Year) Plus Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11270      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
108.2	226.3	484.3	1041.7



TABLE 2024 (Opening Year) Plus Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Avenue of The States West of Washington Street

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3590      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	67.6	133.0

TABLE 2024 (Opening Year) Plus Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Hidden River Road East of Washington Street

NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 760      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Opening Year) Plus Project-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 600      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Opening Year) Plus Project-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3410      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	97.4

TABLE 2024 (Opening Year) Plus Project-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 22780      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
191.9	408.3	877.1	1888.2

TABLE 2024 (Opening Year) Plus Project-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Opening Year) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18360      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
167.1	354.0	759.8	1635.4

TABLE 2024 (Cumulative)-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue 42  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26230      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
210.3	448.3	963.5	2074.3

TABLE 2024 (Cumulative)-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Avenue 42  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26960      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
214.1	456.5	981.2	2112.6



TABLE 2024 (Cumulative)-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue of the States  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26160      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
209.9	447.5	961.7	2070.6

TABLE 2024 (Cumulative)-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27900      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
218.9	467.0	1003.9	2161.4

TABLE 2024 (Cumulative)-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28195      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
220.4	470.3	1010.9	2176.6

TABLE 2024 (Cumulative)-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm Royale Drive  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28430      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
221.6	472.9	1016.5	2188.7

TABLE 2024 (Cumulative)-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred Waring Drive  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26535      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
211.9	451.7	970.9	2090.3

TABLE 2024 (Cumulative)-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Fred Waring Drive  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25250      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
205.2	437.1	939.3	2022.3

TABLE 2024 (Cumulative)-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11660      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
110.5	231.4	495.4	1065.6

TABLE 2024 (Cumulative)-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11370      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
108.7	227.6	487.2	1047.9



TABLE 2024 (Cumulative)-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue of The States West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3770      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	69.3	137.2

TABLE 2024 (Cumulative)-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Hidden River Road East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 760      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Cumulative)-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 520      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Cumulative)-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3340      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	96.1

TABLE 2024 (Cumulative)-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 22960      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
192.9	410.5	881.7	1898.1

TABLE 2024 (Cumulative)-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18190      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
166.1	351.9	755.1	1625.3

TABLE 2024 (Cumulative) Plus Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue 42  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26460      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
211.5	450.9	969.1	2086.4

TABLE 2024 (Cumulative) Plus Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street South of Avenue 42

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27650      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
217.6	464.2	997.9	2148.5



TABLE 2024 (Cumulative) Plus Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street North of Avenue of the States

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26850      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
213.5	455.3	978.6	2106.8

TABLE 2024 (Cumulative) Plus Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29090      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
224.9	480.1	1032.2	2222.4

TABLE 2024 (Cumulative) Plus Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29295      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
226.0	482.4	1037.0	2232.8

TABLE 2024 (Cumulative) Plus Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm  
Royale Drive  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29115      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
225.1	480.4	1032.8	2223.7

TABLE 2024 (Cumulative) Plus Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred Waring Drive  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27075      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
214.7	457.8	984.0	2118.6

TABLE 2024 (Cumulative) Plus Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street South of Fred Waring Drive

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25330      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
205.6	438.0	941.3	2026.6

TABLE 2024 (Cumulative) Plus Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11890      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
111.8	234.4	501.8	1079.6

TABLE 2024 (Cumulative) Plus Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
110.1	230.6	493.7	1062.0



TABLE 2024 (Cumulative) Plus Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Avenue of The States West of Washington Street

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3920      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	70.8	140.6

TABLE 2024 (Cumulative) Plus Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Hidden River Road East of Washington Street

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 760      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Cumulative) Plus Project-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Palm Royale Drive West of Washington Street

NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 600      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2024 (Cumulative) Plus Project-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3410      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	97.4

TABLE 2024 (Cumulative) Plus Project-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23120      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
193.8	412.3	885.8	1907.0

TABLE 2024 (Cumulative) Plus Project-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - 2024 (Cumulative) Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18500      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
167.9	355.8	763.7	1643.7

TABLE 2045 -01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue 42  
NOTES: 42500 Washington Street - 2045

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28060      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

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\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
219.7	468.8	1007.7	2169.6

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TABLE 2045 -02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Avenue 42  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28880      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
223.9	477.8	1027.2	2211.7



TABLE 2045 -03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue of the States  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28250      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
220.7	470.9	1012.3	2179.4

TABLE 2045 -04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 30090      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 77.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
229.9	491.0	1055.7	2273.0

TABLE 2045 -05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 30350      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 77.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
231.2	493.8	1061.8	2286.1

TABLE 2045 -06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm  
Royale Drive  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 30475      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 77.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
231.9	495.2	1064.7	2292.4

TABLE 2045 -07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred  
Waring Drive  
NOTES: 42500 Washington Street - 2045

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28505      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

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\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
222.0	473.7	1018.3	2192.5

---

TABLE 2045 -08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Fred Waring Drive  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27980      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
219.3	467.9	1005.8	2165.5

TABLE 2045 -09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13320      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
120.0	252.6	541.2	1164.4

TABLE 2045 -10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13660      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
121.9	256.8	550.3	1184.1



TABLE 2045 -11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue of The States West of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 4000      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	71.6	142.4

TABLE 2045 -12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Hidden River Road East of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 800      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2045 -13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive West of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1250      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE 2045 -14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3830      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	105.2

TABLE 2045 -15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26950      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
214.0	456.4	981.0	2112.1

TABLE 2045 -16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - 2045

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24400      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
200.7	427.3	918.2	1976.7

TABLE 2045 Plus Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue 42  
NOTES: 42500 Washington Street - 2045 Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28290      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
220.9	471.3	1013.2	2181.5

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TABLE 2045 Plus Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Avenue 42  
NOTES: 42500 Washington Street - 2045 Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29570      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 77.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
227.3	485.4	1043.5	2246.8

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TABLE 2045 Plus Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street North of Avenue of the States  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28940      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
224.2	478.5	1028.6	2214.8

TABLE 2045 Plus Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Avenue of the States and  
Project Driveway

NOTES: 42500 Washington Street - 2045 Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31280      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 77.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
235.8	503.8	1083.3	2332.6

TABLE 2045 Plus Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022

ROADWAY SEGMENT: Washington Street Between Project Driveway and Hidden River Road

NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31450      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 77.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
236.7	505.6	1087.2	2341.0

TABLE 2045 Plus Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Hidden River Road and Palm Royale Drive  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31160      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 77.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
235.2	502.5	1080.5	2326.6

TABLE 2045 Plus Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street Between Palm Royale Drive and Fred Waring Drive  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29045      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
224.7	479.7	1031.1	2220.1

TABLE 2045 Plus Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Washington Street South of Fred Waring Drive  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28060      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
219.7	468.8	1007.7	2169.6

TABLE 2045 Plus Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 West of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13550      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.08

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
121.3	255.4	547.4	1177.8

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TABLE 2045 Plus Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue 42 East of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13890      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 29      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
123.2	259.6	556.5	1197.4



TABLE 2045 Plus Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Avenue of The States West of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 4150      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 31      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	73.0	145.8

TABLE 2045 Plus Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Hidden River Road East of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 800      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

---

TABLE 2045 Plus Project-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive West of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1330      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	52.8

TABLE 2045 Plus Project-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Palm Royale Drive East of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3900      SPEED (MPH): 25      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	73.60	13.60	10.22
M-TRUCKS	0.90	0.04	0.90
H-TRUCKS	0.35	0.04	0.35

ACTIVE HALF-WIDTH (FT): 11      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	106.4

TABLE 2045 Plus Project-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive West of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27110      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
214.8	458.2	984.9	2120.4

TABLE 2045 Plus Project-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/20/2022  
ROADWAY SEGMENT: Fred Waring Drive East of Washington Street  
NOTES: 42500 Washington Street - 2045 Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24710      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	69.50	12.90	9.60
M-TRUCKS	1.44	0.06	1.50
H-TRUCKS	2.40	0.10	2.50

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
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202.3	430.9	925.9	1993.4

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## ATTACHMENT E

# HVAC NOISE ANALYSIS AND CALCULATIONS

### HVAC Noise Analysis Calculations

Land Use	Direction	No.	No. of Units	Reference Noise Level (dBA L <sub>eq</sub> )	Total Reference Noise Level (dBA L <sub>eq</sub> )	Reference Distance (ft)	Distance (ft)	Distance Attenuation	Shielding (dBA)	Noise Level (dBA L <sub>eq</sub> )	Composite Noise Level (dBA L <sub>eq</sub> )
Residence	East	1	4	44.4	50.4	50	115.0	7.2	5	38.2	47.0
		2	4	44.4	50.4	50	65.0	2.3	5	43.1	
		3	6	44.4	52.2	50	125.0	8.0	5	39.2	
		4	6	44.4	52.2	50	170.0	10.6	5	36.6	
		5	9	44.4	53.9	50	205.0	12.3	5	36.6	
		6	6	44.4	52.2	50	215.0	12.7	5	34.5	
		7	6	44.4	52.2	50	230.0	13.3	5	33.9	
Residence	South	1	4	44.4	50.4	50	285.0	15.1	8	27.3	39.4
		2	4	44.4	50.4	50	290.0	15.3	8	27.1	
		3	6	44.4	52.2	50	190.0	11.6	8	32.6	
		4	6	44.4	52.2	50	285.0	15.1	8	29.1	
		5	9	44.4	53.9	50	190.0	11.6	8	34.3	
		6	6	44.4	52.2	50	270.0	14.6	8	29.6	
		7	6	44.4	52.2	50	210.0	12.5	8	31.7	
Residence	South	1	4	44.4	50.4	50	400.0	18.1	5	27.3	39.3
		2	4	44.4	50.4	50	435.0	18.8	5	26.6	
		3	6	44.4	52.2	50	375.0	17.5	5	29.7	
		4	6	44.4	52.2	50	355.0	17.0	5	30.2	
		5	9	44.4	53.9	50	290.0	15.3	5	33.6	
		6	6	44.4	52.2	50	310.0	15.8	5	31.4	
		7	6	44.4	52.2	50	265.0	14.5	5	32.7	



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## ATTACHMENT F

# PLAYGROUND NOISE ANALYSIS AND CALCULATIONS

### Playground Noise Analysis Calculations

Land Use	Direction	No. of Children	Reference Noise Level (dBA L <sub>eq</sub> )	Total Reference Noise Level (dBA L <sub>eq</sub> )	Reference Distance (ft)	Distance (ft)	Distance Attenuation (dBA)	Shielding (dBA)	Noise Level (dBA L <sub>eq</sub> )	Combined Noise Level (dBA L <sub>eq</sub> )
Residence	East	83	65	84.2	3	360	41.6	5	37.6	52.0
		83	79.2	98.4	3	360	41.6	5	51.8	
Residence	South	83	65	84.2	3	325	40.7	6	37.5	51.9
		83	79.2	98.4	3	325	40.7	6	51.7	
Residence	South	83	65	84.2	3	205	36.7	6	41.5	55.9
		83	79.2	98.4	3	205	36.7	6	55.7	

**Noise Reduction Calculation for Stationary Noise Sources**

Activity	Land Use	Direction	Wall Height (ft)	Wall Base Elevation	Receptor Base Elevation	Receptor Height (ft)	Source Base Elevation	Source Height (ft)	Source to Barrier Distance (ft)	Receptor to Source Distance (ft)	Receptor to Barrier Distance (ft)	d1	d2	d3	delta	N	Noise Reduction	Noise Reduction Applied to Noise Analysis
Playground Noise	Residential	East	6	0	0	5	0	4	335	355	20	355.0	20.0	335.0	0.0	0.0	5.2	5
Playground Noise	Residential	South	6.5	0	0	5	0	4	70	90	20	90.0	20.1	70.0	0.1	0.1	5.9	6
Playground Noise	Residential	South	6.5	0	0	5	0	4	175	195	20	195.0	20.1	175.0	0.1	0.1	5.6	6