



Appendix J

Noise Study



Meridian South Campus

NOISE IMPACT ANALYSIS

MARCH JOINT POWERS AUTHORITY (MARCH JPA)

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
ANFO	Ammonium Nitrate Fuel Oil
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
dba	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Hz	Hertz
I-215	Interstate 215
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
MARB/IPA	March Air Reserve Base/Inland Port Airport
MJPA	March Joint Powers Authority
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak Particle Velocity
Project	Meridian South Campus
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

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EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures, if any, for the proposed Meridian South Campus development and Village West Drive Extension ("Project"). The Project site is located on the south side of Van Buren Boulevard between Barton Street and Village West Drive within the jurisdiction of the March Joint Powers Authority (March JPA). This study has been prepared consistent with applicable March JPA noise standards, and significance criteria based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) Because the proposed Project involves a shift in land uses as compared to the 2003 EIR Phase III, for the purposes of this noise study, the net change in noise levels is considered the "Project". The "without Project" condition will reflect the 2003 EIR Phase III and the "with Project" conditions will reflect the net change in noise levels due to the shift in mix of uses. This noise study provides noise analysis for both "without Project" and "with Project" conditions in order to provide an appropriate comparative analysis.

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the Project will influence the traffic noise levels in surrounding off-site areas. To quantify the off-site traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on 48 roadway segments surrounding the Project site were calculated based on the change in the average daily traffic (ADT) volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts found in the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (2)

Consistent with the Project traffic impact analysis, because the proposed Project involves a shift in land uses as compared to the 2003 EIR Phase III, for the purposes of this noise study, the net change in noise levels is considered the "Project". The "without Project" condition will reflect the 2003 EIR Phase III and the "with Project" conditions will reflect the net change in noise levels due to the shift in mix of uses. This noise study provides noise analysis for both "without Project" and "with Project" conditions in order to provide an appropriate comparative analysis. The analysis shows that the unmitigated Project-related traffic noise level increases under all "with Project" traffic scenarios are considered *less than significant* impacts at land uses adjacent to the study area roadway segments.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected operational noise sources from the Meridian South Campus site, this analysis estimates the Project-related stationary-source noise levels at nearby sensitive receiver locations. The typical activities associated with the proposed Meridian South Campus are anticipated to include truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity. Since detailed site plans are not available to support this Specific Plan Noise Impact Analysis, the operational noise analysis assumes all Project operational activity is occurring continuously near the Project site boundaries. This conservative approach overstates reality, since the Project operational activities will occur at

different locations throughout the Project site and vary throughout the daytime and nighttime hours.

Although the Project site is located within the March JPA jurisdiction, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Riverside and the County of Riverside. Therefore, to accurately describe the potential Project-related operational noise level contributions, this analysis presents the appropriate operational noise standards for each jurisdiction adjacent to the Project site. The operational noise analysis shows that the Project-related stationary-source noise levels due to the truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity will satisfy the March JPA, City of Riverside, and County of Riverside noise level standards at the sensitive receiver locations near the Project site.

Further, this analysis demonstrates that the Project will not contribute an operational noise level impact to the existing ambient noise environment at any of the sensitive receiver locations. Therefore, the operational noise level impacts associated with the proposed 24-hour seven days per week Project activities, such as the truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity, will be *less than significant*.

OPERATIONAL NOISE ABATEMENT MEASURES

The normal operation of the Project will not exceed the March JPA Development Code standards for stationary-source noise impacts. (3) To further reduce potential operational noise levels received at nearby noise-sensitive receiver locations, it is recommended that the Lead Agency require the following as Project Conditions of Approval:

- All on-site operating equipment under the control of the building user that is used in outdoor areas (including but not limited to trucks, tractors, forklifts, and hostlers), shall be operated with properly functioning and well-maintained mufflers.
- Maintain quality pavement conditions on the property that are free of vertical deflection (i.e. speed bumps) to minimize truck noise.
- The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:
 - Truck drivers shall turn off engines when not in use;
 - Diesel trucks servicing the Project shall not idle for more than five (5) minutes; and
 - Post telephone numbers of the building facilities manager to report idling violations.

CONSTRUCTION NOISE AND VIBRATION ANALYSIS

Construction noise represents a short-term increase on the ambient noise levels. Construction-related noise impacts are expected to create temporary and intermittent high-level noise conditions at receivers surrounding the Project site when certain activities occur at the Project site boundary. To analyze noise impacts originating from the construction of the Project, noise from construction activities are typically limited to the hours of operation established under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis presents the appropriate

construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside.

DAYTIME CONSTRUCTION NOISE LEVELS

Using sample reference noise levels to represent the planned construction activities of the Project site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. The results of the construction noise analysis show that the unmitigated construction noise levels will satisfy City of Riverside and County of Riverside construction daytime noise level thresholds at the nearby sensitive receiver locations. Therefore, daytime Project-related construction activities will result in a *less than significant* noise level impact.

NIGHTTIME CONCRETE POUR NOISE LEVELS

Additional analysis is provided for nighttime concrete pour activity anticipated at the Project site. Based on reference noise level measurements taken by Urban Crossroads, Inc. for a nighttime concrete pour, the Project-related concrete pour equipment noise levels will satisfy the City of Riverside and County of Riverside nighttime exterior noise level limits at the nearby sensitive receiver locations within each jurisdiction. Therefore, the construction noise levels due to nighttime concrete pouring activity at the Project site will result in a *less than significant* impact.

TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

Further, to describe the temporary, short-term Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing ambient noise levels measurements at the off-site receiver locations. A temporary noise level increase of 12 dBA L_{eq} is considered a potentially significant impact based on the Caltrans *substantial* noise level increase criteria which is used to assess the Project-construction noise level increases. (4) The Project will contribute unmitigated, worst-case construction noise level increases approaching 10.3 dBA L_{eq} during the daytime hours, and up to 4.2 dBA L_{eq} during the nighttime hours at the closest sensitive receiver locations which will not exceed the 12 dBA L_{eq} significance threshold. Therefore, based on the results of this analysis, all nearby sensitive receiver locations will experience *less than significant* impacts due to Project construction noise level increases. The construction noise analysis presents a conservative, worst-case approach with the highest noise-level-producing equipment for each stage of Project construction operating at the at the edge of the Project site.

CONSTRUCTION VIBRATION LEVELS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. This analysis shows the construction vibration levels in RMS are expected to range from 0.00 to 0.01 in/sec (RMS) at the five receiver locations. The March JPA and the City of Riverside General Plans and Municipal Codes do not identify specific vibration level standards. Based on the County of Riverside vibration standards of 0.01 in/sec (RMS), the proposed Project

construction activities will not include or require equipment, facilities, or activities that would result in a *barely perceptible* human response (annoyance), and therefore, impacts due to vibration are considered *less than significant*.

CONSTRUCTION NOISE AND VIBRATION ABATEMENT MEASURES

Though construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts, the following noise abatement measures would reduce the potential construction equipment noise level increases to the nearby noise-sensitive residential land uses:

- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. to 7:00 p.m. (March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030). The Project construction supervisor shall ensure compliance with the permitted construction hours. (3)
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards (March JPA General Plan Noise/Air Quality Element, Policy 3.8). (5) The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receivers nearest the Project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the Project site (i.e., to the center) during all Project construction.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. to 7:00 p.m.). The contractor shall prepare a haul route exhibit and shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Meridian South Campus and Village West Drive Extension ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Meridian South Campus site is located on the south side of Van Buren Boulevard between Barton Street and Village West Drive within the jurisdiction of the March JPA. The Project site is partially developed and located within the southwestern portion of the March JPA jurisdiction. More specifically, the Project site is located in the southern portion of the Meridian South Campus Specific Plan area, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate (I) 215 is located approximately one mile east of the Project site. The Village West Drive extension component of the Project is located to the east and south of South Campus.

1.2 PROJECT DESCRIPTION

The *March Business Center Specific Plan and Final Focused Environmental Impact Report (SCH#2002071089)*, which guides land use decisions within a 1,290-acre portion of the planning area, was adopted and certified in 2003. Within the March Business Center Specific Plan, two separate "campuses" were identified, along with the potential for a possible third campus. The two identified campuses include the North Campus and South Campus. The South Campus components of the March Business Center Specific Plan have been analyzed under both California Environmental Quality Act (CEQA) and National Environmental Protection Agency (NEPA) in the following documents:

- Final Environmental Impact Statement: Disposal of Portions of March Air Force Base (February 1996)
- Final Environmental Impact Report for the March Air Force Base Redevelopment Project (June 1996)
- Redevelopment Plan for the March Air Force Base Redevelopment Project (June 1996)
- March Joint Powers Authority Development Code (July 1997)
- General Plan of the March Joint Powers Authority (September 1999)
- Master Environmental Impact Report for the General Plan of the March Joint Powers Authority (September 1999)
- March Business Center Specific Plan (February 2003)
- March JPA General Plan Amendment (February 2003)
- March Business Center Focused Environmental Impact Report (February 2003)

- March Business Center Design Guidelines (November 2003)
- Addenda to the certified 2003 EIR, including:
 - Meridian South Campus Specific Plan Amendment – Parcel Delivery Terminal Project (September 2017)
 - Meridian South Campus Specific Plan Amendment – Land Swap Addendum (September 2018)

PROPOSED PROJECT

The square footage calculated based on maximum allowable floor area ratio (FAR) for each land use type is shown below:

- Office – 388.011 thousand square feet (TSF)
- Commercial – 221.394 TSF
- Grocery Store – 61.336 TSF
- Business Park – 1,764.180 TSF
- High Cube Warehouse – 800.000 TSF
- High Cube Cold Storage Warehouse – 700.000 TSF
- Warehousing – 274.437 TSF
- Dog Park – 6.2 Acres

At the time this study was prepared, the Grocery Store component was assumed to consist of 61,336 sf. However, the current site plan for the Grocery Store component reflects a 44,200 sf grocery store with 17,136 sf of shops/general commercial retail space (total of 61,336 sf of commercial retail use). For the purposes of this study, the 61,336 sf of Grocery Store use results in a higher trip generation and is therefore more conservative as opposed to evaluating the 44,200 sf Grocery Store and 17,136 sf of commercial retail space. The higher off-site Project traffic impacts have been evaluated for the purposes of this study in order to account for any minor changes that may occur to the building area as part of the final design.

VILLAGE WEST DRIVE EXTENSION

The improved portions of Village West Drive currently terminate at Lemay Drive to the south. The proposed Project would include improvements to and the extension of Village West Drive to provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. The improved Village West Drive would require the removal of an abandoned water tank currently owned by Western Municipal Water District that formerly served March Air Force Base, followed by the construction of two through lanes, a center striped median, and a bike lane. Sidewalks would also be provided on either side of the roadway.

BUILT/ENTITLED

The following uses that are built or entitled, but not yet occupied and operational will also be included as part of the Proposed Project scenarios:

- Amazon (Building A) – 1,000.000 TSF

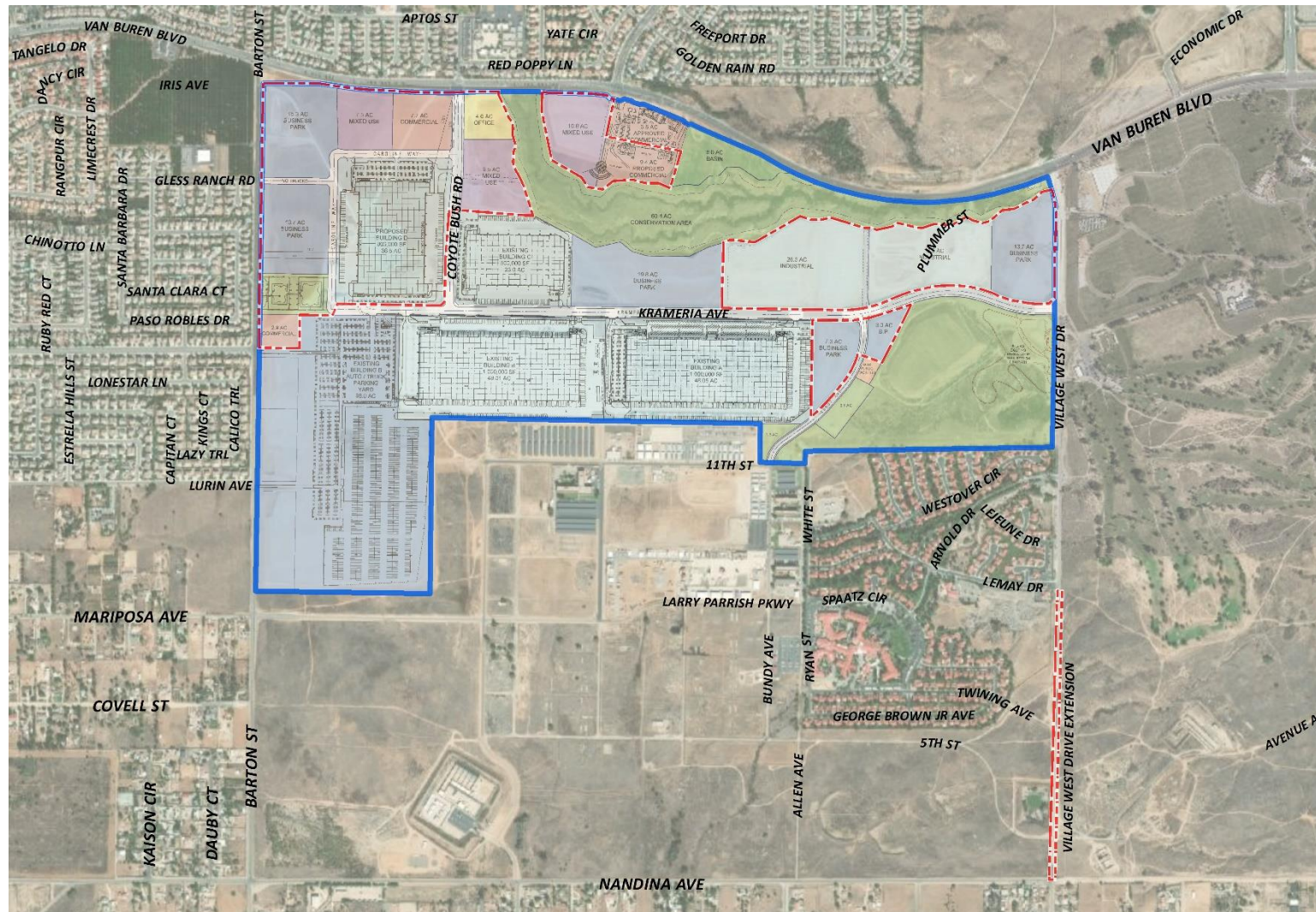
- Parcel Delivery (Building B) – 1,000,000 TSF
- Parking Lot – 61.0 Acres
- Building C (Warehousing) – 500,000 TSF
- Commercial (Parcel 72) – 15,485 TSF¹

Exhibit 1-A shows the Project site plan with the proposed uses. At the time this noise study was prepared, the tenants of the Project were unknown. This noise study is intended to describe emission impacts associated with the expected typical 24-hour, seven day per week operational activities at the Project site.

Consistent with the *Meridian South Campus Traffic Impact Analysis* (TIA) prepared by Urban Crossroads, Inc., this noise study is intended to evaluate the net change in potential impacts associated with Phase III of the 2003 Focused EIR (referred to herein as the 2003 EIR Phase III) to the currently proposed Project. (2) Because the proposed Project involves a shift in land uses as compared to the 2003 EIR Phase III, for the purposes of this noise study, the net change in noise levels is considered the “Project”. The “without Project” condition will reflect the 2003 EIR Phase III and the “with Project” conditions will reflect the net change in noise levels due to the shift in mix of uses. This noise study provides noise analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis.

¹ At the time this study was prepared, the commercial square footage of Parcel 72 was assumed to consist of 15,485 sf. However, the actual square footage for Parcel 72 is 14,267 sf. For the purposes of this study, the 15,485 sf of commercial use results in a higher trip generation and consequently higher emissions (therefore more conservative) as opposed to evaluating the 14,267 sf of commercial use.

EXHIBIT 1-A: PRELIMINARY SITE PLAN



LEGEND:

Site Boundary South Campus Specific Plan

2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	SPEECH INTERFERENCE
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (6) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. (7) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the “average” noise levels within the environment.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{50} , L_{25} , L_8 and L_2 , are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded during 50 percent, 25 percent, 8 percent and 2 percent of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. The March JPA relies on the percentile noise levels to describe the stationary source noise level limits. While the L_{50} describes the noise levels occurring 50 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The March JPA relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (6)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (8)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (6)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure. (8)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or

receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (8)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (9)

2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (10) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (10) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (8)

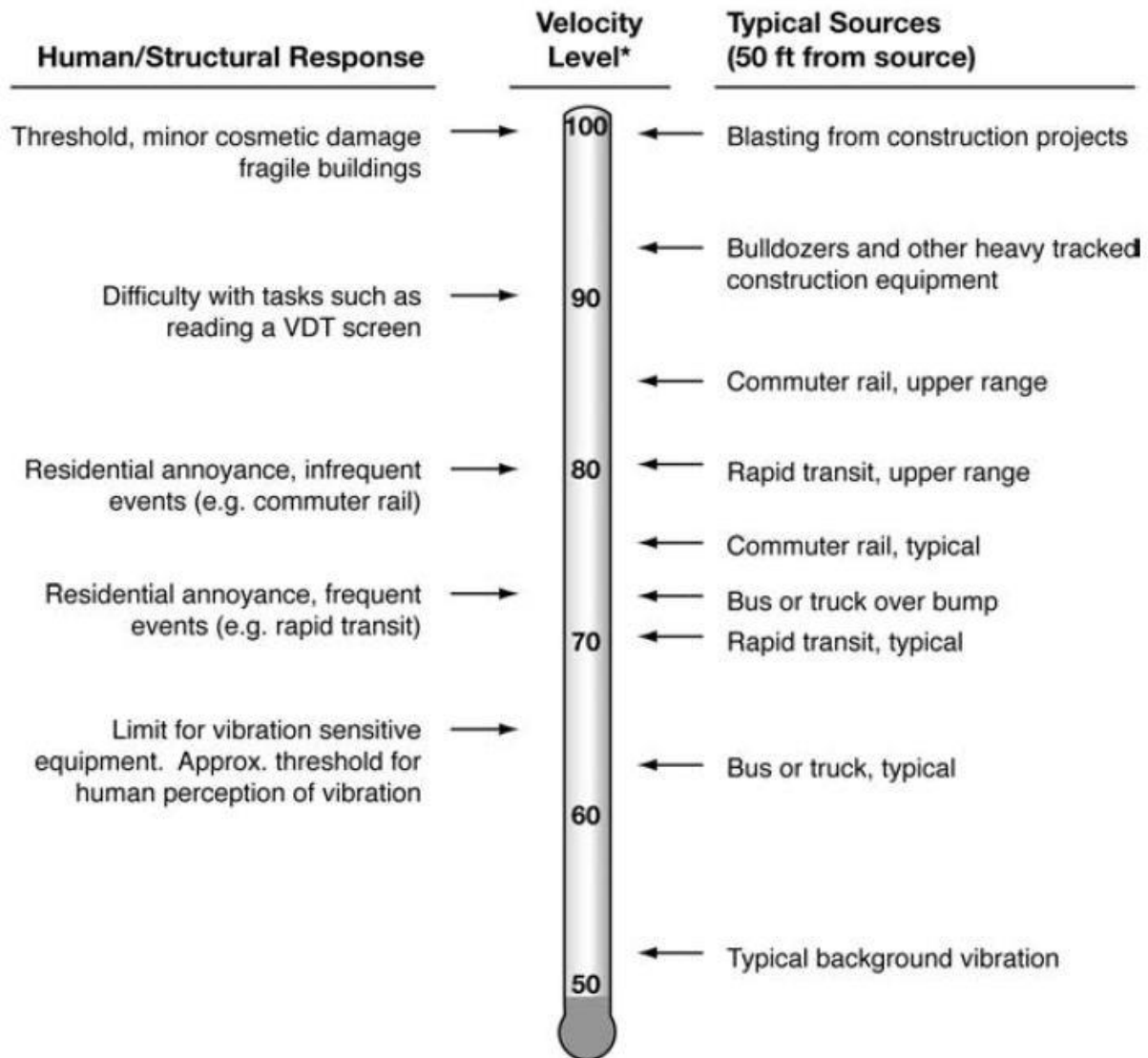
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment*, vibration is the periodic oscillation of a medium or object. (11) The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

Source: Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 FEDERAL REGULATIONS

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Title 40 of the Code of Federal Regulations, Part 205, Subpart B. (12) The federal truck pass-by noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specified test procedures. These controls are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

In 1972, the Noise Control Act (42 U.S.C. Section 4901 et seq.) was passed by Congress to promote noise environments in support of public health and welfare. It also established the U.S. Environmental Protection Agency (USEPA) Office of Noise Abatement and Control to coordinate federal noise control activities. The USEPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. The USEPA found that to prevent hearing loss over the lifetime of a receiver, the yearly average L_{eq} should not exceed 70 dBA, and the L_{dn} should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance. However, in 1982, the USEPA phased out the office's funding as part of a shift in federal noise control policy to transfer the primary responsibility of regulating noise to state and local governments.

3.2 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (13) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a Project be analyzed, including environmental noise impacts.

3.3 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (14) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1.1).

3.4 MARCH JPA NOISE/AIR QUALITY ELEMENT

The March JPA General Plan is currently being updated, so both the draft (yet to be approved) General Plan Update 2030 and adopted General Plan 1999 policies are described in this section in relation to the Project. The Noise/Air Quality Element of each version of the General Plan identify several goals and policies to protect and enhance the quality of life for those who live and work in the March JPA jurisdiction. (15) (5) The Noise Element provides policy guidance which addresses the generation, mitigation, avoidance, and the control of excessive noise.

3.4.1 GENERAL PLAN UPDATE 2030

To reduce noise levels within the March JPA jurisdiction, the General Plan Update 2030 Noise/Air Quality Element contains the following three goals:

- 3.4.2.1 *Reduction of noise impacts through proper land use planning.*
- 3.4.2.2 *Analyze noise impacts caused by transportation.*
- 3.4.2.3 *Minimize noise impacts attributable to civilian aviation.*

The noise policies specified in the March JPA Noise/Air Quality Element provide the guidelines necessary to satisfy these goals. The policies are provided below:

- Policy 1a The MJPA will use the State Land Use Compatibility matrix (Figure III-1 of this Element) as the standard when approving future Projects to ensure the reduction of potential noise impacts.*
- Policy 1b 60 dBA CNEL is established as the acceptable outdoor noise exposure level for schools, libraries, churches, hospitals, nursing homes and other medical facilities, and parks.*
- Policy 1c 65 dBA CNEL is established as the acceptable outdoor noise exposure level for transient lodging.*
- Policy 1d Indoor noise exposure levels of 45 dBA CNEL shall be maintained for all hospitals, nursing homes and other medical facilities, and transient lodging.*
- Policy 1e 70 dBA CNEL is the established acceptable outdoor noise exposure level for office buildings, businesses, commercial, professional, and mixed-use development.*

- Policy 1f 70 dBA CNEL is the established outdoor noise exposure level for golf courses, cemeteries, industrial, manufacturing, warehouse/distribution, and public facilities.*
- Policy 1g Land uses that are particularly sensitive to noise (such as schools, libraries, day care, residential uses, medical facilities, etc.) shall not be approved in areas that exceed the acceptable limits on noise as set forth in Figure III-1: State Land Use Compatibility of this Element.*
- Policy 1h The MIPA shall encourage site design that places structures such that noise generating uses are buffered from other developments, either through distance, human-made buffers, or other means.*
- Policy 1i Noise generating facilities shall be located in areas with compatible noise generating land uses (i.e., airport noise contour areas) to minimize land use incompatibilities, noise abatement and the necessity of extensive mitigation measures.*
- Policy 2a Noise impacts resulting from traffic shall be minimized through the use of sound attenuation measures such as berms, walls, or a combination thereof.*
- Policy 2b Truck routes shall be established and not located near areas where there are sensitive receivers that may be impacted.*
- Policy 2c Trucking operations shall be limited to appropriate routes, times and speeds.*
- Policy 2d The March JPA shall evaluate noise sensitivity and noise generation when considering transportation improvement Projects. If necessary, these impacts shall be mitigated to acceptable levels.*
- Policy 2e Appropriate muffling systems for construction equipment and operations shall be required, as necessary.*
- Policy 3a March JPA shall adhere to the adopted 2005 AICUZ and draft Joint Land Use Plan criteria (or more current document) and promote the use of newer and quieter aircraft.*
- Policy 3b March JPA shall analyze noise impacts associated with General Aviation as a component of the environmental review for the General Aviation ramp.*
- Policy 3c At a future date when the market demand and likely development of aviation facilities is known beyond speculation, March JPA shall prepare a comprehensive environmental analysis of noise impacts as part of a CEQA review for the build-out of the 21,000 annual operation civilian operations at March Inland Port.*

LAND USE COMPATIBILITY

The noise criteria identified in the March JPA General Plan Update 2030 Noise/Air Quality Element (Figure III-1) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown on Exhibit 3-A, provides the March JPA with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *State Land Use Compatibility* guidelines indicate that industrial and manufacturing land uses, such as the Project, are considered *normally acceptable* with noise levels below 70 dBA CNEL and *conditionally acceptable* with noise levels of less than 75 dBA CNEL.

3.4.2 ADOPTED GENERAL PLAN 1999

The adopted March JPA General Plan includes the following goals in the Noise/Air Quality Element:

- 1 *Ensure that land uses are protected from excessive and unwanted noise.*
- 2 *Minimize incompatible noise level exposures throughout the Planning Area, and where possible, mitigate the effect of noise incompatibilities to provide a safe and health environment.*
- 3 *Work toward the reduction of noise impacts from vehicular traffic, and aviation and rail operations.*

The noise policies specified in the March JPA Noise/Air Quality Element provide the guidelines necessary to satisfy these goals. The policies are provided below:

- Policy 1.1 Establish acceptable limits of noise for various land uses throughout the March JPA Planning Area. Future development that could increase ambient noise levels shall be required to mitigate the anticipated noise increase, to the extent possible.*
- Policy 1.2 Noise sensitive uses (such as schools, libraries, hospitals, medical facilities, residential uses, etc.) shall be discouraged in areas where noise levels exceed acceptable limits.*
- Policy 1.3 Encourage good acoustical design in new construction.*
- Policy 1.4 Provide buffer areas between noise sources and other developments, where practical.*
- Policy 2.1 Avoid placing noise sensitive land uses in proximity to areas devoted to noise generating facilities such as areas of aviation related activities, industrial parks, transportation facilities, and other noise generating land uses.*
- Policy 2.2 Noise generating facilities shall be located in areas with compatible noise generating land uses (i.e., airport noise contour areas) to minimize land use incompatibilities, noise abatement and mitigation measures needed.*
- Policy 2.3 Noise sensitive land uses shall not be located in areas influenced by noise generating land uses, in particular the noise contours associated with the joint use airfield, unless appropriate mitigation is utilized.*
- Policy 2.4 March JPA shall evaluate noise sensitivity and noise generation when considering land use Projects and transportation improvement Projects, and where appropriate mitigation measures shall be employed.*
- Policy 2.5 March JPA shall utilize and comply with the CALTRANS standards for noise compatibility for aviation generated noise to proposed land use development.*
- Policy 3.1 Include mitigating measures such as landscaping, berming and site orientation, in the design of Projects located near noise generating sources such as arterial roadways.*
- Policy 3.2 Coordinate with adjacent cities and county agencies for noise abatement.*
- Policy 3.3 Adhere to the adopted AICUZ and Comprehensive Land Use Plan standards and promote the use of newer and quieter aircraft and support equipment.*
- Policy 3.4 Where appropriate, noise mitigation measures shall be incorporated in the design and approval of development on property located adjacent to aviation and rail facilities.*
- Policy 3.5 Where appropriate, development in areas adjacent to freeways, arterial streets, and other noise source shall be designed to reduce the potential for noise impacts.*
- Policy 3.6 Regulate the use of local streets by trucks, trailers, and construction vehicles, to the extent possible.*
- Policy 3.7 Limit trucking operations to appropriate routes, times and speeds.*
- Policy 3.8 Appropriate muffling systems for construction equipment and operations shall be required, as necessary.*
- Policy 3.9 March JPA shall encourage and facilitate the use of mass transit services and alternative transportation systems to minimize dependence of the automobile within*

the Planning Area, thereby minimizing the level of noise generated by surface transportation.

EXHIBIT 3-A: STATE LAND USE COMPATIBILITY

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE L_{dn} or CNEL, dB					
	55	60	65	70	75	80
Residential – Low Density Single-Family, Duplex, Mobile Homes						
Residential - Multifamily						
Transient Lodging – Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheatres						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation and Cemeteries						
Office Buildings, Business, Commercial and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

LEGEND

Normally Acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn} . Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn} .

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be reviewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act,

residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn} . This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: March JPA General Plan Update 2030 Noise/Air Quality Element, Figure III-1.

3.5 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Meridian South Campus Project, stationary-source (operational) noise such as the expected truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity are typically evaluated against standards established under a jurisdiction's Municipal Code. Although the Project site is located within the March JPA, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Riverside and the County of Riverside jurisdictions. Therefore, to accurately describe the potential Project-related operational noise level contributions, this analysis presents the appropriate operational noise standards for each jurisdiction adjacent to the Project site. The March JPA, City of Riverside, and the County of Riverside operational noise level standards are shown on Table 3-1.

3.5.1 MARCH JPA OPERATIONAL NOISE STANDARDS

The March JPA Development Code, Chapter 9.10 *Performance Standards*, Section 9.10.140 identifies the exterior stationary-source noise level standards for commercial and industrial land uses. Based on Section 9.10.140 of the Development Code, the exterior noise level shall not exceed 55 dBA L_{eq} at any time. (3) The March JPA Development Code is included in Appendix 3.1.

3.5.2 CITY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The noise regulations included in the City of Riverside Municipal Code, Title 7 *Noise Control*, provide standards for determining and mitigating non-transportation or stationary-source noise impacts from operations at private properties. For the noise-sensitive residential land uses in the Project study area, Table 7.25.010A of the Municipal Code identifies a daytime (7:00 a.m. to 10:00 p.m.) noise level standard of 55 dBA L_{50} and a nighttime (10:00 p.m. to 7:00 a.m.) noise level standard of 45 dBA L_{50} . (16) Section 7.25.010 (A) indicates that these standards cannot be exceeded plus 5 dBA for a cumulative period of 30 minutes in any hour, as well as plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 20 dBA for any period of time. No standards have been included for interior noise levels. Standard construction practices that comply with the exterior noise levels generally result in acceptable interior noise levels. The City of Riverside exterior noise standards for noise-sensitive residential land uses are shown on Table 3-1. The City of Riverside Municipal Code *Noise Control* standards are shown on Table 3-1 and included in Appendix 3.2.

3.5.3 COUNTY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The County of Riverside has set exterior noise limits to control community noise impacts from non-transportation noise sources (such as playgrounds, trash compactors, air-conditioning units, etc.). Policy N 4.1 of the Noise Element sets an exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (17) These stationary-source noise level standards are consistent with the County of

Riverside Office of Industrial Hygiene guidelines for noise studies within the County. (18) The County of Riverside stationary-source (operational) noise standards are shown on Table 3-1.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

Jurisdiction	Land Use	Time Period	Exterior Noise Level Standards (dBA) ¹					
			L _{eq} (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
March JPA ²	Residential	Anytime	55	-	-	-	-	-
City of Riverside ³	Residential	Daytime	-	60	60	65	70	75
		Nighttime	-	50	50	55	60	65
County of Riverside ⁴	Residential	Daytime	65	-	-	-	-	-
		Nighttime	45	-	-	-	-	-

¹ L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L₅₀ is the noise level exceeded 50% of the time.

² Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.140 (Appendix 3.1).

³ Source: City of Riverside Municipal Code, Title 7 Noise Control, Section 7.25.010 (A) (Appendix 3.2).

⁴ Source: County of Riverside General Plan Noise Element, Table N-2.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

3.6 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the Project, noise from construction activities are typically limited to the hours of operation established under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis presents the appropriate construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside. However, the permitted hours of construction for the March JPA are the only applicable hour restrictions for the Project since the construction activity will be within the March JPA jurisdiction.

3.6.1 MARCH JPA CONSTRUCTION NOISE STANDARDS

The March JPA Development Code, Section 9.10.030 *Exemptions*, states that construction activities are considered exempt from the noise performance standards if they occur within the permitted hours of 7:00 a.m. to 7:00 p.m. The March JPA Development Code does not identify a specific noise level standard for construction activity. The March JPA Development Code construction noise standards are shown on Table 3-2 and included in Appendix 3.1.

3.6.2 CITY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

The City of Riverside Municipal Code, Section 7.35.020(G), states that construction activities are limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays, with no activities allowed on Sundays or federal holidays. (16) The land uses in the Project study area with the potential to be impacted by Project-related construction noise levels include noise-sensitive residential land use. Based on the City of Riverside Municipal Code, Table 7.25.010A *Exterior Noise Standards*, residential land uses have an anytime noise level standard of 75 dBA L_{max} during the daytime hours, and 65 dBA L_{max} during the nighttime hours for construction noise levels. The City of Riverside Municipal Code construction noise standards are shown on Table 3-2 and included in Appendix 3.2.

3.6.3 COUNTY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

Section 9.52.020(I) of the County's Noise Regulation ordinance, provided in Appendix 3.3, indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (19) Neither the County's General Plan nor County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*.

To allow for a quantified determination of what the Noise Regulation Ordinance constitutes as noise that *may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life* due to Project construction activity, relevant quantified stationary source noise standards established in the General Plan, Policy N 4.1, are used in this analysis to assess the Project construction noise levels at nearby sensitive receivers. Therefore, the daytime noise level standard of 65 dBA L_{eq} and nighttime noise level standard of 45 dBA L_{eq} are used to evaluate the potential Project-related construction noise impacts. (17)

TABLE 3-2: CONSTRUCTION NOISE STANDARDS

Jurisdiction	Land Use	Permitted Hours of Construction Activity	Construction Noise Level Limit at Receiving Use ¹	
			Daytime	Nighttime
March JPA ²	n/a	7:00 a.m. to 7:00 p.m.	n/a	
City of Riverside ³	Residential	7:00 a.m. to 7:00 p.m. on weekdays; 8:00 a.m. to 5:00 p.m. on Saturdays; no work on Sundays or federal holidays	75 dBA L_{max}	65 dBA L_{max}
County of Riverside ⁴	Residential	6:00 a.m. to 6:00 p.m. June to September; 7:00 a.m. to 6:00 p.m. October to May	65 dBA L_{eq}	45 dBA L_{eq}

¹ Thresholds based on the City of Riverside and County of Riverside noise level standard for non-transportation noise sources (Table 3-1).

² Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030 (Appendix 3.1).

³ Source: City of Riverside Municipal Code, Section 7.35.020(G), Table 7.25.010A (Appendix 3.2).

⁴ Source: County of Riverside County Code, Section 9.52.020 (I) (Appendix 3.3).

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

3.7 VIBRATION STANDARDS

The March JPA and the City of Riverside General Plans and Municipal Codes do not identify specific vibration level standards. Therefore, the impacts due to vibration are assessed based on vibration level limits identified in the County of Riverside General Plan Noise Element. Vibration levels with peak particle velocity (PPV) of 0.787 inches per second are considered readily perceptible and PPV above 0.1968 in/sec are considered annoying to people in buildings. Further, County of Riverside General Plan Policy 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 inches per second (in/sec) over the range of one to 100 Hz. (17) For the purposes of this analysis, the perception threshold of 0.01 in/sec shall be used to assess the potential impacts due to Project construction at nearby sensitive receiver locations. The vibration standards are shown on Table 3-3.

Typically, the human response at the perception threshold for vibration includes annoyance in residential areas as previously shown on Exhibit 2-B, when vibration levels expressed in vibration decibels (VdB) approach 75 VdB. The County of Riverside, however, identifies a vibration perception threshold of 0.01 in/sec. For vibration levels expressed in velocity, the human body responds to the average vibration amplitude often described as the root-mean-square (RMS). The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a one-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to reduce the range of numbers used to describe human response to vibration. Therefore, the vibration standard of 0.01 in/sec in RMS velocity levels is used in this analysis to assess the human perception of vibration levels due to Project-related construction activities.

TABLE 3-3: VIBRATION NOISE STANDARDS

Jurisdiction	Root-Mean-Square (RMS) Velocity (in/sec)
March JPA	n/a
City of Riverside	n/a
County of Riverside ¹	0.01

¹ Source: County of Riverside General Plan Noise Element, Policy N 16.3.

"n/a" = The General Plan and Municipal Code do not identify specific vibration level standards.

3.8 MARCH AIR RESERVE BASE/INLAND PORT AIRPORT LAND USE COMPATIBILITY

The March Air Reserve Base/Inland Port Airport (MARB/IPA) is located just over one mile east of the Project site. The *Riverside County Airport Land Use Compatibility Plan Policy Document* (RCALUCP) includes the policies for determining the land use compatibility of the Project since it is

located within 1 miles of an airport runway. Policy 4.1.5 *Noise Exposure for Other Land Uses* of the RC ALUCP requires that land uses, such as the business park (mixed use) and industrial land use of the Project site, demonstrate compatibility with the acceptable noise levels on Table 2B. The Table 2B *Supporting Compatibility Criteria: Noise* matrix is shown on Exhibit 3-B and indicates that *clearly compatible* business park (mixed use) land uses experience exterior noise levels below 55 dBA CNEL, while industrial land uses experience *clearly compatible* exterior noise levels below 60 dBA CNEL. *Normally acceptable* noise levels for business park (mixed use) land uses range from 55 to 60 dBA CNEL, and from 60 to 65 dBA CNEL for industrial land uses. (20) *Marginally acceptable* noise levels at business park (mixed use) land uses range from 60 to 70 dBA CNEL, and from 65 to 70 dBA CNEL for industrial land uses. For *marginally acceptable* noise levels: *the indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g. installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.* (20)

The noise contour boundaries used to determine the potential aircraft-related noise impacts at the Project site are found on Exhibit MA-4 of the RC ALUCP and are presented on Exhibit 3-C of this report. Based on the RC ALUCP noise level contours for the MARB/IPA, the Project is entirely located outside the 60 dBA CNEL noise level contour boundaries and is considered *normally acceptable*. Outdoor activities at the business park (mixed use) land use within the Project site are expected to be minimal and include employees traveling from their vehicles to the office buildings within the site. Therefore, based on the RC ALUCP compatibility criteria, *conventional construction methods will eliminate noise intrusions above 60 dBA CNEL upon indoor activities and thus is allowed under the RC ALUCP.* (20)

EXHIBIT 3-B: RC ALUCP SUPPORTING COMPATIBILITY CRITERIA: NOISE

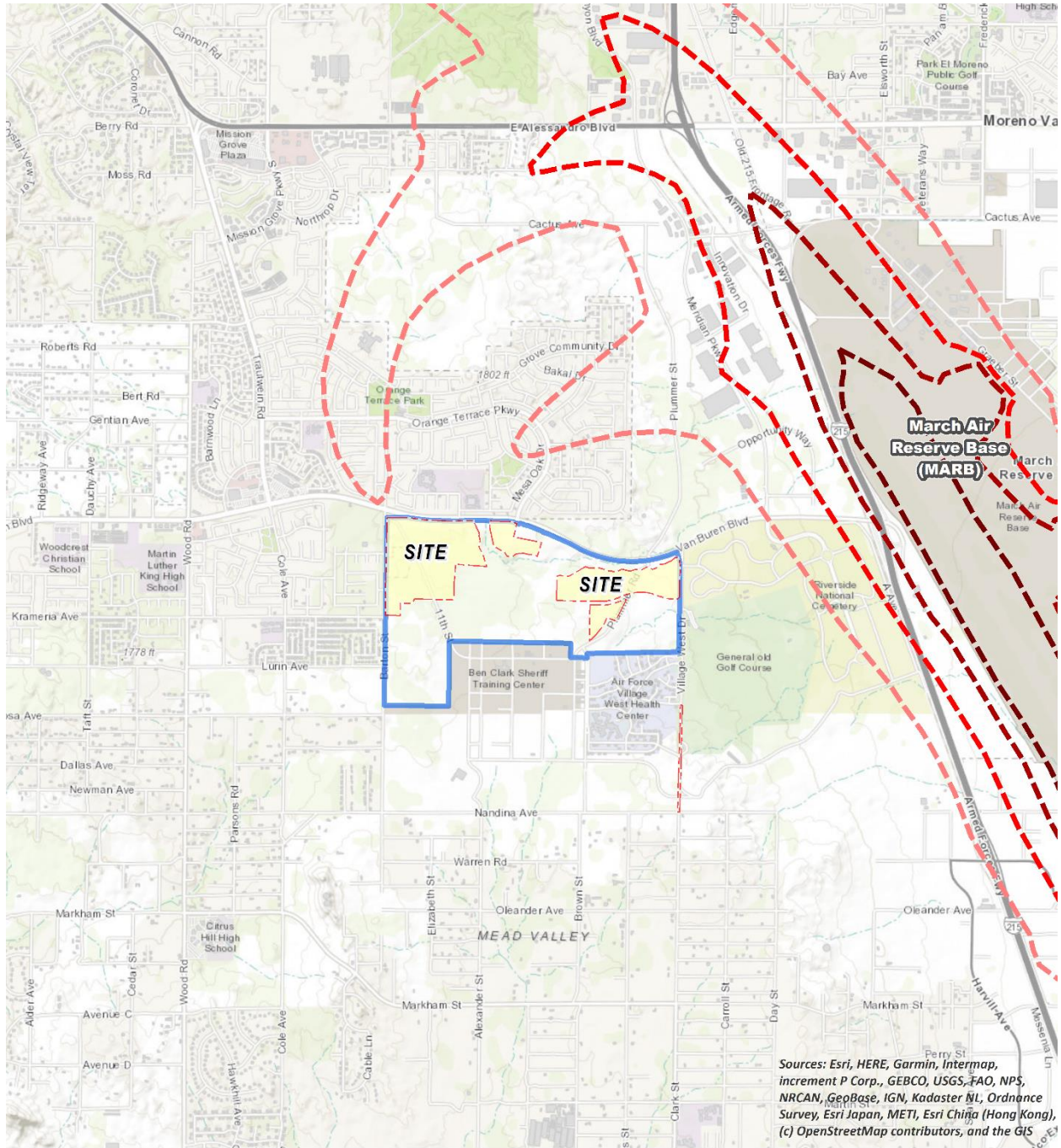
Land Use Category	CNEL (dB)				
	50–55	55–60	60–65	65–70	70–75
<i>Residential *</i>					
single-family, nursing homes, mobile homes	++	o	–	--	--
multi-family, apartments, condominiums	++	+	o	--	--
<i>Public</i>					
schools, libraries, hospitals	+	o	–	--	--
churches, auditoriums, concert halls	+	o	o	–	--
transportation, parking, cemeteries	++	++	++	+	o
<i>Commercial and Industrial</i>					
offices, retail trade	++	+	o	o	–
service commercial, wholesale trade, warehousing, light industrial	++	++	+	o	o
general manufacturing, utilities, extractive industry	++	++	++	+	+
<i>Agricultural and Recreational</i>					
cropland	++	++	++	++	+
livestock breeding	++	+	o	o	–
parks, playgrounds, zoos	++	+	+	o	–
golf courses, riding stables, water recreation	++	++	+	o	o
outdoor spectator sports	++	+	+	o	–
amphitheaters	+	o	–	--	--

Land Use	Acceptability	Interpretation/Comments
++	<i>Clearly Acceptable</i>	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.
+	<i>Normally Acceptable</i>	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.
o	<i>Marginally Acceptable</i>	The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.
–	<i>Normally Unacceptable</i>	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.
--	<i>Clearly Unacceptable</i>	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.

* Subtract 5 dB for low-activity outlying airports (Chiriaco Summit and Desert Center)

Source: Riverside County Airport Land Use Compatibility Plan, Table 2B.

EXHIBIT 3-C: MARB/IPA FUTURE AIRPORT NOISE CONTOURS



LEGEND:

 Project Site Boundary

 South Campus Specific Plan

Unmitigated MARB Noise Level Contour Boundaries

 60 dBA CNEL 70 dBA CNEL

 65 dBA CNEL 75 dBA CNEL

Source: Riverside County Airport Land Use Compatibility Plan, Exhibit MA-4

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

While the CEQA Guidelines and the March JPA General Plan provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts they do not define the levels at which increases are considered substantial for use under CEQA Significance Criteria A.

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The closest airport which would require additional noise analysis under CEQA Significance Criteria C is the March Air Reserve Base/Inland Port Airport (MARB/IPA) which is located just over one mile east of the Project site. As previously indicated in Section 3.7, the noise contour boundaries of MARB/IPA are presented on Exhibit 3-B of this report and show that the Project is considered *normally acceptable* land use since it is located outside of the 60 dBA CNEL contour. Moreover, Table MA-2 of the MARB/IPA LUCP indicates that no uses are prohibited in this area except for highly noise-sensitive outdoor nonresidential uses (e.g., sports stadiums, concert halls), and therefore, impacts are considered *less than significant* and no further noise analysis is provided under CEQA Significance Criteria C.

4.2 NOISE-SENSITIVE RECEIVERS

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant*. (21) Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment.

4.2.1 SUBSTANTIAL PERMANENT NOISE LEVEL INCREASES

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (22) developed guidance to be used for the assessment of Project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2020 California Court of Appeal ruling in *King and Gardiner Farms, LLC v. County of Kern*. (21) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, FICON identifies a *readily perceptible* 5 dBA or greater Project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per the FICON, in areas where the without Project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without Project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. Table 4-1 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS AT NOISE-SENSITIVE RECEIVERS

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Federal Interagency Committee on Noise (FICON), 1992.

4.2.2 SUBSTANTIAL TEMPORARY OF PERIODIC NOISE LEVEL INCREASES

Due to the temporary, short-term nature of noise-generating construction activities, the temporary noise level increases over the existing ambient conditions must be considered under CEQA Significance Threshold A. Therefore, the Caltrans *Traffic Noise Analysis Protocol* 12 dBA L_{eq} *substantial* noise level increase threshold is used in this analysis to assess temporary noise level increases. (4) If the Project-related construction noise levels generate a temporary noise level increase above the existing ambient noise levels of up to 12 dBA L_{eq} , then the Project construction noise level increases will be considered a potentially significant impact. Although the Caltrans recommendations were specifically developed to assess traffic noise impacts, the 12 dBA L_{eq}

substantial noise level increase threshold is used in California to address noise level increases with the potential to exceed existing conditions. (4)

4.3 NON-NOISE-SENSITIVE RECEIVERS

The March JPA General Plan Update 2030 Noise/Air Quality Element, Policy 1f is used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. While not yet adopted, the March JPA General Plan Update 2030 Noise/Air Quality Element contains specific land use compatibility criteria for different land uses, while the currently adopted 1999 General Plan does not identify any noise compatibility criteria. Therefore, the noise study relies on the specific land use compatibility criteria and noise policies outlined in the draft 2030 General Plan Update. As indicated in Policy 1f, the exterior noise level criteria for non-noise-sensitive land use, such as industrial use, is 70 dBA CNEL. Noise levels greater than 70 dBA CNEL are considered *conditionally acceptable* per the *State Land Use Compatibility* matrix, previously shown on Exhibit 3-A.

To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria are used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater noise level increase is considered a significant impact. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the March JPA General Plan Noise/Air Quality Element, Policy 1f 70 dBA CNEL exterior noise level criteria.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-2 shows the significance criteria summary matrix.

OFF-SITE TRAFFIC NOISE

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
 - are less than 60 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or
 - range from 60 to 65 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase; or
 - already exceed 65 dBA, and the Project creates a community noise level increase of greater than 1.5 dBA (FICON, 1992).
- When the noise levels at existing and future non-noise-sensitive land uses (e.g. industrial, etc.):
 - are less than the March JPA General Plan Noise/Air Quality Element, Policy 1f, 70 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or

- are greater than the March JPA General Plan Noise/Air Quality Element, Policy 1f, 70 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase.

OPERATIONAL NOISE

- If Project-related operational (stationary-source) noise levels:
 - exceed the exterior 55 dBA L_{eq} noise level standards at nearby sensitive residential land uses within the March Joint Powers Authority jurisdiction (March JPA Development Code, Section 9.10.140); or
 - exceed the exterior 55 dBA L_{50} daytime or 45 dBA L_{50} nighttime noise level standards for sensitive residential land uses. These standards shall not be exceeded plus 5 dBA for a cumulative period of 30 minutes (L_{50}), or plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L_{25}) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L_5) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L_1) in any hour, or the standard plus 20 dBA at any time (L_{max}) (City of Riverside Municipal Code, Section 7.25.010 (A)); or
 - exceed the exterior 65 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime noise level standards at nearby sensitive receiver locations in the County of Riverside (County of Riverside General Plan Noise Element, Table N-2).
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - are less than 60 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or
 - range from 60 to 65 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase; or
 - already exceed 65 dBA, and the Project creates a community noise level increase of greater than 1.5 dBA (FICON, 1992).

CONSTRUCTION NOISE AND VIBRATION

- If Project-related construction activities:
 - occur at any time other than the permitted hours of 7:00 a.m. to 7:00 p.m. (March JPA Development Code, Section 9.10.030) unless otherwise permitted; or
 - create noise levels which exceed the City of Riverside 75 dBA L_{max} daytime or 65 dBA L_{max} nighttime acceptable noise level threshold at the nearby sensitive receiver locations in the City of Riverside (City of Riverside Municipal Code, Section 7.25.010 (A));
 - create noise levels which exceed the County of Riverside 65 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime acceptable noise level threshold at the nearby sensitive receiver locations in the County of Riverside (Based on the County of Riverside General Plan, Policy N 4.1); or
 - generate temporary Project construction-related noise level increases which exceed the 12 dBA L_{eq} *substantial* noise level increase threshold at noise-sensitive receiver locations (Caltrans, Traffic Noise Analysis Protocol).
- If short-term Project generated construction vibration levels exceed the County of Riverside acceptable vibration standard of 0.01 in/sec (RMS) at sensitive receiver locations (County of Riverside General Plan, Policy N 16.3).

TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Land Use	Jurisdiction	Condition(s)	Significance Criteria	
				Daytime	Nighttime
Off-Site	Noise-Sensitive ¹	All	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
			If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
			If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive ²	All	If ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
			If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Noise-Sensitive	March JPA ³	Noise Level Threshold	55 dBA Leq	
		City of Riverside ⁴	≥ 30 Minutes L ₅₀	60	50
			≥ 15 Minutes L ₂₅	60	50
			≥ 5 Minutes L ₈	65	55
			≥ 1 Minute L ₂	70	60
			Anytime L _{max}	75	65
		County of Riverside ⁵	Noise Level Threshold	65 dBA Leq	45 dBA Leq
		All ¹	If ambient is < 60 dBA Leq	≥ 5 dBA CNEL Project increase	
			If ambient is 60 - 65 dBA Leq	≥ 3 dBA CNEL Project increase	
			If ambient is > 65 dBA Leq	≥ 1.5 dBA CNEL Project increase	
Construction	Noise-Sensitive	March JPA	Permitted hours between 7:00 a.m. to 7:00 p.m. ⁶		
		City of Riverside	Noise Level Threshold ⁷	75 dBA L _{max}	65 dBA L _{max}
		County of Riverside	Noise Level Threshold ⁸	65 dBA Leq	45 dBA Leq
		All	Noise Level Increase ⁹	12 dBA Leq	n/a
			Vibration Level Threshold ¹⁰	0.01 in/sec RMS	

¹ Source: FICON, 1992.² Based on the land use compatibility criteria found in the March JPA General Plan Noise Element, Figure III-1.³ Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.140 (Appendix 3.1).⁴ Source: City of Riverside Municipal Code, Title 7 Noise Control, Table 7.25.010A Exterior Noise Standards (Appendix 3.2).⁵ Source: County of Riverside General Plan Noise Element, Table N-2.⁶ Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030 (Appendix 3.1).⁷ Source: City of Riverside Municipal Code, Section 7.25.010 (A) (Appendix 3.2).⁸ Threshold based on the County of Riverside noise level standard for non-transportation noise sources (Table 3-1).⁹ Source: Caltrans Traffic Noise Analysis Protocol, May 2011.¹⁰ Source: County of Riverside General Plan Noise Element, Policy N 16.3.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at ten locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, September 4th, 2019. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

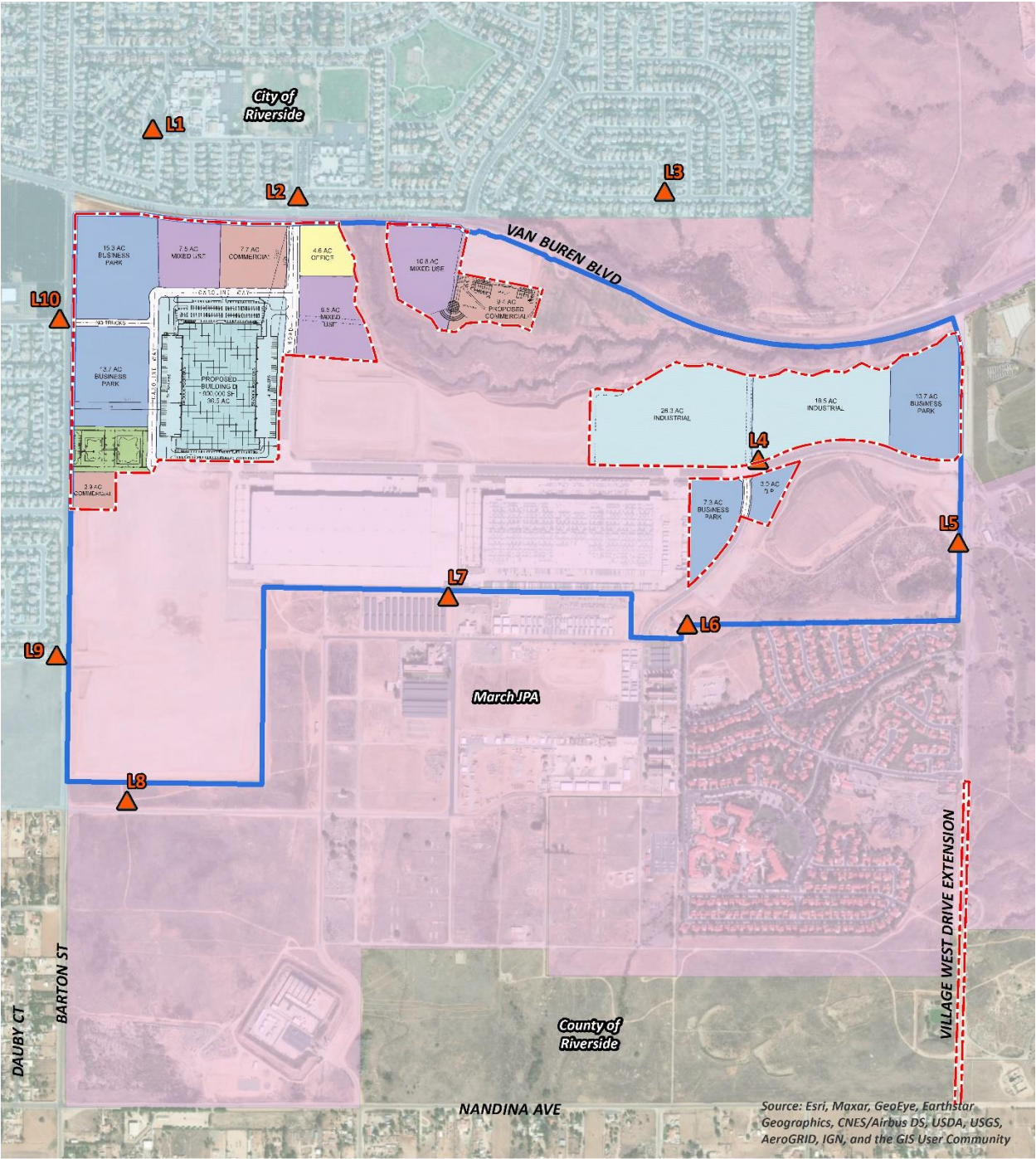
To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (23)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources.* (6) Further, FTA guidance states, *that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the Project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community.* (11)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (11) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



LEGEND:

Site Boundary	March JPA
South Campus Specific Plan	City of Riverside
Measurement Locations	Riverside County

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels north of Project site on Gumtree Lane and Aptos Street near Amelia Earhart middle school in the City of Riverside. The noise levels at this location consist primarily of traffic noise from Gumtree Lane and Aptos Street as well as parking lot vehicle movements from Amelia Earhart Middle School. The noise level measurements collected show an overall 24-hour exterior noise level of 58.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 50.4 dBA L_{eq} with an average nighttime noise level of 51.3 dBA L_{eq} .
- Location L2 represents the noise levels north of Project site on Coyote Bush Boulevard and Van Buren Boulevard in the City of Riverside. The ambient noise levels at this location consist primarily of traffic noise from Van Buren Boulevard and Coyote Bush Boulevard. The noise level measurements collected show an overall 24-hour exterior noise level of 78.8 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 73.8 dBA L_{eq} with an average nighttime noise level of 71.6 dBA L_{eq} .
- Location L3 represents the noise levels north of the Project site on Golden Rain Road near existing single-family homes in the City of Riverside. The noise level measurements collected show an overall 24-hour exterior noise level of 61.2 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 58.2 dBA L_{eq} with an average nighttime noise level of 53.3 dBA L_{eq} . The noise levels at this location consist primarily of traffic noise from Golden Rain Road.
- Location L4 represents the noise levels on Krameria Avenue and Bundy Avenue near existing vacant land planned for industrial land use in the City of Riverside. The noise level measurements collected show an overall 24-hour exterior noise level of 66.2 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 60.7 dBA L_{eq} with an average nighttime noise level of 59.3 dBA L_{eq} . The noise levels at this location consist primarily of traffic from Krameria Avenue and Bundy Avenue.
- Location L5 represents the noise levels east of the Project site on Village West Drive near General Old Golf Course and Riverside National Cemetery in the County of Riverside. The 24-hour CNEL indicates that the overall exterior noise level is 58.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.4 dBA L_{eq} with an average nighttime noise level of 50.1 dBA L_{eq} . Traffic on Village West Drive represents the primary source of noise at this location.
- Location L6 represents the noise levels on White Street near the northwest corner of Altavilla Village apartment complex in the March JPA. The ambient noise levels at this location consist primarily of traffic noise from Bundy Avenue as well as parking lot vehicle movements from ChargePoint Charging Station. The noise level measurements collected show an overall 24-

hour exterior noise level of 53.3 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 49.6 dBA L_{eq} with an average nighttime noise level of 45.1 dBA L_{eq} .

- Location L7 represents the noise levels southwest of 12th Street and Davis Avenue near Ben Clark Public Safety Training Center in the March JPA. The ambient noise levels at this location consist primarily of traffic noise from 12th Street and Davis Avenue. The noise level measurements collected show an overall 24-hour exterior noise level of 52.7 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 50.0 dBA L_{eq} with an average nighttime noise level of 43.3 dBA L_{eq} .
- Location L8 represents the noise levels south of Project site on Larry Parrish Parkway near existing vacant land with General Plan land use designation for public facility use in the March JPA. The ambient noise levels at this location consist primarily of traffic noise from Larry Parrish Parkway. The noise level measurements collected show an overall 24-hour exterior noise level of 59.9 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.7 dBA L_{eq} with an average nighttime noise level of 51.7 dBA L_{eq} .
- Location L9 represents the noise levels west of the Project site on Barton Street and Lurin Avenue near existing single-family homes land in the City of Riverside. The 24-hour CNEL indicates that the overall exterior noise level is 78.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 74.2 dBA L_{eq} with an average nighttime noise level of 70.5 dBA L_{eq} . Traffic on Barton Street and Lurin Avenue represents the primary source of noise at this location.
- Location L10 represents the noise levels west of Project site on Barton Street and Gless Ranch Road near existing single-family homes and orange farm land in the City of Riverside. The 24-hour CNEL indicates that the overall exterior noise level is 69.9 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 65.9 dBA L_{eq} with an average nighttime noise level of 62.4 dBA L_{eq} . Traffic on Barton Street and Gless Ranch Road represents the primary source of noise at this location.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1 , L_2 , L_5 , L_8 , L_{25} , L_{50} , L_{90} , L_{95} , and L_{99} percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 5-1.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹	Jurisdiction	Description	Energy Average Noise Level (dBA L _{eq}) ²		CNEL
			Daytime	Nighttime	
L1	City of Riverside	Located north of Project site on Gumtree Lane and Aptos Street near Amelia Earhart middle school.	50.4	51.3	58.0
L2	City of Riverside	Located north of project site on Coyote Bush Boulevard and Van Buren Boulevard.	73.8	71.6	78.8
L3	City of Riverside	Located north of Project site on Golden Rain Road near existing single-family homes.	58.2	53.3	61.2
L4	City of Riverside	Located on Krameria Avenue and Bundy Avenue near existing vacant land.	60.7	59.3	66.2
L5	County of Riverside	Located east of the Project site on Village West Drive near General Old Golf Course and Riverside National Cemetery.	54.4	50.1	58.1
L6	March JPA	Located on White Street near the northwest corner of Altavita Village apartment complex.	49.6	45.1	53.3
L7	March JPA	Located southwest of 12th Street and Davis Avenue near Ben Clark Public Safety Training Center.	50.0	43.3	52.7
L8	March JPA	Located south of Project site on Larry Parrish Parkway near existing vacant land.	56.7	51.7	59.9
L9	City of Riverside	Located west of the Project site on Barton Street and Lurin Avenue near existing single-family homes.	74.2	70.5	78.0
L10	City of Riverside	Located west of Project site on Barton Street and Gless Ranch Road near existing single-family homes and orange farm.	65.9	62.4	69.9

¹ See Exhibit 5-A for the noise level measurement locations.

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

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6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (24) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California, the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (25) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (26)

This methodology is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (18)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 48 study area roadway segments, the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the March JPA, City of Riverside, County of Riverside, and City of Moreno Valley General Plan Circulation Elements, and the posted vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 and obtained from the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc., for the following traffic scenarios:

- Existing (2019)
- Existing plus Project (E+P) (net change in trips of proposed Project compared to the 2003 EIR Phase III) (E+P)
- Opening Year Cumulative (2024) Without Project
- Opening Year Cumulative (2024) With Proposed Project (Revised Specific Plan land uses)
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Proposed Project (Revised Specific Plan land uses)

Consistent with *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (2) the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 7.73%.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	44'	45
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	44'	40
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	60'	50
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	60'	50
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	55'	50
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	55'	50
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	55'	50
8	Barton St.	n/o Van Buren Bl.	Residential	44'	40
9	Barton St.	s/o Van Buren Bl.	Residential	44'	40
10	Barton St.	n/o Krameria Av.	Commercial/Residential	44'	40
11	Barton St.	s/o Krameria Av.	Residential	44'	40
12	Barton St.	s/o Lurin Av.	Residential	44'	40
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	33'	25
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	55'	45
15	Village West Dr.	n/o Krameria Av.	Business Park	56'	40
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	39'	40
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	56'	45
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	56'	45
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	56'	45
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	56'	45
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	56'	45
22	Day St.	n/o Cottonwood Av.	Residential/Office	44'	40
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	44'	40
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	60'	55
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	60'	55
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	60'	55
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	60'	45
28	Alessandro Bl.	w/o Day St.	Commercial	67'	45
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	67'	45
30	Cactus Av.	w/o Innovation Dr.	Business Park	60'	45
31	Cactus Av.	e/o Innovation Dr.	Business Park	60'	45
32	Cactus Av.	w/o Elsworth St.	Business Park	67'	50
33	Cactus Av.	e/o Elsworth St.	Business Park	67'	50
34	Cactus Av.	w/o Graham St.	Business Park	67'	50
35	Cactus Av.	e/o Graham St.	Business Park	67'	50
36	Van Buren Bl.	w/o Wood Rd.	Commercial	60'	50
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	60'	50
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	60'	50
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	60'	55
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	60'	55

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	60'	55
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	55'	55
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	55'	55
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	55'	55
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	125'	65
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	125'	65
47	I-215 Fwy.	s/o Cactus Av.	Business Park	125'	65
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	125'	65

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

² Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Circulation Elements.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes ¹					
			Existing		Opening Year Cumulative 2024		Horizon Year 2040	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Wood Rd.	n/o Van Buren Bl.	12,963	12,972	14,313	14,322	16,532	16,541
2	Wood Rd.	s/o Van Buren Bl.	17,647	17,656	19,484	19,492	23,526	23,535
3	Trautwein Rd.	n/o Canyon Crest Dr.	14,943	14,996	17,015	17,069	31,685	31,739
4	Trautwein Rd.	s/o Canyon Crest Dr.	479	550	1,333	1,404	20,674	20,745
5	Trautwein Rd.	s/o Alessandro Bl.	36,613	36,711	44,338	44,436	46,195	46,293
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	36,018	36,143	43,937	44,062	52,300	52,425
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	24,171	24,305	30,855	30,989	31,173	31,307
8	Barton St.	n/o Van Buren Bl.	4,852	4,869	6,115	6,132	23,448	23,466
9	Barton St.	s/o Van Buren Bl.	11,734	11,761	18,244	18,270	19,565	19,592
10	Barton St.	n/o Krameria Av.	10,881	10,908	15,727	15,754	16,526	16,553
11	Barton St.	s/o Krameria Av.	10,260	10,286	16,609	16,636	21,696	21,723
12	Barton St.	s/o Lurin Av.	10,091	10,118	15,172	15,198	20,444	20,471
13	Coyote Bush Rd.	n/o Van Buren Bl.	1,708	1,726	2,514	2,531	3,118	3,136
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	7,581	7,599	9,755	9,772	9,789	9,807
15	Village West Dr.	n/o Krameria Av.	4,661	6,834	19,602	21,775	27,528	29,674
16	Village West Dr.	s/o Krameria Av.	1,488	1,506	8,241	8,259	19,670	19,715
17	Meridian Pkwy.	s/o Alessandro Bl.	20,377	20,422	27,621	27,665	30,320	30,364
18	Meridian Pkwy.	n/o Cactus Av.	19,600	19,654	26,891	26,945	29,518	29,571
19	Meridian Pkwy.	s/o Cactus Av.	16,379	16,468	25,247	25,336	27,614	27,704
20	Meridian Pkwy.	n/o Opportunity Way	16,651	16,740	24,817	24,906	27,141	27,230
21	Meridian Pkwy.	n/o Van Buren Bl.	10,503	10,592	18,480	18,569	19,724	19,813
22	Day St.	n/o Cottonwood Av.	10,365	10,383	13,632	13,650	30,729	30,747
23	Day St.	s/o Cottonwood Av.	7,769	7,796	9,496	9,522	28,387	28,414
24	Alessandro Bl.	w/o Mission Grove Pkwy.	46,485	46,512	55,133	55,160	67,330	67,357
25	Alessandro Bl.	e/o Mission Grove Pkwy.	49,202	49,219	58,787	58,804	68,765	68,783
26	Alessandro Bl.	e/o Meridian Pkwy.	44,182	44,200	55,281	55,299	69,657	69,675

ID	Roadway	Segment	Average Daily Traffic Volumes ¹					
			Existing		Opening Year Cumulative 2024		Horizon Year 2040	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	35,971	36,033	46,715	46,777	62,947	63,009
28	Alessandro Bl.	w/o Day St.	29,951	30,013	38,215	38,277	48,149	48,211
29	Alessandro Bl.	e/o Day St.	29,744	29,780	38,003	38,039	47,488	47,524
30	Cactus Av.	w/o Innovation Dr.	15,577	15,595	26,482	26,500	29,036	29,054
31	Cactus Av.	e/o Innovation Dr.	19,653	19,671	31,417	31,434	34,464	34,482
32	Cactus Av.	w/o Elsworth St.	43,936	44,069	58,468	58,601	62,699	62,832
33	Cactus Av.	e/o Elsworth St.	42,759	42,883	55,952	56,077	61,453	61,578
34	Cactus Av.	w/o Graham St.	46,821	46,937	59,940	60,056	65,840	65,956
35	Cactus Av.	e/o Graham St.	40,546	40,635	52,302	52,391	57,439	57,527
36	Van Buren Bl.	w/o Wood Rd.	39,524	39,640	48,470	48,586	53,003	53,119
37	Van Buren Bl.	e/o Wood Rd.	37,118	37,252	45,813	45,947	50,080	50,214
38	Van Buren Bl.	w/o Barton St.	34,815	35,092	45,041	45,317	47,553	47,830
39	Van Buren Bl.	e/o Barton St.	33,068	33,345	43,238	43,515	43,929	44,206
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	31,904	32,660	46,981	47,736	50,736	51,491
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	31,824	32,562	48,906	49,644	51,895	52,633
42	Van Buren Bl.	w/o Meridian Pkwy.	37,208	40,118	56,107	59,018	62,199	65,083
43	Van Buren Bl.	e/o Meridian Pkwy.	31,529	34,350	61,936	64,758	67,030	69,825
44	Van Buren Bl.	e/o Opportunity Way	34,862	37,683	65,868	68,690	71,356	74,150
45	I-215 Fwy.	n/o Alessandro Bl.	83,110	84,866	105,230	106,986	150,230	151,986
46	I-215 Fwy.	s/o Alessandro Bl.	82,410	84,192	111,960	113,742	156,910	158,692
47	I-215 Fwy.	s/o Cactus Av.	78,890	80,788	113,300	115,198	157,560	159,458
48	I-215 Fwy.	s/o Van Buren Bl.	86,610	87,533	121,180	122,103	161,320	162,216

¹ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Impact Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-9 show the vehicle mixes used for the with Project traffic scenarios.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits ¹			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	71.11%	10.94%	17.95%	100.00%
Medium Trucks	73.64%	7.72%	18.64%	100.00%
Heavy Trucks	75.56%	6.69%	17.75%	100.00%

¹ Source: Based on existing 24-hour classification counts by vehicle type taken on 8/20/2019 on Van Buren Boulevard between Orange Terrace Parkway and Village West Drive (Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020). "Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

According to the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc., the Meridian South Campus trip generation is based on the net change in potential traffic impacts associated with Phase III of the March Business Center Specific Plan and Final Focused Environmental Impact Report (EIR) (SCH#2002071089) and March Business Center Traffic Impact Analysis, (Kimley-Horn and Associates, February 2003) (referred to hereafter as the "2003 EIR Phase III") to the currently proposed Project. For analytical purposes the "without project" conditions include traffic associated with the 2003 EIR Phase III and the "with project" conditions will reflect the modified Specific Plan as currently proposed in order to provide an evaluation of the net change.

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Due to the added Project truck trips, the change in Project traffic volumes and the distributions of trucks on the study area road segments, the percentage of autos, medium trucks and heavy trucks will vary for each of the traffic scenarios. This explains why the existing and future traffic volumes and vehicle mixes vary between seemingly identical study area roadway segments.

The 3,284 daily Project truck trip-ends were assigned to the 48 individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Impact Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios (Existing plus 2003 EIR Phase III), and Tables 6-5 to 6-7 show the vehicle mixes used for the with Project traffic scenarios.

TABLE 6-4: EXISTING WITHOUT PROJECT VEHICLE MIX

Classification	Total % Traffic Flow ¹			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	91.42%	4.64%	3.94%	100.00%

¹ Source: Based on existing 24-hour classification counts by vehicle type taken on 8/20/2019 on Van Buren Boulevard between Orange Terrace Parkway and Village West Drive (Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020).

TABLE 6-5: EXISTING WITH PROJECT CONDITIONS VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Wood Rd.	n/o Van Buren Bl.	91.43%	4.64%	3.94%	100.00%
2	Wood Rd.	s/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
3	Trautwein Rd.	n/o Canyon Crest Dr.	91.45%	4.62%	3.93%	100.00%
4	Trautwein Rd.	s/o Canyon Crest Dr.	92.53%	4.04%	3.43%	100.00%
5	Trautwein Rd.	s/o Alessandro Bl.	91.44%	4.63%	3.93%	100.00%
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	91.45%	4.62%	3.93%	100.00%
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	91.47%	4.61%	3.92%	100.00%
8	Barton St.	n/o Van Buren Bl.	91.45%	4.62%	3.93%	100.00%
9	Barton St.	s/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
10	Barton St.	n/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
11	Barton St.	s/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
12	Barton St.	s/o Lurin Av.	91.44%	4.63%	3.93%	100.00%
13	Coyote Bush Rd.	n/o Van Buren Bl.	91.51%	4.59%	3.90%	100.00%
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
15	Village West Dr.	n/o Krameria Av.	66.14%	7.64%	26.22%	100.00%
16	Village West Dr.	s/o Krameria Av.	91.52%	4.59%	3.89%	100.00%
17	Meridian Pkwy.	s/o Alessandro Bl.	91.44%	4.63%	3.93%	100.00%
18	Meridian Pkwy.	n/o Cactus Av.	91.44%	4.63%	3.93%	100.00%
19	Meridian Pkwy.	s/o Cactus Av.	91.47%	4.61%	3.92%	100.00%
20	Meridian Pkwy.	n/o Opportunity Way	91.47%	4.62%	3.92%	100.00%
21	Meridian Pkwy.	n/o Van Buren Bl.	91.49%	4.60%	3.91%	100.00%
22	Day St.	n/o Cottonwood Av.	91.43%	4.63%	3.93%	100.00%
23	Day St.	s/o Cottonwood Av.	91.45%	4.62%	3.93%	100.00%
24	Alessandro Bl.	w/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
25	Alessandro Bl.	e/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
26	Alessandro Bl.	e/o Meridian Pkwy.	91.42%	4.64%	3.94%	100.00%
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	91.43%	4.63%	3.93%	100.00%
28	Alessandro Bl.	w/o Day St.	91.44%	4.63%	3.93%	100.00%
29	Alessandro Bl.	e/o Day St.	91.43%	4.63%	3.94%	100.00%
30	Cactus Av.	w/o Innovation Dr.	91.43%	4.63%	3.94%	100.00%
31	Cactus Av.	e/o Innovation Dr.	91.43%	4.64%	3.94%	100.00%
32	Cactus Av.	w/o Elsworth St.	91.28%	4.65%	4.06%	100.00%
33	Cactus Av.	e/o Elsworth St.	91.28%	4.65%	4.07%	100.00%
34	Cactus Av.	w/o Graham St.	91.29%	4.65%	4.06%	100.00%
35	Cactus Av.	e/o Graham St.	91.26%	4.66%	4.08%	100.00%
36	Van Buren Bl.	w/o Wood Rd.	91.45%	4.63%	3.93%	100.00%

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
37	Van Buren Bl.	e/o Wood Rd.	91.45%	4.62%	3.93%	100.00%
38	Van Buren Bl.	w/o Barton St.	91.49%	4.60%	3.91%	100.00%
39	Van Buren Bl.	e/o Barton St.	91.49%	4.60%	3.91%	100.00%
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	90.15%	4.77%	5.08%	100.00%
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	90.14%	4.77%	5.09%	100.00%
42	Van Buren Bl.	w/o Meridian Pkwy.	86.08%	5.26%	8.66%	100.00%
43	Van Buren Bl.	e/o Meridian Pkwy.	85.16%	5.37%	9.47%	100.00%
44	Van Buren Bl.	e/o Opportunity Way	85.71%	5.31%	8.98%	100.00%
45	I-215 Fwy.	n/o Alessandro Bl.	89.71%	4.85%	5.45%	100.00%
46	I-215 Fwy.	s/o Alessandro Bl.	89.70%	4.85%	5.46%	100.00%
47	I-215 Fwy.	s/o Cactus Av.	89.55%	4.86%	5.59%	100.00%
48	I-215 Fwy.	s/o Van Buren Bl.	90.69%	4.72%	4.59%	100.00%

¹ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: OPENING YEAR CUMULATIVE 2024 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Wood Rd.	n/o Van Buren Bl.	91.43%	4.64%	3.94%	100.00%
2	Wood Rd.	s/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
3	Trautwein Rd.	n/o Canyon Crest Dr.	91.45%	4.63%	3.93%	100.00%
4	Trautwein Rd.	s/o Canyon Crest Dr.	91.86%	4.40%	3.74%	100.00%
5	Trautwein Rd.	s/o Alessandro Bl.	91.44%	4.63%	3.93%	100.00%
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	91.44%	4.63%	3.93%	100.00%
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	91.46%	4.62%	3.92%	100.00%
8	Barton St.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
9	Barton St.	s/o Van Buren Bl.	91.43%	4.63%	3.93%	100.00%
10	Barton St.	n/o Krameria Av.	91.43%	4.63%	3.93%	100.00%
11	Barton St.	s/o Krameria Av.	91.43%	4.63%	3.93%	100.00%
12	Barton St.	s/o Lurin Av.	91.44%	4.63%	3.93%	100.00%
13	Coyote Bush Rd.	n/o Van Buren Bl.	91.48%	4.61%	3.91%	100.00%
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
15	Village West Dr.	n/o Krameria Av.	83.49%	5.58%	10.93%	100.00%
16	Village West Dr.	s/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
17	Meridian Pkwy.	s/o Alessandro Bl.	91.43%	4.63%	3.93%	100.00%
18	Meridian Pkwy.	n/o Cactus Av.	91.44%	4.63%	3.93%	100.00%
19	Meridian Pkwy.	s/o Cactus Av.	91.45%	4.62%	3.93%	100.00%
20	Meridian Pkwy.	n/o Opportunity Way	91.45%	4.62%	3.93%	100.00%
21	Meridian Pkwy.	n/o Van Buren Bl.	91.46%	4.62%	3.92%	100.00%
22	Day St.	n/o Cottonwood Av.	91.43%	4.63%	3.93%	100.00%
23	Day St.	s/o Cottonwood Av.	91.44%	4.63%	3.93%	100.00%
24	Alessandro Bl.	w/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
25	Alessandro Bl.	e/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
26	Alessandro Bl.	e/o Meridian Pkwy.	91.42%	4.64%	3.94%	100.00%
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	91.43%	4.63%	3.93%	100.00%

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
28	Alessandro Bl.	w/o Day St.	91.43%	4.63%	3.93%	100.00%
29	Alessandro Bl.	e/o Day St.	91.43%	4.64%	3.94%	100.00%
30	Cactus Av.	w/o Innovation Dr.	91.43%	4.64%	3.94%	100.00%
31	Cactus Av.	e/o Innovation Dr.	91.42%	4.64%	3.94%	100.00%
32	Cactus Av.	w/o Elsworth St.	91.32%	4.65%	4.03%	100.00%
33	Cactus Av.	e/o Elsworth St.	91.31%	4.65%	4.04%	100.00%
34	Cactus Av.	w/o Graham St.	91.32%	4.65%	4.03%	100.00%
35	Cactus Av.	e/o Graham St.	91.30%	4.65%	4.05%	100.00%
36	Van Buren Bl.	w/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
37	Van Buren Bl.	e/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
38	Van Buren Bl.	w/o Barton St.	91.47%	4.61%	3.92%	100.00%
39	Van Buren Bl.	e/o Barton St.	91.47%	4.61%	3.91%	100.00%
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	90.55%	4.73%	4.72%	100.00%
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	90.58%	4.73%	4.69%	100.00%
42	Van Buren Bl.	w/o Meridian Pkwy.	87.79%	5.06%	7.15%	100.00%
43	Van Buren Bl.	e/o Meridian Pkwy.	88.10%	5.03%	6.87%	100.00%
44	Van Buren Bl.	e/o Opportunity Way	88.29%	5.01%	6.70%	100.00%
45	I-215 Fwy.	n/o Alessandro Bl.	90.06%	4.80%	5.13%	100.00%
46	I-215 Fwy.	s/o Alessandro Bl.	90.14%	4.79%	5.06%	100.00%
47	I-215 Fwy.	s/o Cactus Av.	90.11%	4.80%	5.10%	100.00%
48	I-215 Fwy.	s/o Van Buren Bl.	90.90%	4.70%	4.40%	100.00%

¹ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: HORIZON YEAR 2040 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Wood Rd.	n/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
2	Wood Rd.	s/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
3	Trautwein Rd.	n/o Canyon Crest Dr.	91.43%	4.63%	3.93%	100.00%
4	Trautwein Rd.	s/o Canyon Crest Dr.	91.45%	4.62%	3.93%	100.00%
5	Trautwein Rd.	s/o Alessandro Bl.	91.44%	4.63%	3.93%	100.00%
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	91.44%	4.63%	3.93%	100.00%
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	91.46%	4.62%	3.92%	100.00%
8	Barton St.	n/o Van Buren Bl.	91.43%	4.64%	3.94%	100.00%
9	Barton St.	s/o Van Buren Bl.	91.43%	4.63%	3.93%	100.00%
10	Barton St.	n/o Krameria Av.	91.43%	4.63%	3.93%	100.00%
11	Barton St.	s/o Krameria Av.	91.43%	4.63%	3.94%	100.00%
12	Barton St.	s/o Lurin Av.	91.43%	4.63%	3.93%	100.00%
13	Coyote Bush Rd.	n/o Van Buren Bl.	91.47%	4.61%	3.92%	100.00%
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
15	Village West Dr.	n/o Krameria Av.	85.59%	5.34%	9.07%	100.00%
16	Village West Dr.	s/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
17	Meridian Pkwy.	s/o Alessandro Bl.	91.43%	4.63%	3.93%	100.00%
18	Meridian Pkwy.	n/o Cactus Av.	91.44%	4.63%	3.93%	100.00%

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
19	Meridian Pkwy.	s/o Cactus Av.	91.45%	4.63%	3.93%	100.00%
20	Meridian Pkwy.	n/o Opportunity Way	91.45%	4.62%	3.93%	100.00%
21	Meridian Pkwy.	n/o Van Buren Bl.	91.46%	4.62%	3.92%	100.00%
22	Day St.	n/o Cottonwood Av.	91.42%	4.64%	3.94%	100.00%
23	Day St.	s/o Cottonwood Av.	91.43%	4.64%	3.94%	100.00%
24	Alessandro Bl.	w/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
25	Alessandro Bl.	e/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
26	Alessandro Bl.	e/o Meridian Pkwy.	91.42%	4.64%	3.94%	100.00%
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	91.43%	4.64%	3.94%	100.00%
28	Alessandro Bl.	w/o Day St.	91.43%	4.63%	3.93%	100.00%
29	Alessandro Bl.	e/o Day St.	91.43%	4.64%	3.94%	100.00%
30	Cactus Av.	w/o Innovation Dr.	91.43%	4.64%	3.94%	100.00%
31	Cactus Av.	e/o Innovation Dr.	91.42%	4.64%	3.94%	100.00%
32	Cactus Av.	w/o Elsworth St.	91.33%	4.65%	4.03%	100.00%
33	Cactus Av.	e/o Elsworth St.	91.32%	4.65%	4.03%	100.00%
34	Cactus Av.	w/o Graham St.	91.33%	4.65%	4.02%	100.00%
35	Cactus Av.	e/o Graham St.	91.31%	4.65%	4.04%	100.00%
36	Van Buren Bl.	w/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
37	Van Buren Bl.	e/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
38	Van Buren Bl.	w/o Barton St.	91.47%	4.61%	3.92%	100.00%
39	Van Buren Bl.	e/o Barton St.	91.47%	4.61%	3.92%	100.00%
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	90.62%	4.72%	4.66%	100.00%
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	90.63%	4.72%	4.65%	100.00%
42	Van Buren Bl.	w/o Meridian Pkwy.	88.12%	5.02%	6.85%	100.00%
43	Van Buren Bl.	e/o Meridian Pkwy.	88.34%	5.00%	6.66%	100.00%
44	Van Buren Bl.	e/o Opportunity Way	88.52%	4.98%	6.50%	100.00%
45	I-215 Fwy.	n/o Alessandro Bl.	90.46%	4.76%	4.78%	100.00%
46	I-215 Fwy.	s/o Alessandro Bl.	90.51%	4.75%	4.74%	100.00%
47	I-215 Fwy.	s/o Cactus Av.	90.47%	4.75%	4.78%	100.00%
48	I-215 Fwy.	s/o Van Buren Bl.	91.02%	4.69%	4.29%	100.00%

¹ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

6.3 VIBRATION ASSESSMENT

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction

equipment are summarized on Table 6-8. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$

TABLE 6-8: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment.

7 OFF-SITE OPERATIONAL TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the operation of the proposed Project, noise contours were developed based on the *Meridian South Campus Traffic Impact Analysis*. (2) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Existing (2019)
- Existing plus Project (E+P) (net change in trips of proposed Project compared to the 2003 EIR Phase III) (E+P)
- Opening Year Cumulative (2024) Without Project
- Opening Year Cumulative (2024) With Proposed Project (Revised Specific Plan land uses)
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Proposed Project (Revised Specific Plan land uses)

Consistent with the Project traffic impact analysis, this noise study evaluates the net change in potential traffic impacts associated with Phase III of the March Business Center Specific Plan and Final Focused Environmental Impact Report (EIR) (SCH#2002071089) and March Business Center Traffic Impact Analysis, (Kimley-Horn and Associates, February 2003) (referred to hereafter as the “2003 EIR Phase III”) to the currently proposed Project. For analytical purposes the “without project” conditions include traffic associated with the 2003 EIR Phase III and the “with project” conditions will reflect the modified Specific Plan as currently proposed in order to provide an evaluation of the net change.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at receiving land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Tables 7-1 through 7-6 present a summary of the exterior traffic noise levels, without barrier attenuation, for the 48 study area roadway segments analyzed from the without Project conditions (2003 EIR Phase III) to the with Project conditions (reflecting the modified Specific Plan as currently proposed) in each of the three timeframes: Existing, Opening Year Cumulative (OYC) 2024, and Horizon Year (HY) 2040 conditions. Appendix 7.1 includes a summary of the traffic noise level contours for each of the six traffic scenarios.

TABLE 7-1: EXISTING WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.3	73	157	337
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	73.6	76	164	353
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	106	228	490
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	58.7	RW	RW	RW
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	77.4	171	368	793
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	169	364	784
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	129	279	601
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	RW	69	149
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	58	125	269
10	Barton St.	n/o Krameria Av.	Commercial/Residential	71.5	55	119	256
11	Barton St.	s/o Krameria Av.	Residential	71.2	53	114	246
12	Barton St.	s/o Lurin Av.	Residential	71.1	52	113	243
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.8	RW	RW	38
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	RW	111	240
15	Village West Dr.	n/o Krameria Av.	Business Park	66.2	RW	67	144
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	63.3	RW	RW	65
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	73.6	98	210	453
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	73.5	95	205	442
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	72.7	84	182	392
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.7	85	184	396
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.7	63	135	291
22	Day St.	n/o Cottonwood Av.	Residential/Office	71.9	59	127	274
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	70.7	49	105	226
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	79.5	258	555	1196
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	79.7	268	577	1242
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	249	537	1156
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.5	164	353	761
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	147	316	682
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	75.1	146	315	678
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	101	217	467
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	118	253	546
32	Cactus Av.	w/o Elsworth St.	Business Park	77.7	219	473	1019
33	Cactus Av.	e/o Elsworth St.	Business Park	77.6	216	464	1000
34	Cactus Av.	w/o Graham St.	Business Park	78.0	229	493	1063
35	Cactus Av.	e/o Graham St.	Business Park	77.4	208	448	966
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	202	435	938
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	77.6	194	418	900
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	77.4	186	400	862
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	78.0	205	442	953
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	77.9	200	432	931
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	77.8	200	431	929
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	79.5	237	511	1101
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	78.8	212	458	986
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	79.2	227	489	1055

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	78.4	454	978	2107
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	78.4	451	972	2095
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.2	438	944	2035
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.6	466	1005	2165

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.3	73	157	337
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	73.6	76	164	353
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	106	228	491
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	59.0	RW	RW	RW
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	77.4	171	368	793
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	169	364	785
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	130	279	602
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	RW	69	149
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	58	125	269
10	Barton St.	n/o Krameria Av.	Commercial/Residential	71.5	55	119	256
11	Barton St.	s/o Krameria Av.	Residential	71.2	53	114	246
12	Barton St.	s/o Lurin Av.	Residential	71.1	52	113	243
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.9	RW	RW	38
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	RW	111	240
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	101	219	471
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	63.4	RW	RW	65
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	73.6	98	211	454
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	73.5	95	205	442
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	72.7	85	182	392
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.8	85	184	397
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.8	63	136	292
22	Day St.	n/o Cottonwood Av.	Residential/Office	71.9	59	127	274
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	70.7	49	105	227
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	79.5	258	555	1196
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	79.7	268	577	1242
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	249	537	1156
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.6	164	353	761
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	147	317	682
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	75.1	146	315	679
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	101	217	467

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	118	253	546
32	Cactus Av.	w/o Elsworth St.	Business Park	77.8	222	478	1031
33	Cactus Av.	e/o Elsworth St.	Business Park	77.7	218	470	1012
34	Cactus Av.	w/o Graham St.	Business Park	78.1	231	499	1074
35	Cactus Av.	e/o Graham St.	Business Park	77.5	211	454	978
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	202	436	939
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	77.6	194	418	900
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	77.4	186	401	864
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	78.0	206	443	955
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	78.5	220	475	1023
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	78.5	220	474	1021
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.7	331	712	1534
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.3	310	667	1437
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	81.5	322	694	1494
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.1	505	1087	2343
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.1	502	1082	2332
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.9	492	1061	2285
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.9	489	1055	2272

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: OYC (2024) WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.7	78	167	360
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.0	81	175	377
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	115	248	535
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.2	RW	RW	98
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.2	194	418	901
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	193	415	895
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	152	328	707
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	RW	81	174
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	78	168	361
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.1	70	152	327
11	Barton St.	s/o Krameria Av.	Residential	73.3	73	157	339
12	Barton St.	s/o Lurin Av.	Residential	72.9	69	148	319
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	RW	RW	49
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	72.4	81	175	376
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	70.8	44	95	204

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	74.9	120	258	555
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	74.8	118	253	546
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.6	113	243	523
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	111	240	517
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	92	197	425
22	Day St.	n/o Cottonwood Av.	Residential/Office	73.1	71	153	329
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	71.5	56	120	259
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	80.2	289	622	1340
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	80.5	301	649	1399
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	289	623	1342
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	195	420	906
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	173	372	802
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	76.1	172	371	799
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	143	309	666
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	161	346	746
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	266	572	1232
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	258	556	1197
34	Cactus Av.	w/o Graham St.	Business Park	79.1	270	582	1253
35	Cactus Av.	e/o Graham St.	Business Park	78.5	247	531	1144
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	232	499	1075
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.6	223	480	1035
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.5	220	475	1023
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	246	529	1140
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.5	259	559	1204
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	79.7	267	574	1237
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.3	312	672	1448
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.7	333	718	1547
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.0	347	748	1612
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.4	531	1144	2465
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.7	554	1193	2569
47	I-215 Fwy.	s/o Cactus Av.	Business Park	79.7	558	1202	2590
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.0	584	1257	2709

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: OYC (2024) WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.7	78	167	361
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.0	81	175	377
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	115	248	535
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.3	RW	RW	99
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.2	194	418	901
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	193	416	896
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	153	329	708
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	RW	81	174
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	78	168	361
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.1	70	152	327
11	Barton St.	s/o Krameria Av.	Residential	73.3	73	157	339
12	Barton St.	s/o Lurin Av.	Residential	72.9	69	148	319
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	RW	RW	49
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	75.8	136	292	629
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	70.8	44	95	204
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	74.9	120	258	556
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	74.8	118	253	546
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.6	113	243	523
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	111	240	518
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	92	197	425
22	Day St.	n/o Cottonwood Av.	Residential/Office	73.1	71	153	329
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	71.5	56	120	259
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	80.2	289	622	1340
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	80.5	301	649	1399
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	289	623	1343
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	195	421	906
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	173	372	802
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	76.1	172	371	799
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	143	309	666
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	161	346	746
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	268	577	1243
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	260	561	1208
34	Cactus Av.	w/o Graham St.	Business Park	79.1	272	587	1264
35	Cactus Av.	e/o Graham St.	Business Park	78.5	249	536	1155
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	232	499	1075
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.6	223	481	1036
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.5	221	476	1025
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	246	530	1141
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	80.0	277	597	1286
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.1	284	612	1318
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	82.9	396	852	1836
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	83.2	414	893	1923
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	83.4	427	920	1982

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	80.0	578	1246	2685
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	80.2	600	1293	2785
47	I-215 Fwy.	s/o Cactus Av.	Business Park	80.3	606	1306	2814
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.3	604	1302	2804

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: HY (2040) WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	74.3	85	184	397
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.8	92	199	428
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	174	376	809
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	131	283	609
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.4	199	430	926
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	217	467	1005
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	153	331	712
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	92	198	427
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	81	176	378
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.3	73	157	338
11	Barton St.	s/o Krameria Av.	Residential	74.5	87	188	405
12	Barton St.	s/o Lurin Av.	Residential	74.2	84	181	389
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	RW	RW	56
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	102	219	472
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	78	169	364
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	75.4	127	274	591
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	75.2	125	269	580
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.9	120	258	555
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	118	255	549
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	96	206	444
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	122	263	566
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	76.3	116	249	537
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	81.1	330	711	1531
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	81.2	335	721	1553
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.2	337	727	1566
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	238	513	1105
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	202	434	935
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	77.1	200	430	927
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	152	329	708

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	171	368	793
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	278	599	1291
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	274	591	1274
34	Cactus Av.	w/o Graham St.	Business Park	79.5	287	619	1334
35	Cactus Av.	e/o Graham St.	Business Park	78.9	262	565	1218
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	246	529	1141
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.9	237	510	1098
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.7	229	493	1061
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	248	535	1152
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.9	273	588	1268
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.0	277	597	1287
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.8	334	720	1551
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	82.1	351	757	1631
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.4	366	789	1700
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.0	673	1451	3126
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.2	693	1494	3218
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.2	695	1498	3227
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.3	706	1521	3278

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: HY (2040) WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	74.3	86	184	397
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.8	92	199	428
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	174	376	810
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	131	283	609
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.4	200	430	926
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	217	467	1006
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	154	331	713
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	92	198	427
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	82	176	378
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.3	73	157	338
11	Barton St.	s/o Krameria Av.	Residential	74.5	87	188	405
12	Barton St.	s/o Lurin Av.	Residential	74.2	84	181	390
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	RW	RW	56
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	76.5	152	327	706
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	78	169	364

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	75.4	127	274	591
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	75.2	125	270	581
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.9	120	258	556
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	118	255	549
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	96	206	444
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	122	263	566
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	76.3	116	249	537
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	81.1	330	711	1531
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	81.2	335	721	1553
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.3	337	727	1566
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	238	513	1105
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	202	434	936
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	77.1	200	430	927
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	153	329	708
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	171	368	794
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	280	604	1302
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	277	596	1285
34	Cactus Av.	w/o Graham St.	Business Park	79.5	290	624	1344
35	Cactus Av.	e/o Graham St.	Business Park	79.0	265	570	1229
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	246	530	1141
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.9	237	510	1099
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.7	229	493	1063
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.3	249	535	1154
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	80.3	290	625	1348
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.4	294	634	1366
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	83.2	415	895	1928
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	83.4	431	928	1999
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	83.6	444	957	2061
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.4	716	1542	3322
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.5	735	1583	3411
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.6	739	1591	3429
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.5	725	1562	3365

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASE

An analysis of Existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report for informational purposes and to fully analyze all the traffic scenarios identified in the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Therefore, no mitigation measures are considered to reduce the Existing with Project condition traffic noise

level increases. The long-range conditions under Opening Year Cumulative 2024 and Horizon Year 2040 scenarios represent the expected cumulative conditions without and with Project traffic, and are therefore, used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments.

Table 7-1 shows the Existing without Project noise levels. The Existing without Project exterior noise levels are expected to range from 58.7 to 79.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows that the Existing with Project conditions traffic noise levels will range from 59.0 to 81.7 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level will experience a noise level increase ranging from 0.0 to 7.7 dBA CNEL on the study area roadway segments.

7.3 OPENING YEAR CUMULATIVE 2024 PROJECT TRAFFIC NOISE LEVEL INCREASE

Table 7-3 presents the Opening Year Cumulative 2024 without Project conditions CNEL noise levels. The Opening Year Cumulative 2024 without Project exterior noise levels are expected to range from 62.5 to 82.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Opening Year Cumulative 2024 with Project conditions will range from 62.5 to 83.4 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increase ranging from 0.0 to 3.4 dBA CNEL.

Based on the 5 dBA CNEL increase significance criteria when without Project noise levels are below 60 dBA CNEL and 3 dBA CNEL increase criteria when without Project noise levels already exceed 60 dBA CNEL, one of the 48 study area roadway segments, identified below, are shown to experience *potentially significant* off-site traffic noise level increases due to the proposed Project truck trip distribution under Opening Year Cumulative 2024 with Project conditions.

- Village West Drive north of Krameria Avenue (Segment #15). A review of the Project study area indicates that there are no existing or future noise-sensitive receivers located adjacent to this roadway segment that will experience a change in the off-site Project related traffic noise levels. Therefore, the off-site traffic noise level contributions for the Opening Year Cumulative 2024 with Project conditions are considered *less than significant* and no mitigation is required.

7.4 HORIZON YEAR 2040 PROJECT TRAFFIC NOISE LEVEL INCREASE

Table 7-5 presents the Horizon Year 2040 without Project conditions CNEL noise levels. The Horizon Year 2040 without Project exterior noise levels are expected to range from 63.5 to 82.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography.

Table 7-6 shows the Horizon Year 2040 with Project conditions will range from 63.5 to 83.6 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increase ranging from 0.0 to 2.6 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

TABLE 7-7: EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.3	73.3	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	73.6	73.6	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	73.7	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	58.7	59.0	0.3	Yes	5.0	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	77.4	77.4	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	77.3	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	75.6	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	68.0	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	71.8	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/Residential	71.5	71.5	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	71.2	71.2	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	71.1	71.1	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.8	60.9	0.1	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	69.6	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	66.2	73.9	7.7	No	5.0	Yes
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	63.3	63.4	0.1	No	5.0	No
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	73.6	73.6	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	73.5	73.5	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	72.7	72.7	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.7	72.8	0.1	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.7	70.8	0.1	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/Office	71.9	71.9	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	70.7	70.7	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	79.5	79.5	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	79.7	79.7	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	79.3	0.0	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.5	76.6	0.1	No	3.0	No
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	75.1	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	75.1	75.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	73.4	0.0	No	3.0	No

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	74.4	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	77.7	77.8	0.1	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	77.6	77.7	0.1	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	78.0	78.1	0.1	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	77.4	77.5	0.1	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	77.9	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	77.6	77.6	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	77.4	77.4	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	78.0	78.0	0.0	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	77.9	78.5	0.6	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	77.8	78.5	0.7	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	79.5	81.7	2.2	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	78.8	81.3	2.5	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	79.2	81.5	2.3	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	78.4	79.1	0.7	No	3.0	No
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	78.4	79.1	0.7	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.2	78.9	0.7	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.6	78.9	0.3	No	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

² Significance Criteria (Section 4).

TABLE 7-8: OYC (2024) PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.7	73.7	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.0	74.0	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	74.3	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.2	63.3	0.1	Yes	3.0	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.2	78.2	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	78.2	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	76.6	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	69.0	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	73.7	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.1	73.1	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	73.3	73.3	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	72.9	72.9	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	62.5	0.0	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	70.7	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	72.4	75.8	3.4	No	3.0	Yes
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	70.8	70.8	0.0	No	3.0	No
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	74.9	74.9	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	74.8	74.8	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.6	74.6	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	74.5	0.0	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	73.2	0.0	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/Office	73.1	73.1	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	71.5	71.5	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	80.2	80.2	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	80.5	80.5	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	80.2	0.0	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	77.7	0.0	No	3.0	No
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	76.2	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	76.1	76.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	75.7	0.0	No	3.0	No

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	76.4	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	79.0	0.0	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	78.8	0.0	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	79.1	79.1	0.0	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	78.5	78.5	0.0	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	78.8	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.6	78.6	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.5	78.5	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	79.2	0.0	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.5	80.0	0.5	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	79.7	80.1	0.4	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.3	82.9	1.6	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.7	83.2	1.5	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.0	83.4	1.4	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.4	80.0	0.6	No	3.0	No
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.7	80.2	0.5	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	79.7	80.3	0.6	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.0	80.3	0.3	No	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

² Significance Criteria (Section 4).

TABLE 7-9: HY (2040) PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	74.3	74.3	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.8	74.8	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	77.0	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	75.1	0.0	Yes	1.5	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.4	78.4	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	78.9	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	76.7	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	74.8	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	74.0	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.3	73.3	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	74.5	74.5	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	74.2	74.2	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	63.5	0.0	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	70.7	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	76.5	2.6	No	3.0	No
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	74.5	0.0	No	3.0	No
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	75.4	75.4	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	75.2	75.2	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.9	74.9	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	74.9	0.0	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	73.5	0.0	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	76.6	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	76.3	76.3	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	81.1	81.1	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	81.2	81.2	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.2	81.3	0.1	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	79.0	0.0	No	3.0	No
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	77.2	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	77.1	77.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	76.1	0.0	No	3.0	No

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	76.8	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	79.3	0.0	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	79.2	0.0	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	79.5	79.5	0.0	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	78.9	79.0	0.1	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	79.2	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.9	78.9	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.7	78.7	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	79.3	0.1	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.9	80.3	0.4	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.0	80.4	0.4	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.8	83.2	1.4	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	82.1	83.4	1.3	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.4	83.6	1.2	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.0	81.4	0.4	No	3.0	No
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.2	81.5	0.3	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.2	81.6	0.4	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.3	81.5	0.2	No	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

² Significance Criteria (Section 4).

8 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, outpatient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

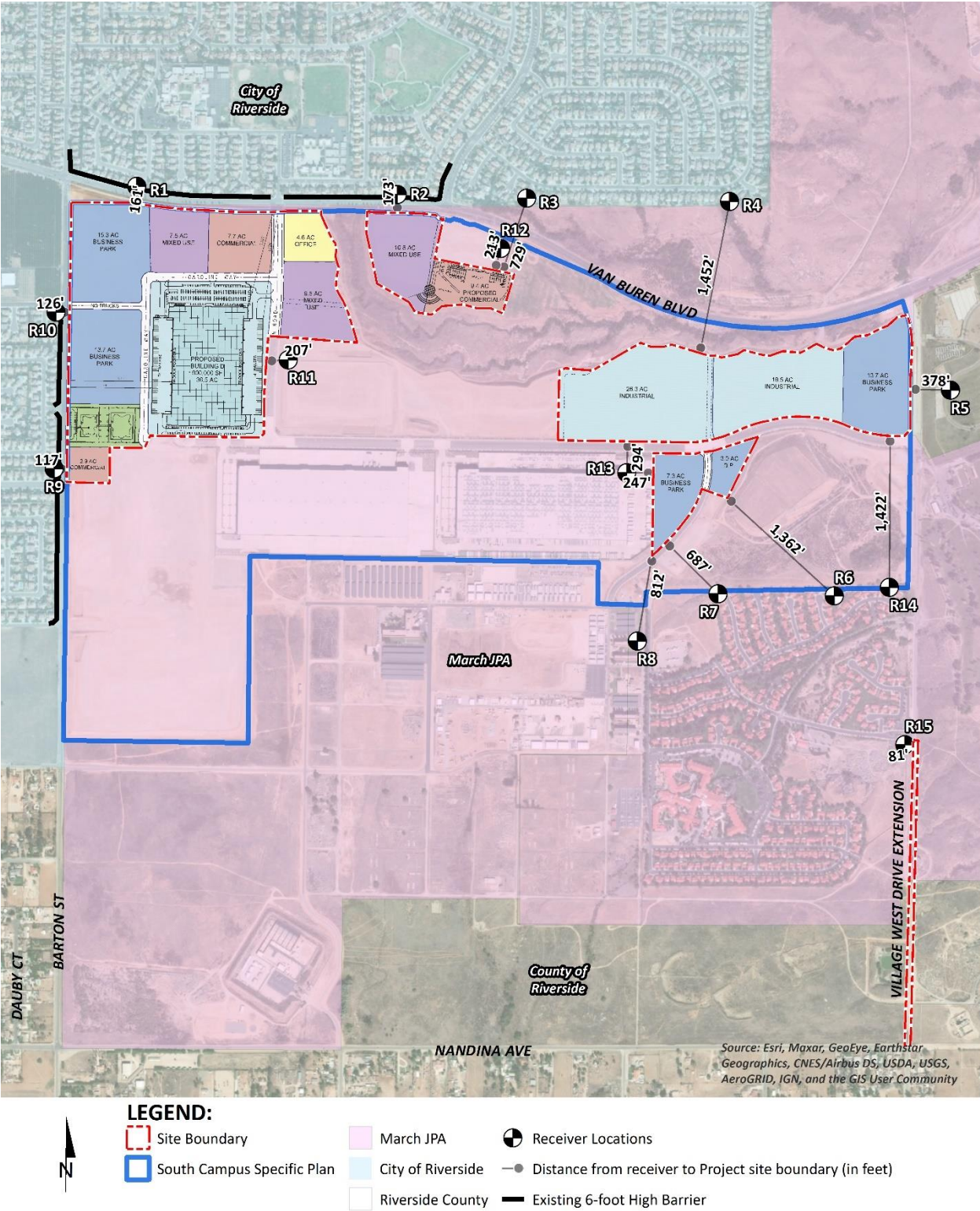
To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the Project boundary to each receiver location.

- R1: Location R1 represents the existing private outdoor living area (backyard) at 20137 Sedona Drive in the City of Riverside. This residence is approximately 161 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing private outdoor living area (backyard) at 20531 Red Poppy Lane in the City of Riverside. This residence is approximately 173 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing private outdoor living area (backyard) at 20675 Golden Rain Road in the City of Riverside. This residence is approximately 729 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing private outdoor living area (backyard) at 20893 Golden Rain Road in the City of Riverside. This residence is approximately 1,452 feet north of the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

- R5: Location R5 represents Riverside National Cemetery on the east side of Village West Drive at about 385 feet from the Project site in the County of Riverside. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.
- R6: Location R6 represents the existing residence at the end of Charles Gabriel Circle, approximately 1,362 feet southeast of the Project site in the March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R6 is placed at the residential building façade. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.
- R7: Location R7 represents the existing residence at the end of Thomas White Drive, approximately 687 feet southeast of the Project site in the March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R7 is placed at the residential building façade. A 24-hour noise measurement near this location, L6, is used to describe the existing ambient noise environment.
- R8: Location R8 represents the Ben Clark Training Center at 16902 Bundy Avenue, approximately 812 feet south of the Project site in the March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R8 is placed at the building façade. A 24-hour noise measurement near this location, L6, is used to describe the existing ambient noise environment.
- R9: Location R9 represents the existing private outdoor living area (backyard) at 19992 Krameria Avenue in the City of Riverside. This residence is approximately 117 feet west of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L9, to describe the existing ambient noise environment.
- R10: Location R10 represents the existing private outdoor living area (backyard) at 9180 San Miguel Court in the City of Riverside. This residence is approximately 126 feet west of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L10, to describe the existing ambient noise environment.
- R11: Location R11 represents an existing Warehouse (Building C) located approximately 207 feet east of the Project site in March JPA. Location R11 has been placed at the existing building façade, and conservatively represents the location of where a worker could likely be located for a minimum 1-hour duration. The nearest 24-hour noise level measurement taken near this location, L4, is used to describe the existing ambient noise environment.
- R12: Location R12 represents the approved Commercial Parcel 72 located 213 feet north of the Project site in the March JPA where future workers could be located. The nearest 24-hour noise level measurement taken near this location, L2, is used to describe the existing ambient noise environment.
- R13: Location R13 represents the Amazon (Building A) warehouse located roughly 294 feet south of the Area C and 247 feet west of Area D in the March JPA. Location R13 has been placed at the existing building façade, and conservatively represents the location of where a worker could likely be located for a minimum 1-hour duration. The nearest 24-hour noise level measurement taken near this location, L4, is used to describe the existing ambient noise environment.

- R14: Location R14 represents the existing private outdoor living area (backyard) at the end of Westover Circle in the March JPA. This residence is approximately 1,422 feet south of the Project site. The nearest 24-hour noise level measurement taken near this location, L5, is used to describe the existing ambient noise environment.
- R15: Location R15 represents residents of the Westmont Village retirement living community. Location R15 is placed at the nearest building façade approximately 81 feet west of the construction activities associated with the Village West Drive Extension at the corner of Lemay Drive and Village West Drive in the March JPA. The nearest 24-hour noise level measurement taken near this location, L5, is used to describe the existing ambient noise environment. Like R15, L5 receives traffic noise from Village West Drive.

EXHIBIT 8-A: RECEIVER LOCATIONS



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from the operation of the proposed Meridian South Campus Project. Exhibit 9-A identifies the representative receiver locations and noise source locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE STANDARDS

Although the Project site is located within the March JPA, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Riverside and the County of Riverside jurisdictions. Therefore, to accurately describe the potential Project-related operational noise level contributions, this analysis presents the appropriate operational noise standards for each jurisdiction adjacent to the Project site. The March JPA, City of Riverside, and County of Riverside operational noise level standards are shown on Table 3-1 of this report.

9.1.1 MARCH JPA OPERATIONAL NOISE STANDARDS

The March JPA Development Code, Chapter 9.10 *Performance Standards*, Section 9.10.140 identifies the exterior stationary-source noise level standards for commercial and industrial land uses. Based on Section 9.10.140 of the Development Code, the exterior noise level shall not exceed 55 dBA Leq at any time. (3)

9.1.2 CITY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The noise regulations included in the City of Riverside Municipal Code, Title 7 *Noise Control*, provide standards for determining and mitigating non-transportation or stationary-source noise impacts from operations at private properties. For noise-sensitive residential land uses in the Project study area, Table 7.25.010A of the Municipal Code identifies a daytime (7:00 a.m. to 10:00 p.m.) noise level standard of 55 dBA L_{50} and a nighttime (10:00 p.m. to 7:00 a.m.) noise level standard of 45 dBA L_{50} . (16) Section 7.25.010 (A) indicates that these standards shall apply plus 5 dBA for a cumulative period of 30 minutes in any hour, as well as plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 20 dBA for any period of time.

9.1.3 COUNTY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The County of Riverside has set exterior noise limits to control community noise impacts from non-transportation noise sources (such as playgrounds, trash compactors, air-conditioning units, etc.). Policy N 4.1 of the Noise Element sets an exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (17) These stationary-source noise level standards are consistent with the County of Riverside Office of Industrial Hygiene guidelines for noise studies within the County. (18)

9.2 OPERATIONAL NOISE SOURCES

At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. The Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. The on-site Project-related noise sources are expected to include: truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity. This noise analysis is intended to describe noise level impacts associated with the expected typical warehouse and distribution storage activities at the Project site.

9.3 REFERENCE NOISE LEVELS

Since the future tenants of the proposed Project are unknown, the Project's operational noise levels were estimated based on reference noise level measurements of similar operational activities. The reference noise levels are intended to describe the expected operational noise sources that may include truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity. To estimate the Project off-site operational noise impacts associated with the Meridian South Campus, the following reference noise level measurements were collected from existing logistics warehouse operations containing similar operational noise sources. Table 9-1 presents the hourly average L_{eq} noise levels used to assess compliance with the March JPA and County of Riverside operational noise level limits. Table 9-2 provides the percentile noise levels to demonstrate compliance with the City of Riverside operational limits for the same reference noise level measurements. Appendix 9.1 includes reference noise source photos for each location.

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

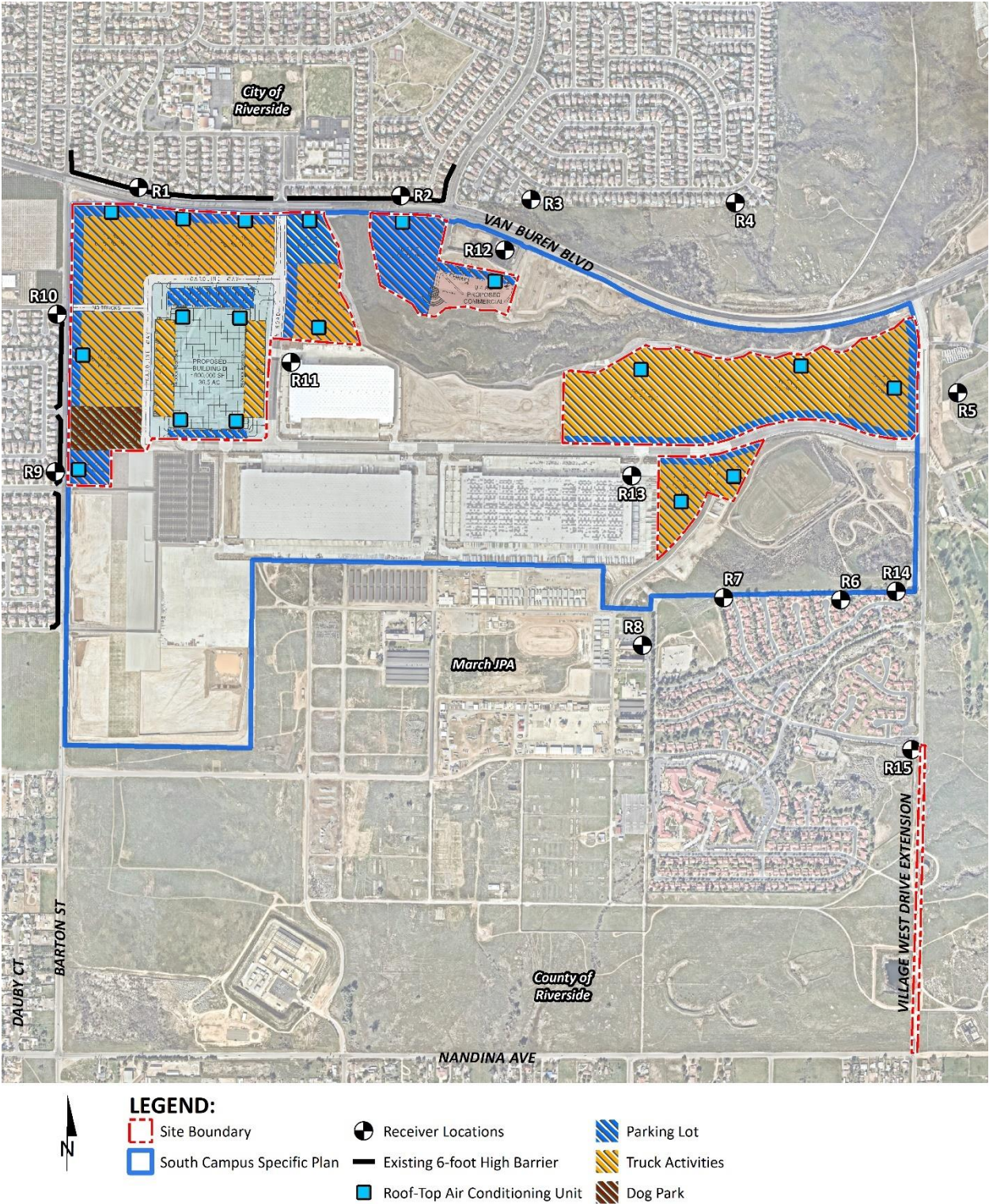


TABLE 9-1: HOURLY AVERAGE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Min./Hour		Reference Noise Level (dBA L _{eq})		Sound Power Level (dBA) ⁵
				Day	Night	@ Ref. Dist.	@ 50 Feet	
Truck Activities ¹	00:14:00	30'	8'	60'	60'	70.1	65.7	99.5
Roof-Top Air Conditioning Units ²	96:00:00	5'	5'	39'	28'	77.2	57.2	88.9
Parking Lot Vehicle Movements ³	01:00:00	10'	5'	60'	60'	52.2	41.7	73.4
Dog Park ⁴	00:15:00	5'	4'	60'	0'	62.8	42.8	74.5

¹ Highest reference noise level measurement (truck unloading/docking, entry gate & truck movement, and truck idle/refer activity).

² As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

³ As measured by Urban Crossroads, Inc. on 5/17/2017 at the Panasonic Avionics Corporation parking lot in the City of Lake Forest.

⁴ As measured by Urban Crossroads, Inc. on 10/8/2014 at the La Paws Dog Park in Mission Viejo, CA.

⁵ Calculated using the CadnaA noise model at the reference distance to the noise source.

TABLE 9-2: PERCENTILE REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Reference Noise Level (dBA)				
				L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
Truck Activities ¹	00:14:00	30'	8'	69.6	70.9	71.9	73.7	80.6
Roof-Top Air Conditioning Units ²	96:00:00	5'	5'	74.4	76.1	77.4	77.7	78.2
Parking Lot Vehicle Movements ³	01:00:00	10'	5'	49.0	50.0	55.0	61.0	71.9
Dog Park ⁴	00:15:00	5'	4'	58.5	61.0	65.2	72.6	78.6

¹ Highest reference noise level measurement (truck unloading/docking, entry gate & truck movement, and truck idle/refer activity).

² As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

³ As measured by Urban Crossroads, Inc. on 5/17/2017 at the Panasonic Avionics Corporation parking lot in the City of Lake Forest.

⁴ As measured by Urban Crossroads, Inc. on 10/8/2014 at the La Paws Dog Park in Mission Viejo, CA.

9.3.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (23)

9.3.2 TRUCK ACTIVITIES

While the specific noise levels at the Project site will depend on the actual tenant, the intensity and the daytime / nighttime hours of operation, a reference noise level of 65.7 dBA L_{eq} at 50 feet is used to describe the peak Project operational noise activity since it represents similar operational characteristics. The reference noise levels are intended to describe noise level impacts associated with the expected typical warehouse and distribution storage operations at the Project site. This analysis assumes that the Project buildings would be operational 24 hours per day, seven days per week. In addition, this analysis considers several reference noise level measurements to describe the worst-case truck activities and may conservatively overstate the actual noise levels due to tenant operations at the Project site.

TRUCK UNLOADING/DOCKING ACTIVITY

Short-term reference noise level measurements were collected on Wednesday, January 7th, 2015, by Urban Crossroads, Inc. at the Motivational Fulfillment & Logistics Services distribution facility located at 6810 Bickmore Avenue in the City of Chino. The noise level measurements represent the typical weekday dry goods logistics warehouse operation in a single building, of roughly 285,000 square feet, with a loading dock area on the western side of the building façade. The unloading/docking activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of loading dock activities generating a reference noise level of 62.8 dBA L_{eq} at a uniform reference distance of 50 feet. At this location, the noise sources associated with employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement, a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, and air brakes noise, in addition to on-going idling of an already docked truck.

ENTRY GATE & TRUCK MOVEMENTS

The entry gate activity noise level measurement was taken at the southern entry gate over a 15-minute period and represents multiple noise sources producing a reference noise level of 56.0 dBA L_{eq} at a uniform distance of 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, and background forklift backup alarm noise.

TRUCK IDLE/REEFER ACTIVITY

To describe the cold storage loading dock activities, a reference noise level measurement was collected to represent the truck idling/reefer activity on Wednesday, January 7th, 2015, at the Nature's Best distribution facility located at 16081 Fern Avenue in the City of Chino. During the fourteen-minute truck idling/reefer activity reference noise level measurement, approximately 20 delivery trucks were docked, idling, or parked in the northern loading dock area. The truck idling/reefer activity reference noise level measurement was taken in the center of the loading

dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA L_{eq} at a uniform distance of 50 feet. Specifically, the truck idling/reefer activity reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

9.3.3 ROOF-TOP AIR CONDITIONING UNITS

To assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken over a four-day total duration at the Santee Walmart on July 27th, 2015. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe mechanical roof-top air conditioning units on the roof of an existing Walmart store, with additional roof-top units operating in the background. The reference noise level represents Lennox SCA120 series 10-ton model packaged air conditioning units. At 5 feet from the closest roof-top air conditioning unit, the highest exterior noise level from all four days of the measurement period was measured at 77.2 dBA L_{eq} . Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA L_{eq} . The operating conditions of the reference noise level measurement reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. The roof-top air condition units were observed to operate the most during the daytime hours for a total of 39 minutes per hour. The noise attenuation provided by a parapet wall is not reflected in this reference noise level measurement.

9.3.4 PARKING LOT VEHICLE MOVEMENTS

To determine the noise levels associated with parking lot vehicle movements, Urban Crossroads collected reference noise level measurements over a 24-hour period on May 17th, 2017 at the parking lot for the Panasonic Avionics Corporation in the City of Lake Forest. The peak hour of activity measured over the 24-hour noise level measurement period occurred between 12:00 p.m. to 1:00 p.m., or the typical lunch hour for employees working in the area. The measured reference noise level at 50 feet from parking lot vehicle movements was measured at 41.7 dBA L_{eq} . The parking lot noise levels are mainly due to cars pulling in and out of spaces during peak lunch hour activity and employees talking.

9.3.5 DOG PARK

To describe the potential noise level impacts associated with the Project's dog parks, a reference noise level measurement was collected on Wednesday, October 8th, 2014 at La Paws Dog Park in the City of Mission Viejo. The reference noise levels collected at the La Paws Dog Park are expected to reflect the noise level activities at both a large and small dog park within Project site. The reference noise level measurement at the large dog park includes people talking, dogs running, playing fetch, chasing each other, growling, barking and dog owners talking on cell phones. As observed during the noise level measurement, the dual entry gate of the La Paws

Dog Park was identified as a key source of noise when opened and closed due to metal hinges squeaking and the metal to metal contact with the gate and its closure. As shown on Table 9-1, at 5 feet from the noise source, a reference noise level of 62.8 dBA L_{eq} was measured. The dog park activities are limited to the daytime hours with no nighttime activity.

9.4 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (PWL) to describe individual noise sources. While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source. A default ground attenuation factor of 1.0 was used in the CadnaA noise analysis to account for hard site conditions. Appendix 9.1 includes the detailed noise model.

9.5 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Tables 9-3 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 35.7 to 53.1 dBA L_{eq} . Table 9-4 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 35.5 to 53.0 dBA L_{eq} . The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1).

TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Receiver Location ¹		Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
			Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
R1	City of Riverside	Truck Activities	43.2	42.7	44.5	44.2	45.0	50.1
		Roof-Top Air Conditioning Unit	38.2	37.7	39.5	39.2	40.0	45.1
		Parking Lot Vehicle Movement	32.1	31.6	33.4	33.1	33.9	39.0
		Dog Park	14.8	14.3	16.1	15.8	16.6	21.7
		Combined Noise Level:	44.6	44.1	45.9	45.6	46.4	51.5
R2		Truck Activities	39.9	39.4	41.2	40.9	41.7	46.8
		Roof-Top Air Conditioning Unit	41.3	40.8	42.6	42.3	43.1	48.2
		Parking Lot Vehicle Movement	34.0	33.5	35.3	35.0	35.8	40.9
		Dog Park	11.0	10.5	12.3	12.0	12.8	17.9
		Combined Noise Level:	44.1	43.6	45.4	45.1	45.9	51.0
R3		Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
		Roof-Top Air Conditioning Unit	35.9	35.4	37.2	36.9	37.7	42.8
		Parking Lot Vehicle Movement	32.6	32.1	33.9	33.6	34.4	39.5
		Dog Park	13.3	12.8	14.6	14.3	15.1	20.2
		Combined Noise Level:	43.1	42.6	44.4	44.1	44.9	50.0
R4		Truck Activities	40.4	39.9	41.7	41.4	42.2	47.3
		Roof-Top Air Conditioning Unit	32.7	32.2	34.0	33.7	34.5	39.6
		Parking Lot Vehicle Movement	27.3	26.8	28.6	28.3	29.1	34.2
		Dog Park	9.7	9.2	11.0	10.7	11.5	16.6
		Combined Noise Level:	41.3	40.8	42.6	42.3	43.1	48.2
R5	Riverside Co.	Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
		Roof-Top Air Conditioning Unit	35.8	35.3	37.1	36.8	37.6	42.7
		Parking Lot Vehicle Movement	32.2	31.7	33.5	33.2	34.0	39.1
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	43.1	42.6	44.4	44.1	44.9	50.0
R6	March JPA	Truck Activities	40.8	40.3	42.1	41.8	42.6	47.7
		Roof-Top Air Conditioning Unit	31.8	31.3	33.1	32.8	33.6	38.7
		Parking Lot Vehicle Movement	26.6	26.1	27.9	27.6	28.4	33.5
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	41.5	41.0	42.8	42.5	43.3	48.4
R7		Truck Activities	44.2	43.7	45.5	45.2	46.0	51.1
		Roof-Top Air Conditioning Unit	34.3	33.8	35.6	35.3	36.1	41.2
		Parking Lot Vehicle Movement	27.8	27.3	29.1	28.8	29.6	34.7
		Dog Park	10.7	10.2	12.0	11.7	12.5	17.6
		Combined Noise Level:	44.7	44.2	46.0	45.7	46.5	51.6

Receiver Location ¹		Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
			Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
R8	March JPA	Truck Activities	42.0	41.5	43.3	43.0	43.8	48.9
		Roof-Top Air Conditioning Unit	32.2	31.7	33.5	33.2	34.0	39.1
		Parking Lot Vehicle Movement	26.3	25.8	27.6	27.3	28.1	33.2
		Dog Park	11.9	11.4	13.2	12.9	13.7	18.8
		Combined Noise Level:	42.5	42.0	43.8	43.5	44.3	49.4
R9	City of Riverside	Truck Activities	41.1	40.6	42.4	42.1	42.9	48.0
		Roof-Top Air Conditioning Unit	43.6	43.1	44.9	44.6	45.4	50.5
		Parking Lot Vehicle Movement	30.5	30.0	31.8	31.5	32.3	37.4
		Dog Park	33.3	32.8	34.6	34.3	35.1	40.2
		Combined Noise Level:	45.9	45.4	47.2	46.9	47.7	52.8
R10	City of Riverside	Truck Activities	45.1	44.6	46.4	46.1	46.9	52.0
		Roof-Top Air Conditioning Unit	37.3	36.8	38.6	38.3	39.1	44.2
		Parking Lot Vehicle Movement	32.3	31.8	33.6	33.3	34.1	39.2
		Dog Park	20.4	19.9	21.7	21.4	22.2	27.3
		Combined Noise Level:	46.0	45.5	47.3	47.0	47.8	52.9
R11	March JPA	Truck Activities	52.7	52.2	54.0	53.7	54.5	59.6
		Roof-Top Air Conditioning Unit	41.6	41.1	42.9	42.6	43.4	48.5
		Parking Lot Vehicle Movement	35.7	35.2	37.0	36.7	37.5	42.6
		Dog Park	21.8	21.3	23.1	22.8	23.6	28.7
		Combined Noise Level:	53.1	52.6	54.4	54.1	54.9	60.0
R12	March JPA	Truck Activities	43.0	42.5	44.3	44.0	44.8	49.9
		Roof-Top Air Conditioning Unit	41.6	41.1	42.9	42.6	43.4	48.5
		Parking Lot Vehicle Movement	36.1	35.6	37.4	37.1	37.9	43.0
		Dog Park	14.4	13.9	15.7	15.4	16.2	21.3
		Combined Noise Level:	45.9	45.4	47.2	46.9	47.7	52.8
R13	March JPA	Truck Activities	48.9	48.4	50.2	49.9	50.7	55.8
		Roof-Top Air Conditioning Unit	38.5	38.0	39.8	39.5	40.3	45.4
		Parking Lot Vehicle Movement	34.2	33.7	35.5	35.2	36.0	41.1
		Dog Park	12.7	12.2	14.0	13.7	14.5	19.6
		Combined Noise Level:	49.4	48.9	50.7	50.4	51.2	56.3

Receiver Location ¹		Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
			Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
R14	March JPA	Truck Activities	39.5	39.0	40.8	40.5	41.3	46.4
		Roof-Top Air Conditioning Unit	30.9	30.4	32.2	31.9	32.7	37.8
		Parking Lot Vehicle Movement	26.1	25.6	27.4	27.1	27.9	33.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	40.2	39.7	41.5	41.2	42.0	47.1
R15		Truck Activities	35.0	34.5	36.3	36.0	36.8	41.9
		Roof-Top Air Conditioning Unit	26.6	26.1	27.9	27.6	28.4	33.5
		Parking Lot Vehicle Movement	21.1	20.6	22.4	22.1	22.9	28.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	35.7	35.2	37.0	36.7	37.5	42.6

TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Receiver Location ¹		Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
			Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
R1	City of Riverside	Truck Activities	43.2	42.7	44.5	44.2	45.0	50.1
		Roof-Top Air Conditioning Unit	35.8	35.3	37.1	36.8	37.6	42.7
		Parking Lot Vehicle Movement	32.1	31.6	33.4	33.1	33.9	39.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.2	43.7	45.5	45.2	46.0	51.1
R2		Truck Activities	39.9	39.4	41.2	40.9	41.7	46.8
		Roof-Top Air Conditioning Unit	38.9	38.4	40.2	39.9	40.7	45.8
		Parking Lot Vehicle Movement	34.0	33.5	35.3	35.0	35.8	40.9
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	43.0	42.5	44.3	44.0	44.8	49.9
R3		Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
		Roof-Top Air Conditioning Unit	33.5	33.0	34.8	34.5	35.3	40.4
		Parking Lot Vehicle Movement	32.6	32.1	33.9	33.6	34.4	39.5
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.8	42.3	44.1	43.8	44.6	49.7
R4		Truck Activities	40.4	39.9	41.7	41.4	42.2	47.3
		Roof-Top Air Conditioning Unit	30.3	29.8	31.6	31.3	32.1	37.2
		Parking Lot Vehicle Movement	27.3	26.8	28.6	28.3	29.1	34.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	41.0	40.5	42.3	42.0	42.8	47.9

Receiver Location ¹		Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
			Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
R5	Riverside Co.	Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
		Roof-Top Air Conditioning Unit	33.4	32.9	34.7	34.4	35.2	40.3
		Parking Lot Vehicle Movement	32.2	31.7	33.5	33.2	34.0	39.1
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.7	42.2	44.0	43.7	44.5	49.6
R6	March JPA	Truck Activities	40.8	40.3	42.1	41.8	42.6	47.7
		Roof-Top Air Conditioning Unit	29.4	28.9	30.7	30.4	31.2	36.3
		Parking Lot Vehicle Movement	26.6	26.1	27.9	27.6	28.4	33.5
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	41.3	40.8	42.6	42.3	43.1	48.2
R7		Truck Activities	44.2	43.7	45.5	45.2	46.0	51.1
		Roof-Top Air Conditioning Unit	31.9	31.4	33.2	32.9	33.7	38.8
		Parking Lot Vehicle Movement	27.8	27.3	29.1	28.8	29.6	34.7
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.5	44.0	45.8	45.5	46.3	51.4
R8	March JPA	Truck Activities	42.0	41.5	43.3	43.0	43.8	48.9
		Roof-Top Air Conditioning Unit	29.8	29.3	31.1	30.8	31.6	36.7
		Parking Lot Vehicle Movement	26.3	25.8	27.6	27.3	28.1	33.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.4	41.9	43.7	43.4	44.2	49.3
R9	City of Riverside	Truck Activities	41.1	40.6	42.4	42.1	42.9	48.0
		Roof-Top Air Conditioning Unit	41.2	40.7	42.5	42.2	43.0	48.1
		Parking Lot Vehicle Movement	30.5	30.0	31.8	31.5	32.3	37.4
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.3	43.8	45.6	45.3	46.1	51.2
R10		Truck Activities	45.1	44.6	46.4	46.1	46.9	52.0
		Roof-Top Air Conditioning Unit	34.9	34.4	36.2	35.9	36.7	41.8
		Parking Lot Vehicle Movement	32.3	31.8	33.6	33.3	34.1	39.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	45.7	45.2	47.0	46.7	47.5	52.6
R11	March JPA	Truck Activities	52.7	52.2	54.0	53.7	54.5	59.6
		Roof-Top Air Conditioning Unit	39.2	38.7	40.5	40.2	41.0	46.1
		Parking Lot Vehicle Movement	35.7	35.2	37.0	36.7	37.5	42.6
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	53.0	52.5	54.3	54.0	54.8	59.9

Receiver Location ¹	Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
		Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
R12	Truck Activities	43.0	42.5	44.3	44.0	44.8	49.9
	Roof-Top Air Conditioning Unit	39.1	38.6	40.4	40.1	40.9	46.0
	Parking Lot Vehicle Movement	36.1	35.6	37.4	37.1	37.9	43.0
	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	Combined Noise Level:	45.1	44.6	46.4	46.1	46.9	52.0
R13	Truck Activities	48.9	48.4	50.2	49.9	50.7	55.8
	Roof-Top Air Conditioning Unit	36.1	35.6	37.4	37.1	37.9	43.0
	Parking Lot Vehicle Movement	34.2	33.7	35.5	35.2	36.0	41.1
	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	Combined Noise Level:	49.3	48.8	50.6	50.3	51.1	56.2
R14	Truck Activities	39.5	39.0	40.8	40.5	41.3	46.4
	Roof-Top Air Conditioning Unit	28.5	28.0	29.8	29.5	30.3	35.4
	Parking Lot Vehicle Movement	26.1	25.6	27.4	27.1	27.9	33.0
	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	Combined Noise Level:	40.0	39.5	41.3	41.0	41.8	46.9
R15	Truck Activities	35.0	34.5	36.3	36.0	36.8	41.9
	Roof-Top Air Conditioning Unit	24.2	23.7	25.5	25.2	26.0	31.1
	Parking Lot Vehicle Movement	21.1	20.6	22.4	22.1	22.9	28.0
	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	Combined Noise Level:	35.5	35.0	36.8	36.5	37.3	42.4

9.6 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level. Tables 9-5 shows that the daytime operational noise levels associated with Meridian South Campus Project will satisfy the noise level thresholds at all nearby receiver locations. Therefore, the daytime operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE (DAYTIME)

Receiver Location ¹	Jurisdiction	Noise Level at Receiver Locations (dBA) ²						Threshold Exceeded? ³
		Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)	
R1	City of Riverside	– ⁴	44.1	45.9	45.6	46.4	51.5	No
R2		– ⁴	43.6	45.4	45.1	45.9	51.0	No
R3		– ⁴	42.6	44.4	44.1	44.9	50.0	No
R4		– ⁴	40.8	42.6	42.3	43.1	48.2	No
R5	Riverside Co.	43.1	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R6	March JPA	41.5	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R7		44.7	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R8		42.5	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R9	City of Riverside	– ⁴	45.4	47.2	46.9	47.7	52.8	No
R10		– ⁴	45.5	47.3	47.0	47.8	52.9	No
R11	March JPA	53.1	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R12		45.9	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R13		49.4	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R14		40.2	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R15		35.7	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No

¹ See Exhibit 9-A for the receiver and noise source locations.

² Estimated Project stationary source noise levels as shown on Table 9-3.

³ Do the estimated Project operational noise source activities exceed the noise level standards (See Table 3-1)?

⁴ Standards not applicable (See Table 3-1)

"Daytime" = 7:00 a.m. to 10:00 p.m.

Tables 9-6 shows that the nighttime operational noise levels associated with Meridian South Campus Project will satisfy the noise level thresholds at all nearby receiver locations. Therefore, the nighttime operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-6: OPERATIONAL NOISE LEVEL COMPLIANCE (NIGHTTIME)

Receiver Location ¹	Jurisdiction	Noise Level at Receiver Locations (dBA) ²						Threshold Exceeded? ³
		Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)	
R1	City of Riverside	– ⁴	43.7	45.5	45.2	46.0	51.1	No
R2		– ⁴	42.5	44.3	44.0	44.8	49.9	No
R3		– ⁴	42.3	44.1	43.8	44.6	49.7	No
R4		– ⁴	40.5	42.3	42.0	42.8	47.9	No
R5	Riverside Co.	42.7	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R6	March JPA	41.3	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R7		44.5	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R8		42.4	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R9	City of Riverside	– ⁴	43.8	45.6	45.3	46.1	51.2	No
R10		– ⁴	45.2	47.0	46.7	47.5	52.6	No
R11	March JPA	53.0	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R12		45.1	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R13		49.3	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R14		40.0	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No
R15		35.5	– ⁴	– ⁴	– ⁴	– ⁴	– ⁴	No

¹ See Exhibit 9-A for the receiver and noise source locations.² Estimated Project stationary source noise levels as shown on Table 9-4.³ Do the estimated Project operational noise source activities exceed the noise level standards (See Table 3-1)?⁴ Standards not applicable (See Table 3-1)

"Nighttime" = 10:00 p.m. to 7:00 a.m.

9.7 PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS

Although the proposed Project is defined as the net change in impacts as compared to the 2003 EIR Phase III, for the purposes of analyzing project operations, this noise study evaluates the proposed South Campus Specific Plan compared to the existing ambient noise levels. To describe the Project operational noise level contributions, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (6) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10 \log_{10} [10^{SPL1/10} + 10^{SPL2/10} + \dots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level contributions to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on

Tables 9-7 and 9-8, respectively. As indicated on Tables 9-7 and 9-8, the Project will generate an unmitigated daytime and nighttime operational noise level increases ranging from 0.0 to 2.7 dBA L_{eq} at the nearby receiver locations. Project-related operational noise level contributions will satisfy the operational noise level increase significance criteria presented in Table 4-2, the increases at the sensitive receiver locations will be *less than significant*.

TABLE 9-7: PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS (DAYTIME)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Incremental Threshold ⁷	Incremental Threshold Exceeded? ⁷
R1	44.6	L2	73.8	73.8	0.0	1.5	No
R2	44.1	L2	73.8	73.8	0.0	1.5	No
R3	43.1	L3	58.2	58.3	0.1	5.0	No
R4	41.3	L3	58.2	58.3	0.1	5.0	No
R5	43.1	L5	54.4	54.7	0.3	5.0	No
R6	41.5	L5	54.4	54.6	0.2	5.0	No
R7	44.7	L6	49.6	50.8	1.2	5.0	No
R8	42.5	L6	49.6	50.4	0.8	5.0	No
R9	45.9	L9	74.2	74.2	0.0	1.5	No
R10	46.0	L10	65.9	65.9	0.0	1.5	No
R11	53.1	L4	60.7	61.4	0.7	3.0	No
R12	45.9	L2	73.8	73.8	0.0	1.5	No
R13	49.4	L4	60.7	61.0	0.3	3.0	No
R14	40.2	L5	54.4	54.6	0.2	5.0	No
R15	35.7	L5	54.4	54.5	0.1	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.

² Total daytime Project operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

TABLE 9-8: PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS (NIGHTTIME)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Incremental Threshold ⁷	Incremental Threshold Exceeded? ⁷
R1	44.2	L2	71.6	71.6	0.0	1.5	No
R2	43.0	L2	71.6	71.6	0.0	1.5	No
R3	42.8	L3	53.3	53.7	0.4	5.0	No
R4	41.0	L3	53.3	53.5	0.2	5.0	No
R5	42.7	L5	50.1	50.8	0.7	5.0	No
R6	41.3	L5	50.1	50.6	0.5	5.0	No
R7	44.5	L6	45.1	47.8	2.7	5.0	No
R8	42.4	L6	45.1	47.0	1.9	5.0	No
R9	44.3	L9	70.5	70.5	0.0	1.5	No
R10	45.7	L10	62.4	62.5	0.1	3.0	No
R11	53.0	L4	59.3	60.2	0.9	5.0	No
R12	45.1	L2	71.6	71.6	0.0	1.5	No
R13	49.3	L4	59.3	59.7	0.4	5.0	No
R14	40.0	L5	50.1	50.5	0.4	5.0	No
R15	35.5	L5	50.1	50.2	0.1	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.

² Total nighttime Project operational noise levels as shown on Table 9-4.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

9.8 REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (8) If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

9.9 OPERATIONAL NOISE ABATEMENT MEASURES

The normal operation of the Project will not exceed the March JPA Development Code standards for stationary-source noise impacts. (3) To further reduce potential operational noise levels received at nearby noise-sensitive receiver locations, it is recommended that the Lead Agency require the following as Project Conditions of Approval:

- All on-site operating equipment under the control of the building user that is used in outdoor areas (including but not limited to trucks, tractors, forklifts, and hostlers), shall be operated with properly functioning and well-maintained mufflers.
- Maintain quality pavement conditions on the property that are free of vertical deflection (i.e. speed bumps) to minimize truck noise.
- The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:
 - Truck drivers shall turn off engines when not in use;
 - Diesel trucks servicing the Project shall not idle for more than five (5) minutes; and
 - Post telephone numbers of the building facilities manager to report idling violations.

9.10 OPERATIONAL VIBRATION IMPACTS

To assess the potential vibration impacts from truck haul trips associated with operational activities, the County of Riverside threshold for vibration of 0.01 in/sec RMS is used. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. According to the FTA *Transit Noise Impact and Vibration Assessment*, (11) trucks rarely create vibration that exceeds 70 VdB or 0.003 in/sec RMS (27) (unless there are bumps due to frequent potholes in the road). Trucks transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts at nearby homes will satisfy the County of Riverside vibration threshold of 0.01 in/sec RMS, and therefore, will be *less than significant*.

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10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 8. The construction noise levels include the barrier attenuation provided the existing barriers as shown on Exhibit 10-A.

10.1 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the Meridian South Campus Project, noise from construction activities are typically limited to the hours of operation established under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis presents the appropriate construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside.

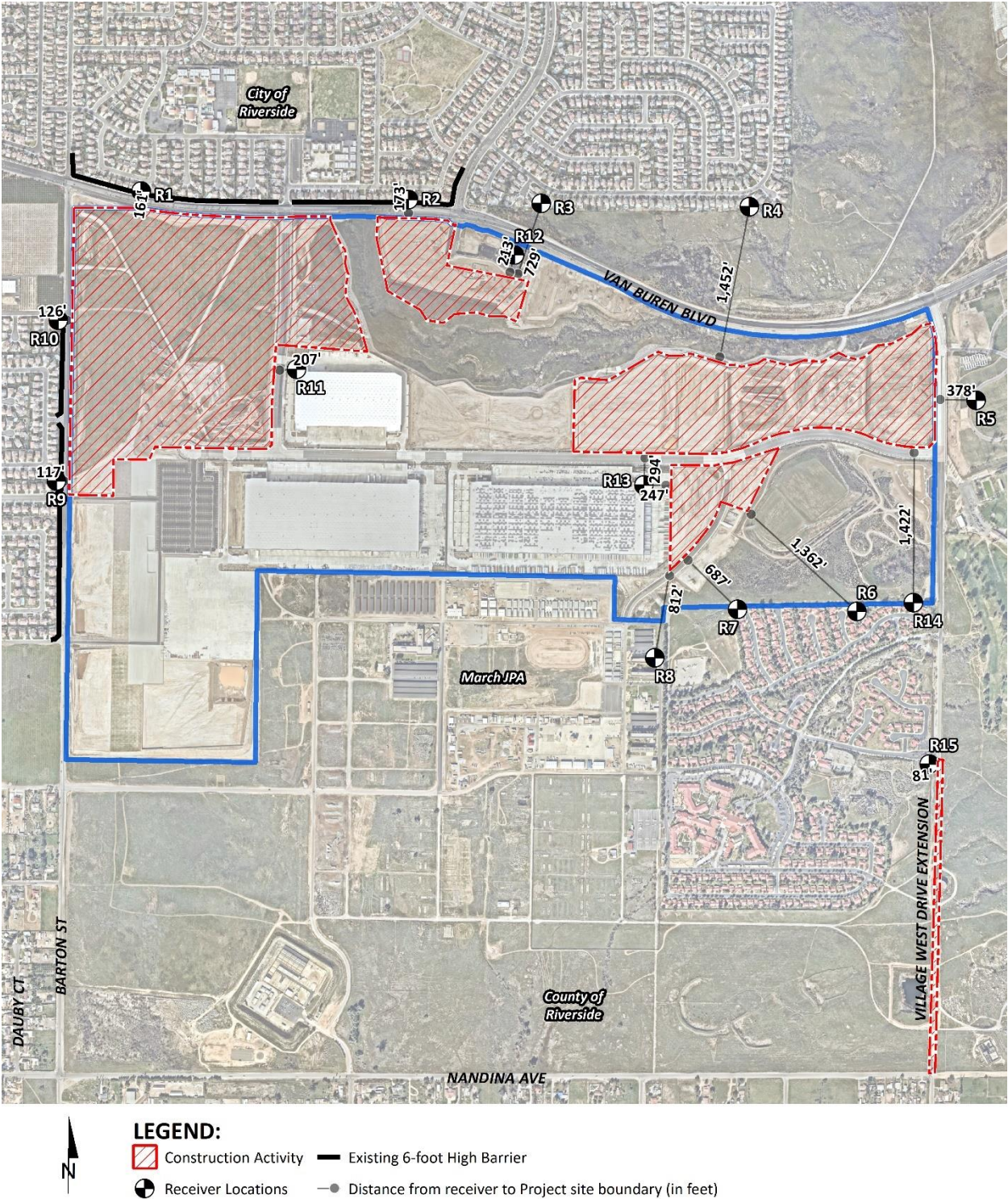
10.1.1 MARCH JPA CONSTRUCTION NOISE STANDARDS

The March JPA Development Code, Section 9.10.030 *Exemptions*, states that construction activities are considered exempt from the noise performance standards if they occur within the permitted hours of 7:00 a.m. to 7:00 p.m. The March JPA Development Code does not identify a specific noise level standard for construction activity.

10.1.2 CITY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

The City of Riverside Municipal Code, Section 7.35.010 (B) (5), states that construction activities are limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays, with no activities allowed on Sundays or federal holidays. (16) The land uses in the Project study area with the potential to be impacted by Project-related construction noise levels include noise-sensitive residential land use. Based on the City of Riverside Municipal Code, Table 7.25.010A *Exterior Noise Standards*, residential land uses have an anytime noise level standard of 75 dBA L_{max} during the daytime hours, and 65 dBA L_{max} during the nighttime hours for construction noise levels. The City of Riverside Municipal Code construction noise standards are shown on Table 3-2 and included in Appendix 3.2.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



10.1.3 COUNTY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

Section 9.52.020 of the County's Noise Regulation ordinance, provided in Appendix 3.3, indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (19) Neither the County's General Plan nor County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*.

To allow for a quantified determination of what the Noise Regulation Ordinance constitutes as noise that *may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life* due to Project construction activity, relevant quantified stationary source noise standards established in the General Plan, Policy N 4.1, are used in this analysis to assess the Project construction noise levels at nearby sensitive receivers. Therefore, the daytime noise level standard of 65 dBA L_{eq} and nighttime noise level standard of 45 dBA L_{eq} are used to evaluate the potential Project-related construction noise impacts. (17)

10.2 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment is expected to occur in the following stages, for both the Village West Drive extension and the Meridian South Campus based on the *Meridian South Campus Air Quality Impact Analysis* for the Project: (28)

Village West Drive Extension

- Grubbing/Land Clearing
- Grading/Excavation
- Drainage/Utilities/Sub grade
- Paving

Meridian South Campus

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6

dBa per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver, and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

10.3 CONSTRUCTION REFERENCE NOISE LEVELS

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 10-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 10-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

ID	Noise Source	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance		Reference Noise Levels @ 50 Feet ⁹	
			dBA L _{eq}	dBA L _{max}	dBA L _{eq}	dBA L _{max}
1	Truck Pass-Bys & Dozer Activity ¹	30'	63.6	68.1	59.2	63.7
2	Backhoe Activity ¹	30'	68.6	76.4	64.2	72.0
3	Construction Vehicle Maintenance Activities ²	30'	71.9	74.8	67.5	70.4
4	Foundation Trenching ²	30'	72.6	74.9	68.2	70.5
5	Rough Grading Activities ²	30'	77.9	84.8	73.5	80.4
6	Water Truck Pass-By & Backup Alarm ³	30'	76.3	82.3	71.9	77.9
7	Concrete Mixer Truck Movements ⁴	50'	71.2	73.1	71.2	73.1
8	Concrete Paver Activities ⁴	30'	70.0	75.7	65.6	71.3
9	Concrete Mixer Pour & Paving Activities ⁴	30'	70.3	76.3	65.9	71.9
10	Concrete Mixer Backup Alarms & Air Brakes ⁴	50'	71.6	78.8	71.6	78.8
11	Concrete Mixer Pour Activities ⁴	50'	67.7	79.2	67.7	79.2
12	Demolition Activity ⁵	50'	67.9	81.6	67.9	81.6
13	Air Compressors ⁶	10'	79.2	81.0	65.2	67.0
14	Generator ⁷	50'	64.9	67.0	64.9	67.0
15	Crane ⁸	30'	66.7	69.6	62.3	65.2

¹ As measured by Urban Crossroads, Inc. on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.

² As measured by Urban Crossroads, Inc. on 10/20/15 at a construction site located in Rancho Mission Viejo.

³ As measured by Urban Crossroads, Inc. on 10/30/15 during grading operations in an industrial construction site located in the City of Ontario.

⁴ Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on 7/1/15.

⁵ As measured by Urban Crossroads, Inc. on 9/9/16 during the demolition of an existing paved parking lot at 41 Corporate Park in Irvine.

⁶ As measured by Urban Crossroads, Inc. on 9/16/2015 at the Giant RV Parts and Service Center (41150 Juniper Street in the City of Murrieta).

⁷ As measured by Urban Crossroads, Inc. on 7/14/2012 at the Dollar General Store (700 South San Jacinto Avenue in the City of San Jacinto).

⁸ As measured by Urban Crossroads, Inc. on 5/18/2017 at the 260 E. Baker Street in the City of Costa Mesa.

⁹ Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).

10.4 DAYTIME CONSTRUCTION NOISE ANALYSIS

Tables 10-2 to 10-10 show the daytime Project construction stages and the reference construction noise levels used for each stage. Tables 10-11 and 10-12 provide a summary of the daytime noise levels from each stage of construction at each of the sensitive receiver locations in dBA L_{eq} and dBA L_{max} , respectively. Based on the reference construction noise levels, the Project-related daytime construction noise levels when the peak reference noise level is operating at a single point nearest the sensitive receiver location will range from 44.2 to 64.3 dBA L_{eq} and 52.3 to 72.4 dBA L_{max} . Table 10-3 shows the worst-case, combined noise level of all grading equipment during the grading stage of Project construction to present a conservative approach. As such, the analysis of the grading stage is presented as a worst-case construction noise level with all equipment operating simultaneously from a single point during the grading activities. In reality, this will not occur since all the equipment cannot operate from a single point closest to the sensitive receiver locations but is presented herein to provide a conservative analysis.

TABLE 10-2: GRUBBING/LAND CLEARING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Rough Grading Activities	73.5	80.4
Backhoe	64.2	72.0
Water Truck Pass-By & Backup Alarm	71.9	77.9
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	73.5	80.4

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	58.3	65.2
R2	173'	-10.8	-5.0	57.7	64.6
R3	729'	-23.3	0.0	50.2	57.1
R4	1,452'	-29.3	0.0	44.2	51.1
R5	378'	-17.6	0.0	55.9	62.8
R6	1,362'	-28.7	0.0	44.8	51.7
R7	687'	-22.8	-5.0	45.7	52.6
R8	812'	-24.2	-5.0	44.3	51.2
R9	117'	-7.4	-5.0	61.1	68.0
R10	126'	-8.0	-5.0	60.5	67.4
R11	207'	-12.3	0.0	61.2	68.1
R12	213'	-12.6	0.0	60.9	67.8
R13	294'	-15.4	0.0	58.1	65.0
R14	1,422'	-29.1	0.0	44.4	51.3
R15	81'	-4.2	-5.0	64.3	71.2

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-3: GRADING/EXCAVATION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Rough Grading Activities	73.5	80.4
Water Truck Pass-By & Backup Alarm	71.9	77.9
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	73.5	80.4

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	58.3	65.2
R2	173'	-10.8	-5.0	57.7	64.6
R3	729'	-23.3	0.0	50.2	57.1
R4	1,452'	-29.3	0.0	44.2	51.1
R5	378'	-17.6	0.0	55.9	62.8
R6	1,362'	-28.7	0.0	44.8	51.7
R7	687'	-22.8	-5.0	45.7	52.6
R8	812'	-24.2	-5.0	44.3	51.2
R9	117'	-7.4	-5.0	61.1	68.0
R10	126'	-8.0	-5.0	60.5	67.4
R11	207'	-12.3	0.0	61.2	68.1
R12	213'	-12.6	0.0	60.9	67.8
R13	294'	-15.4	0.0	58.1	65.0
R14	1,422'	-29.1	0.0	44.4	51.3
R15	81'	-4.2	-5.0	64.3	71.2

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-4: DRAINAGE/UTILITIES/SUB GRADE EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Air Compressors	65.2	67.0
Generator	64.9	67.0
Crane	62.3	65.2
Backhoe	64.2	72.0
Peak Reference Noise Level at 50 Feet:	65.2	72.0

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	50.0	56.8
R2	173'	-10.8	-5.0	49.4	56.2
R3	729'	-23.3	0.0	41.9	48.7
R4	1,452'	-29.3	0.0	35.9	42.7
R5	378'	-17.6	0.0	47.6	54.4
R6	1,362'	-28.7	0.0	36.5	43.3
R7	687'	-22.8	-5.0	37.4	44.2
R8	812'	-24.2	-5.0	36.0	42.8
R9	117'	-7.4	-5.0	52.8	59.6
R10	126'	-8.0	-5.0	52.2	59.0
R11	207'	-12.3	0.0	52.9	59.7
R12	213'	-12.6	0.0	52.6	59.4
R13	294'	-15.4	0.0	49.8	56.6
R14	1,422'	-29.1	0.0	36.1	42.9
R15	81'	-4.2	-5.0	56.0	62.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-5: PAVING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Concrete Mixer Truck Movements	71.2	73.1
Concrete Paver Activities	65.6	71.3
Concrete Mixer Pour & Paving Activities	65.9	71.9
Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8
Concrete Mixer Pour Activities	67.7	79.2
Peak Reference Noise Level at 50 Feet:	71.6	79.2

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	56.4	64.0
R2	173'	-10.8	-5.0	55.8	63.4
R3	729'	-23.3	0.0	48.3	55.9
R4	1,452'	-29.3	0.0	42.3	49.9
R5	378'	-17.6	0.0	54.0	61.6
R6	1,362'	-28.7	0.0	42.9	50.5
R7	687'	-22.8	-5.0	43.8	51.4
R8	812'	-24.2	-5.0	42.4	50.0
R9	117'	-7.4	-5.0	59.2	66.8
R10	126'	-8.0	-5.0	58.6	66.2
R11	207'	-12.3	0.0	59.3	66.9
R12	213'	-12.6	0.0	59.0	66.6
R13	294'	-15.4	0.0	56.2	63.8
R14	1,422'	-29.1	0.0	42.5	50.1
R15	81'	-4.2	-5.0	62.4	70.0

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-6: SITE PREPARATION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Demolition Activity	67.9	81.6
Truck Pass-Bys & Dozer Activity	59.2	63.7
Backhoe	64.2	72.0
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	67.9	81.6

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	52.7	66.4
R2	173'	-10.8	-5.0	52.1	65.8
R3	729'	-23.3	0.0	44.6	58.3
R4	1,452'	-29.3	0.0	38.6	52.3
R5	378'	-17.6	0.0	50.3	64.0
R6	1,362'	-28.7	0.0	39.2	52.9
R7	687'	-22.8	-5.0	40.1	53.8
R8	812'	-24.2	-5.0	38.7	52.4
R9	117'	-7.4	-5.0	55.5	69.2
R10	126'	-8.0	-5.0	54.9	68.6
R11	207'	-12.3	0.0	55.6	69.3
R12	213'	-12.6	0.0	55.3	69.0
R13	294'	-15.4	0.0	52.5	66.2
R14	1,422'	-29.1	0.0	38.8	52.5
R15	81'	-4.2	-5.0	58.7	72.4

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-7: GRADING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Rough Grading Activities	73.5	80.4
Water Truck Pass-By & Backup Alarm	71.9	77.9
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	73.5	80.4

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	58.3	65.2
R2	173'	-10.8	-5.0	57.7	64.6
R3	729'	-23.3	0.0	50.2	57.1
R4	1,452'	-29.3	0.0	44.2	51.1
R5	378'	-17.6	0.0	55.9	62.8
R6	1,362'	-28.7	0.0	44.8	51.7
R7	687'	-22.8	-5.0	45.7	52.6
R8	812'	-24.2	-5.0	44.3	51.2
R9	117'	-7.4	-5.0	61.1	68.0
R10	126'	-8.0	-5.0	60.5	67.4
R11	207'	-12.3	0.0	61.2	68.1
R12	213'	-12.6	0.0	60.9	67.8
R13	294'	-15.4	0.0	58.1	65.0
R14	1,422'	-29.1	0.0	44.4	51.3
R15	81'	-4.2	-5.0	64.3	71.2

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-8: BUILDING CONSTRUCTION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA _{Leq})	Reference Noise Level @ 50 Feet (dBA _{L_{max}})
Foundation Trenching	68.2	70.5
Backhoe	64.2	72.0
Construction Vehicle Maintenance Activities	67.5	70.4
Generator	64.9	67.0
Crane	62.3	65.2
Peak Reference Noise Level at 50 Feet:	68.2	72.0

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA _{Leq})	Construction Noise Level (dBA _{L_{max}})
R1	161'	-10.2	-5.0	53.0	56.8
R2	173'	-10.8	-5.0	52.4	56.2
R3	729'	-23.3	0.0	44.9	48.7
R4	1,452'	-29.3	0.0	38.9	42.7
R5	378'	-17.6	0.0	50.6	54.4
R6	1,362'	-28.7	0.0	39.5	43.3
R7	687'	-22.8	-5.0	40.4	44.2
R8	812'	-24.2	-5.0	39.0	42.8
R9	117'	-7.4	-5.0	55.8	59.6
R10	126'	-8.0	-5.0	55.2	59.0
R11	207'	-12.3	0.0	55.9	59.7
R12	213'	-12.6	0.0	55.6	59.4
R13	294'	-15.4	0.0	52.8	56.6
R14	1,422'	-29.1	0.0	39.1	42.9
R15	81'	-4.2	-5.0	59.0	62.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-9: ARCHITECTURAL COATING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Air Compressors	65.2	67.0
Generator	64.9	67.0
Crane	62.3	65.2
Peak Reference Noise Level at 50 Feet:	65.2	67.0

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	50.0	51.8
R2	173'	-10.8	-5.0	49.4	51.2
R3	729'	-23.3	0.0	41.9	43.7
R4	1,452'	-29.3	0.0	35.9	37.7
R5	378'	-17.6	0.0	47.6	49.4
R6	1,362'	-28.7	0.0	36.5	38.3
R7	687'	-22.8	-5.0	37.4	39.2
R8	812'	-24.2	-5.0	36.0	37.8
R9	117'	-7.4	-5.0	52.8	54.6
R10	126'	-8.0	-5.0	52.2	54.0
R11	207'	-12.3	0.0	52.9	54.7
R12	213'	-12.6	0.0	52.6	54.4
R13	294'	-15.4	0.0	49.8	51.6
R14	1,422'	-29.1	0.0	36.1	37.9
R15	81'	-4.2	-5.0	56.0	57.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-10: PAVING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Concrete Mixer Truck Movements	71.2	73.1
Concrete Paver Activities	65.6	71.3
Concrete Mixer Pour & Paving Activities	65.9	71.9
Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8
Concrete Mixer Pour Activities	67.7	79.2
Peak Reference Noise Level at 50 Feet:	71.6	79.2

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	56.4	64.0
R2	173'	-10.8	-5.0	55.8	63.4
R3	729'	-23.3	0.0	48.3	55.9
R4	1,452'	-29.3	0.0	42.3	49.9
R5	378'	-17.6	0.0	54.0	61.6
R6	1,362'	-28.7	0.0	42.9	50.5
R7	687'	-22.8	-5.0	43.8	51.4
R8	812'	-24.2	-5.0	42.4	50.0
R9	117'	-7.4	-5.0	59.2	66.8
R10	126'	-8.0	-5.0	58.6	66.2
R11	207'	-12.3	0.0	59.3	66.9
R12	213'	-12.6	0.0	59.0	66.6
R13	294'	-15.4	0.0	56.2	63.8
R14	1,422'	-29.1	0.0	42.5	50.1
R15	81'	-4.2	-5.0	62.4	70.0

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-11: DAYTIME CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Village West Drive Extension (dBA Leq)				Construction Stage (dBA Leq)					
	Grubbing / Clearing	Grading / Excavation	Drainage / Utilities	Paving	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Peak Activity ²
R1	58.3	58.3	50.0	56.4	52.7	58.3	53.0	56.4	50.0	58.3
R2	57.7	57.7	49.4	55.8	52.1	57.7	52.4	55.8	49.4	57.7
R3	50.2	50.2	41.9	48.3	44.6	50.2	44.9	48.3	41.9	50.2
R4	44.2	44.2	35.9	42.3	38.6	44.2	38.9	42.3	35.9	44.2
R5	55.9	55.9	47.6	54.0	50.3	55.9	50.6	54.0	47.6	55.9
R6	44.8	44.8	36.5	42.9	39.2	44.8	39.5	42.9	36.5	44.8
R7	45.7	45.7	37.4	43.8	40.1	45.7	40.4	43.8	37.4	45.7
R8	44.3	44.3	36.0	42.4	38.7	44.3	39.0	42.4	36.0	44.3
R9	61.1	61.1	52.8	59.2	55.5	61.1	55.8	59.2	52.8	61.1
R10	60.5	60.5	52.2	58.6	54.9	60.5	55.2	58.6	52.2	60.5
R11	61.2	61.2	52.9	59.3	55.6	61.2	55.9	59.3	52.9	61.2
R12	60.9	60.9	52.6	59.0	55.3	60.9	55.6	59.0	52.6	60.9
R13	58.1	58.1	49.8	56.2	52.5	58.1	52.8	56.2	49.8	58.1
R14	44.4	44.4	36.1	42.5	38.8	44.4	39.1	42.5	36.1	44.4
R15	64.3	64.3	56.0	62.4	58.7	64.3	59.0	62.4	56.0	64.3

¹ Noise receiver locations are shown on Exhibit 10-A.² Estimated construction noise levels during peak operating conditions.

TABLE 10-12: DAYTIME CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVEL SUMMARY

Receiver Location ¹	Village West Drive Extension (dBA Lmax)				Construction Stage (dBA Lmax)					
	Grubbing / Clearing	Grading / Excavation	Drainage / Utilities	Paving	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Peak Activity ²
R1	65.2	65.2	56.8	64.0	66.4	65.2	56.8	64.0	51.8	66.4
R2	64.6	64.6	56.2	63.4	65.8	64.6	56.2	63.4	51.2	65.8
R3	57.1	57.1	48.7	55.9	58.3	57.1	48.7	55.9	43.7	58.3
R4	51.1	51.1	42.7	49.9	52.3	51.1	42.7	49.9	37.7	52.3
R5	62.8	62.8	54.4	61.6	64.0	62.8	54.4	61.6	49.4	64.0
R6	51.7	51.7	43.3	50.5	52.9	51.7	43.3	50.5	38.3	52.9
R7	52.6	52.6	44.2	51.4	53.8	52.6	44.2	51.4	39.2	53.8
R8	51.2	51.2	42.8	50.0	52.4	51.2	42.8	50.0	37.8	52.4
R9	68.0	68.0	59.6	66.8	69.2	68.0	59.6	66.8	54.6	69.2
R10	67.4	67.4	59.0	66.2	68.6	67.4	59.0	66.2	54.0	68.6
R11	68.1	68.1	59.7	66.9	69.3	68.1	59.7	66.9	54.7	69.3
R12	67.8	67.8	59.4	66.6	69.0	67.8	59.4	66.6	54.4	69.0
R13	65.0	65.0	56.6	63.8	66.2	65.0	56.6	63.8	51.6	66.2
R14	51.3	51.3	42.9	50.1	52.5	51.3	42.9	50.1	37.9	52.5
R15	71.2	71.2	62.8	70.0	72.4	71.2	62.8	70.0	57.8	72.4

¹ Noise receiver locations are shown on Exhibit 10-A.² Estimated construction noise levels during peak operating conditions.

10.5 NIGHTTIME CONSTRUCTION NOISE ANALYSIS

Project construction may include nighttime concrete pour activities. Nighttime concrete pours are typically conducted when construction occurs during the summer months due to the warmer daytime weather conditions which can interfere with the concrete drying process. This construction noise analysis of the potential nighttime concrete pour activities was prepared using reference noise level measurements collected by Urban Crossroads, Inc. to describe the typical construction activity noise levels during nighttime concrete pour construction activities. Table 10-13 shows the nighttime pour reference construction noise levels at each of the sensitive receiver locations. Exhibit 10-B shows the location of the nighttime concrete pour activities, generally around the proposed buildings and truck courts within the Project site, and the distance to each receiver location. Based on the reference nighttime concrete pour reference equipment noise levels, the noise levels at the nearby sensitive receiver locations will range from 36.2 to 59.1 dBA L_{eq} and 43.8 to 66.7 dBA L_{max} .

TABLE 10-13: NIGHTTIME CONCRETE POUR EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Concrete Mixer Truck Movements	71.2	73.1
Concrete Paver Activities	65.6	71.3
Concrete Mixer Pour & Paving Activities	65.9	71.9
Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8
Concrete Mixer Pour Activities	67.7	79.2
Peak Reference Noise Level at 50 Feet:	71.6	79.2

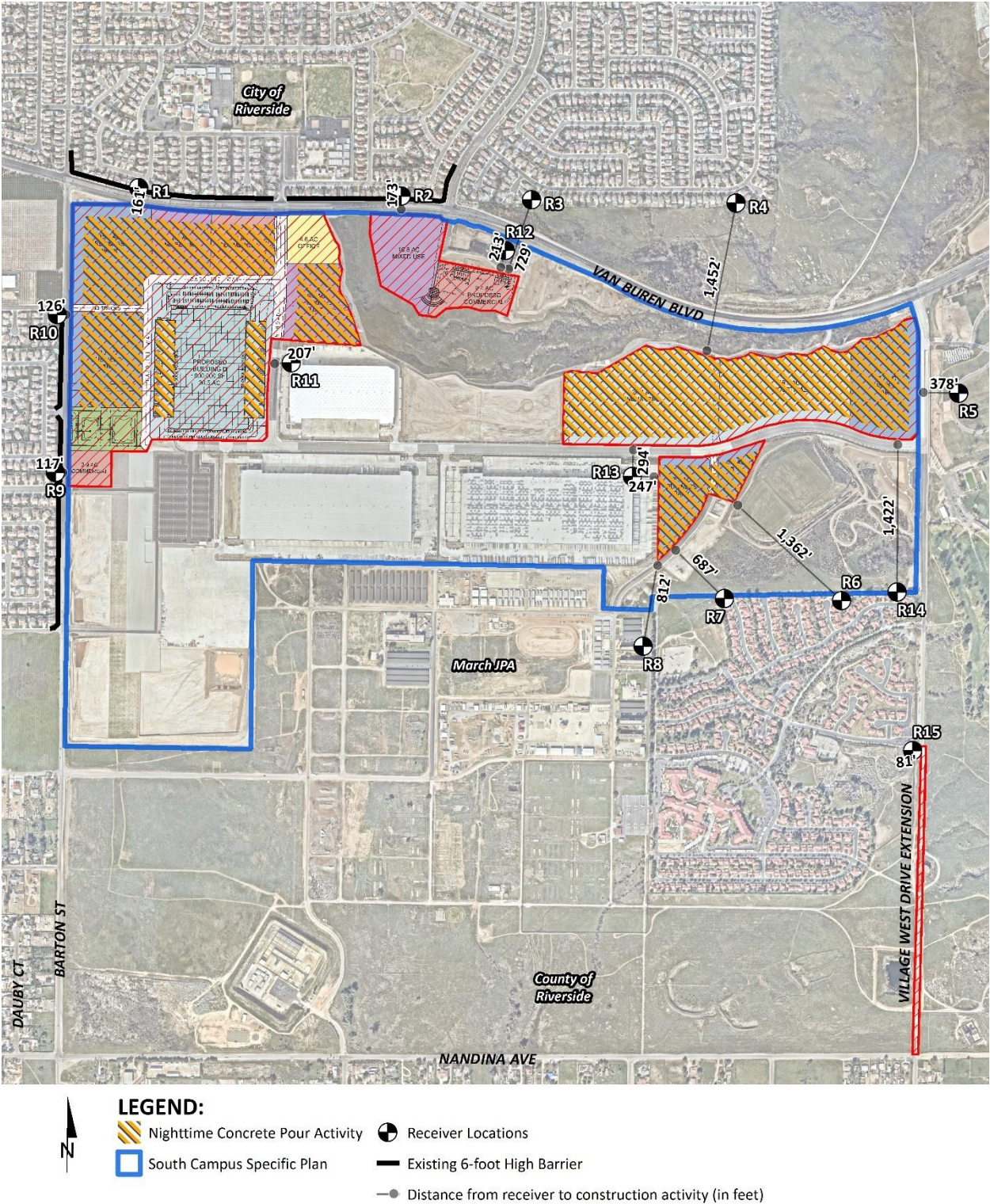
Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	284'	-15.1	-5.0	51.5	59.1
R2	851'	-24.6	-5.0	42.0	49.6
R3	1,646'	-30.3	0.0	41.3	48.9
R4	1,404'	-29.0	0.0	42.6	50.2
R5	463'	-19.3	0.0	52.3	59.9
R6	1,440'	-29.2	0.0	42.4	50.0
R7	643'	-22.2	-5.0	44.4	52.0
R8	812'	-24.2	-5.0	42.4	50.0
R9	648'	-22.3	-5.0	44.3	51.9
R10	228'	-13.2	-5.0	53.4	61.0
R11	210'	-12.5	0.0	59.1	66.7
R12	1,271'	-28.1	0.0	43.5	51.1
R13	247'	-13.9	0.0	57.7	65.3
R14	1,503'	-29.6	0.0	42.0	49.6
R15	2,944'	-35.4	0.0	36.2	43.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity (building foundation and truck court) to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

EXHIBIT 10-B: NIGHTTIME PROJECT CONSTRUCTION ACTIVITIES



10.6 CONSTRUCTION NOISE THRESHOLDS OF SIGNIFICANCE

The analysis presented below is separated into an evaluation of construction noise level compliance with local regulations and an analysis of temporary, short-term noise level increases due to Project construction activities.

10.6.1 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the edge of the Project site. Table 10-14 shows the unmitigated peak daytime construction noise levels at the nearby sensitive receiver locations will range from 44.2 to 64.3 dBA L_{eq} and 52.3 to 72.4 dBA L_{max} and will satisfy the daytime construction noise level thresholds for each jurisdiction at the nearby sensitive receiver locations.

TABLE 10-14: DAYTIME CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Closest Distance to Receiver	Jurisdiction	Peak Construction Activity Noise Levels ²		Threshold ³		Threshold Exceeded? ⁴	
			dBA Leq	dBA Lmax	dBA Leq	dBA Lmax	dBA Leq	dBA Lmax
R1	161'	City of Riverside	58.3	66.4	-	75	-	No
R2	173'		57.7	65.8	-	75	-	No
R3	729'		50.2	58.3	-	75	-	No
R4	1,452'		44.2	52.3	-	75	-	No
R5	378'	Riverside Co.	55.9	64.0	65	-	No	-
R6	1,362'	March JPA	44.8	52.9	65	-	No	-
R7	687'		45.7	53.8	65	-	No	-
R8	812'		44.3	52.4	65	-	No	-
R9	117'	City of Riverside	61.1	69.2	-	75	-	No
R10	126'		60.5	68.6	-	75	-	No
R11	207'	March JPA	61.2	69.3	-	-	-	No
R12	213'		60.9	69.0	-	-	-	No
R13	294'		58.1	66.2	-	-	-	No
R14	1,422'		44.4	52.5	65	-	No	-
R15	81'		64.3	72.4	65	-	No	-

¹ Noise receiver locations are shown on Exhibit 10-A.

² Estimated construction noise levels during peak operating conditions, as shown on Tables 10-7 and 10-8.

³ Construction noise standards as shown on Table 3-2.

⁴ Do the estimated Project construction noise levels meet the construction noise level thresholds?

Table 10-15 shows the unmitigated peak nighttime construction noise levels at the nearby sensitive receiver locations will range from 36.2 to 59.1 dBA L_{eq} and 43.8 to 66.7 dBA L_{max} and will satisfy the nighttime construction noise level thresholds for each jurisdiction at the nearby sensitive receiver locations. Receiver location R5 representing the Riverside National Cemetery is shown to exceed the County of Riverside nighttime noise standards. However, this location does not include any noise sensitive receivers that will be impacted during the nighttime hours.

Therefore, the construction of the Project will result in a *less than significant* noise impact at the nearby sensitive receiver locations during peak construction activity.

TABLE 10-15: NIGHTTIME CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Closest Distance to Receiver	Jurisdiction	Peak Construction Activity Noise Levels ²		Threshold ³		Threshold Exceeded? ⁴	
			dBA Leq	dBA Lmax	dBA Leq	dBA Lmax	dBA Leq	dBA Lmax
R1	284'	City of Riverside	51.5	59.1	-	65	-	No
R2	851'		42.0	49.6	-	65	-	No
R3	1,646'		41.3	48.9	-	65	-	No
R4	1,404'		42.6	50.2	-	65	-	No
R5	463'	Riverside Co.	52.3	59.9	45	-	Yes	-
R6	1,440'	March JPA	42.4	50.0	45	-	No	-
R7	643'		44.4	52.0	45	-	No	-
R8	812'		42.4	50.0	45	-	No	-
R9	648'	City of Riverside	44.3	51.9	-	65	-	No
R10	228'		53.4	61.0	-	65	-	No
R11	210'	March JPA	59.1	66.7	-	-	-	No
R12	1,271'		43.5	51.1	-	-	-	No
R13	247'		57.7	65.3	-	-	-	No
R14	1,503'		42.0	49.6	45	-	No	-
R15	2,944'		36.2	43.8	45	-	No	-

¹ Noise receiver locations are shown on Exhibit 10-B.

² Estimated construction noise levels during peak nighttime operating conditions, as shown on Table 10-9.

³ Construction noise standards as shown on Table 3-2.

⁴ Do the estimated Project construction noise levels meet the construction noise level thresholds?

10.6.2 TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

To describe the temporary Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing ambient noise levels measurements at the off-site receiver locations. The difference between the combined Project-construction and ambient noise levels are used to describe the construction noise level contributions. Temporary noise level increases that would be experienced at sensitive receiver locations when Project construction-source noise is added to the ambient daytime and nighttime conditions are presented on Tables 10-16 and 10-17, respectively. A temporary noise level increase of 12 dBA is considered a potentially significant impact based on the Caltrans substantial noise level increase criteria which is used to assess the Project-construction noise level increases. (4)

As indicated in Table 10-16, the Project will contribute, worst-case construction noise level increases ranging from 0.1 to 10.3 dBA L_{eq} during the daytime hours at the closest sensitive receiver locations. Table 10-17 shows the Project will contribute, worst-case construction noise level increases approaching 4.2 dBA L_{eq} during the nighttime hours at the closest sensitive receiver locations. Since the worst-case temporary noise level increases of up to 10.3 dBA L_{eq} during Project construction will satisfy the Caltrans *substantial* 12 dBA L_{eq} noise level increase significance threshold, the construction noise level increases are considered *less than significant* temporary noise impacts.

TABLE 10-16: DAYTIME TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

Receiver Location ¹	Distance to Receiver	Peak Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R1	161'	58.3	L2	73.8	73.9	0.1	No
R2	173'	57.7	L2	73.8	73.9	0.1	No
R3	729'	50.2	L3	58.2	58.8	0.6	No
R4	1,452'	44.2	L3	58.2	58.4	0.2	No
R5	378'	55.9	L5	54.4	58.2	3.8	No
R6	1,362'	44.8	L5	54.4	54.8	0.4	No
R7	687'	45.7	L6	49.6	51.1	1.5	No
R8	812'	44.3	L6	49.6	50.7	1.1	No
R9	117'	61.1	L9	74.2	74.4	0.2	No
R10	126'	60.5	L10	65.9	67.0	1.1	No
R11	207'	61.2	L4	60.7	63.9	3.2	No
R12	213'	60.9	L2	73.8	74.0	0.2	No
R13	294'	58.1	L4	60.7	62.6	1.9	No
R14	1,422'	44.4	L5	54.4	54.8	0.4	No
R15	81'	64.3	L5	54.4	64.7	10.3	No

¹ Noise receiver locations are shown on Exhibit 10-A.

² Peak unmitigated Project construction noise levels as shown on Table 10-10.

³ Ambient noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project construction activities.

⁶ The temporary noise level increase expected with the addition of the proposed Project activities.

⁷ Based on the 12 dBA temporary increase significance criteria as defined in Section 4.

TABLE 10-17: NIGHTTIME TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

Receiver Location ¹	Distance to Receiver	Peak Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R1	284'	51.5	L2	71.6	71.6	0.0	No
R2	851'	42.0	L2	71.6	71.6	0.0	No
R3	1,646'	41.3	L3	53.3	53.6	0.3	No
R4	1,404'	42.6	L3	53.3	53.7	0.4	No
R5	463'	52.3	L5	50.1	54.3	4.2	No
R6	1,440'	42.4	L5	50.1	50.8	0.7	No
R7	643'	44.4	L6	45.1	47.8	2.7	No
R8	812'	42.4	L6	45.1	47.0	1.9	No
R9	648'	44.3	L9	70.5	70.5	0.0	No
R10	228'	53.4	L10	62.4	62.9	0.5	No
R11	210'	59.1	L4	59.3	62.2	2.9	No
R12	1,271'	43.5	L2	71.6	71.6	0.0	No
R13	247'	57.7	L4	59.3	61.6	2.3	No
R14	1,503'	42.0	L5	50.1	50.7	0.6	No
R15	2,944'	36.2	L5	50.1	50.3	0.2	No

¹ Noise receiver locations are shown on Exhibit 10-B.

² Peak Project construction noise levels as shown on Table 10-11.

³ Ambient noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project construction activities.

⁶ The temporary noise level increase expected with the addition of the proposed Project activities.

⁷ Based on the 12 dBA temporary increase significance criteria as defined in Section 4.

10.7 CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- **Heavy Construction Equipment:** Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to building, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.
- **Trucks:** Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration. Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading and paving. Using the vibration source level of construction equipment provided on Table 6-8 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-18 presents the expected Project related vibration levels at the 15 receiver locations.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec (PPV) at 25 feet. At distances ranging from 81 to 1,422 feet from the Project site, construction vibration velocity levels are expected to range from 0.00 to 0.15 in/sec (PPV), as shown on Table 10-18. To assess the human perception of vibration levels in PPV, the velocities are converted to RMS vibration levels based on the Caltrans *Transportation and Construction Vibration Guidance Manual* conversion factor of 0.71. Table 10-18 shows the construction vibration levels in RMS are expected to range from 0.00 to 0.01 in/sec (RMS). Based on the County of Riverside vibration standard of 0.01 in/sec RMS, the construction-related vibration impacts are considered *less than significant*.

Further, vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating at the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with March JPA requirements thereby eliminating potential vibration impacts during the sensitive nighttime hours.

10.9 CONSTRUCTION NOISE AND VIBRATION ABATEMENT MEASURES

Though construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts, the following practices would reduce any noise level increases produced by the construction equipment to the nearby noise-sensitive residential land uses:

- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. to 7:00 p.m. (March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030). The Project construction supervisor shall ensure compliance with the permitted construction hours. (3)
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards (March JPA General Plan Noise/Air Quality Element, Policy 3.8). (5) The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the Project site (i.e., to the center) during all Project construction.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. to 7:00 p.m.). The contractor shall

prepare a haul route exhibit and shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.

TABLE 10-18: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location ¹	Distance To Const. Activity (Feet)	Receiver PPV Levels (in/sec) ²					RMS Velocity Levels (in/sec) ³	Threshold Exceeded? ⁴
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration (PPV)		
R1	161'	0.000	0.002	0.005	0.005	0.005	0.00	No
R2	173'	0.000	0.002	0.004	0.005	0.005	0.00	No
R3	729'	0.000	0.000	0.000	0.001	0.001	0.00	No
R4	1,452'	0.000	0.000	0.000	0.000	0.000	0.00	No
R5	378'	0.000	0.001	0.001	0.002	0.002	0.00	No
R6	1,362'	0.000	0.000	0.000	0.000	0.000	0.00	No
R7	687'	0.000	0.000	0.001	0.001	0.001	0.00	No
R8	812'	0.000	0.000	0.000	0.000	0.000	0.00	No
R9	117'	0.000	0.003	0.008	0.009	0.009	0.01	No
R10	126'	0.000	0.003	0.007	0.008	0.008	0.01	No
R11	207'	0.000	0.001	0.003	0.004	0.004	0.00	No
R12	213'	0.000	0.001	0.003	0.004	0.004	0.00	No
R13	294'	0.000	0.001	0.002	0.002	0.002	0.00	No
R14	1,422'	0.000	0.000	0.000	0.000	0.000	0.00	No
R15	81'	0.001	0.006	0.013	0.015	0.015	0.01	No

¹ Receiver locations are shown on Exhibit 8-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.

³ Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.

⁴ Does the peak vibration exceed the maximum acceptable vibration threshold shown on Table 3-3?

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11 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
2. **Urban Crossroads, Inc.** *Meridian South Campus Traffic Impact Analysis.* April 2020.
3. **March Joint Powers Authority.** *Development Code, Chapter 9.10 Performance Standards.*
4. **California Department of Transportation.** *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects.* May 2011.
5. **March Joint Powers Authority.** *General Plan Update 2030 Noise/Air Quality Element.* March 2010.
6. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
7. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
8. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
9. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
10. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
11. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment.* September 2018.
12. **U.S. Government Publishing Office.** *Code of Federal Regulations, Title 40, Part 205, Subpart B.*
13. **Office of Planning and Research.** *State of California General Plan Guidelines.* 2018.
14. **State of California.** *2016 California Green Building Standards Code.* January 2017.
15. **March Joint Powers Authority.** *General Plan Noise/Air Quality Element.* 1999.
16. **City of Riverside.** *Municipal Code, Title 7 Noise Control.*
17. **County of Riverside.** *General Plan Noise Element.* December 2015.
18. **County of Riverside, Office of Industrial Hygiene.** *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures.* April 2015.
19. **County of Riverside.** *Municipal Code, Title 9 - Public, Peace, Morals and Welfare, Chapter 9.52 - Noise Regulation.*
20. —. *Airport Land Use Compatibility Plan.* October 2004.
21. **California Court of Appeal.** *King and Gardiner Farms, LLC v. County of Kern (2020) . 45 Cal.App.5th 814, 893,*
22. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
23. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*

24. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model*. December 1978. FHWA-RD-77-108.
25. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calven REMELs) in FHWA Highway Traffic Noise Prediction*. September 1995. TAN 95-03.
26. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report*. June 1995. FHWA/CA/TL-95/23.
27. —. *Transportation and Construction Vibration Guidance Manual*. September 2019.
28. **Urban Crossroads, Inc.** *Meridian South Campus Air Quality Impact Analysis*. December 2019.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Meridian South Campus Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5979.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

MARCH JPA DEVELOPMENT CODE

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CHAPTER 9.10**PERFORMANCE STANDARDS****Sections:**

9.10.010	Purpose and Intent
9.10.020	Applicability
9.10.030	Exemptions
9.10.040	Administration
9.10.050	Air Quality
9.10.060	Electrical or Electronic Interference
9.10.070	Fire and Explosive Hazards
9.10.080	Liquid and Solid Wastes
9.10.090	Radioactive Wastes
9.10.100	Heat and Cold
9.10.110	Light and Glare
9.10.120	Maintenance of Open Areas
9.10.130	Mechanical and Electrical Equipment
9.10.140	Noise and Sound
9.10.150	Odors
9.10.160	Outdoor Storage, Trash Areas, and Service Areas
9.10.170	Vibration

Section 9.10.010 **Purpose and Intent**

The purpose and intent of this Chapter is to explicitly describe the location, configuration, design, amenities, operation, and other standards for proposed development projects that may impact the surrounding neighborhood. The performance standards set maximum tolerance limits on certain adverse effects created by any use or development of land.

Section 9.10.020 **Applicability****Applicability**

These performance standards shall apply to all land uses, in all districts, unless specifically stated otherwise in this Title. All uses shall be subject to these performance standards, the General Development Standards of Chapter 9.08, the Specific Use Development Standards of Chapter 9.09, the requirements of the underlying district, and all other requirements of this Title.

Section 9.10.030 **Exemptions****Exemptions**

The following uses or activities are exempt from the provisions of this Chapter.

1. Emergency equipment, vehicles, devices, and activities.
2. Temporary construction, maintenance, or demolition activities between the hours of 7:00 a.m. and 7:00 p.m.

Section 9.10.040 **Administration**

The standards of this Chapter shall be enforced by the department or agency having enforcement authority over the subject matter. Upon discovery of any potential violation of these standards, the appropriate department or agency shall investigate and initiate corrective action as deemed necessary.

Section 9.10.050 **Air Quality**

No operation or activity otherwise permitted under this Title shall cause the emission of any smoke, fly ash, dust, fumes, vapors, gases or other forms of air pollution which exceeds the requirements of the South Coast Air Quality Management District or the requirements of any Air Quality Plan or General Plan Air Quality Element adopted by the March JPA.

Section 9.10.060 **Electrical or Electronic Interference**

No operation or activity otherwise permitted under this Title shall cause any source of electrical or electronic disturbance that adversely affects persons or the operation of equipment on other property and is not in conformance with the regulations of the Federal Communication Commission.

Section 9.10.070 **Fire and Explosive Hazards**

An operation or activity otherwise permitted under this Title involving the storage of flammable or explosive materials shall be provided with adequate safety devices against the hazard of fire and explosion and adequate fire-fighting and fire suppression equipment and devices in accordance with the requirements of the Uniform Fire Code. Open fire burning of waste material is prohibited. Closed system incineration of waste material, where such activity is otherwise permitted under this Title and is required for research, medical or similar uses, may be permitted subject to the requirements of the California Department of Health and South Coast Air Quality Management District or other requirements of any Air Quality Plan or General Plan Air Quality Element adopted by the March JPA.

Section 9.10.080 **Liquid and Solid Wastes**

No operation or action otherwise permitted under this Title shall discharge at any point into any public street, public sewer, private sewage disposal system, stream, body of water or into the ground, any materials which can contaminate any water supply, interfere with bacterial processes in sewage treatment, or otherwise cause the emission of dangerous or offensive elements, except in accordance with standards approved by the California Department of Public Health or other governmental agency having jurisdiction over liquid and solid waste.

Section 9.10.090 **Radioactive Wastes**

No operation or activities otherwise permitted under this Title shall be permitted which result at any time in the release or emission of any fissionable or radioactive materials into the atmosphere, the ground, groundwater or sewage systems except as provided by and in accordance with State law. Any such operation or activity which handles, tests, transports, stores or in any way uses fissionable or radioactive material shall prepare a study addressing the probability of the release of such material and implement all recommendations identified by the study.

Section 9.10.100 **Heat and Cold**

No operation or activity otherwise permitted under this Title shall emit heat or cold which would cause a temperature increase or decrease on any adjacent property in excess of 10 degrees Fahrenheit, whether the change is in the air, on the ground, or in any structure, or in any body of water.

Section 9.10.110 **Light and Glare**

No operation, activity, sign, or lighting fixture shall create illumination which exceeds 0.5 foot-candles minimum maintained on any adjacent property, whether the illumination is direct or indirect light from the source. All lighting shall be designed to project downward and shall not create glare on adjacent properties.

Section 9.10.120 **Maintenance of Open Areas**

Except as otherwise provided in this Title, all open areas shall be landscaped, surfaced, or treated and maintained permanently in a dust-free, weed-free condition.

Section 9.10.130 **Mechanical and Electrical Equipment**

All mechanical and electrical equipment, including air conditioners, antennas, pumps, transformers, and heating and ventilating equipment shall be located, operated and screened in a manner that does not disturb adjacent uses and activities. In addition, all central building electrical controlling equipment and switching facilities shall be located within the building for all commercial, industrial and business facilities.

Section 9.10.140 **Noise and Sound**

Unless otherwise specified in Chapter 9.08, General Development Standards, or Chapter 9.09, Specific Use Development Standards, all commercial and industrial uses shall be operated so that noise created by any loudspeaker, bells, gongs, buzzers, or other noise attention or attracting devices shall not exceed 55 dBA at any one time beyond the boundaries of the property.

Section 9.10.150 **Odors**

No operation or activity shall be permitted which emits odorous gases or other odorous matter in such quantities as to be dangerous, injurious, noxious, or otherwise objectionable to a level that is detectable with or without the aid of instruments at or beyond the lot line of the property containing said operation or activity.

Section 9.10.160 **Outdoor Storage, Trash Areas, and Service Areas**

All storage areas for storage of maintenance equipment or vehicles or refuse, and all collection areas and service areas, shall be enclosed or effectively screened from public view with a fence, wall, landscaping, berming or a combination thereof. Doors to trash enclosures shall be closed at all times except when the enclosure is being accessed for refuse disposal or pick-up. The screening requirements of Section 9.08.150 are also referenced and not intended to be superseded hereby.

Section 9.10.170 **Vibration**

No vibration shall be permitted which can be felt at or beyond the property line.

APPENDIX 3.2:
CITY OF RIVERSIDE MUNICIPAL CODE

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Title 7 - NOISE CONTROL

Chapter 7.05 - POLICY AND INTENT

7.05.010 - Policy and intent.

It shall be the policy of the City to maintain and preserve the quiet atmosphere of the City, to implement programs aimed at retaining ambient noise levels throughout the City, and to mitigate noise conflicts.

It is determined that certain noise levels are detrimental to the public health, safety and welfare and are contrary to the public interest. Therefore, the City Council declares that creating, maintaining, causing or allowing to create, maintain or cause any noise in a manner not in conformity with the provisions of this title, is a public nuisance and shall be punishable as such.

In order to control unnecessary, excessive and/or annoying noise in the City, it is declared to be the policy of the City to prohibit such noise generated by the sources specified in this title. It shall be the goal of the City to minimize noise levels and mitigate the effects of noise to provide a safe and healthy living environment.

([Ord. 7489](#) § 1, 2019; Ord. 6273 § 1 (part), 1996)

Chapter 7.10 - DEFINITIONS

7.10.010 - Definitions generally.

For the purposes of this title, the words and phrases defined in this chapter shall have the meanings respectively ascribed to them by this chapter.

([Ord. 7489](#) § 3, 2019)

7.10.015 - A-weighted sound level.

"A-weighted sound level" means the sound pressure level in decibels as measured on a sound-level meter using the A-weighting network. The level is designated dB(A) or dBA.

([Ord. 7489](#) § 4, 2019; Ord. 6273 § 1(part), 1996)

7.10.020 - Agricultural property.

"Agricultural property" means a parcel of real property which is developed for agricultural and incidental residential purposes which is located within any permitted zone.

(Ord. 6273 § 1(part), 1996)

7.10.025 - Ambient noise level.

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding an alleged offensive noise, at the location and approximate time at which the comparison with the offensive noise is to be made. The ambient noise level constitutes the normal or existing level of environmental noise at a given location.

(Ord. 6273 § 1(part), 1996)

7.10.030 - Commercial purpose.

"Commercial purpose" means the use, operation or maintenance of any sound amplification equipment for the purpose of advertising any business, goods or services, or for the purposes of attracting the attention of the public, or soliciting patronage of customers to any performance, show, entertainment, exhibition or event, or for the purpose of demonstrating such sound equipment.

(Ord. 6273 § 1(part), 1996)

7.10.035 - Construction.

"Construction" means any site preparation including grading, building, fabricating, assembly, substantial repair, alteration, blasting, jack hammering, pile drivers and the like.

([Ord. 7489](#) § 5, 2019; Ord. 6273 § 1(part), 1996)

7.10.036 - Community & Economic Development Director.

"Community & Economic Development Director" means the duly appointed and acting head of the Community & Economic Development Department and/or his/her designee.

([Ord. 7489](#) § 6, 2019)

7.10.040 - Community support land use category.

"Community support land use category" means areas developed with schools, libraries, fire stations, hospitals and similar uses in any zone.

(Ord. 6273 § 1(part), 1996)

7.10.045 - Cumulative period.

"Cumulative period" means a total period of time composed of time segments which may be continuous or discontinuous.

(Ord. 6273 § 1(part), 1996)

7.10.050 - Decibel (dB).

"Decibel (dB)" means a unit for measuring amplitude of a sound, equal to 20 times the logarithm to the base ten of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

([Ord. 7489](#) § 7, 2019; Ord. 6273 § 1(part), 1996)

7.10.055 - Demolition.

"Demolition" means any dismantling, intentional destruction or removal of structures, site improvements, landscaping or utilities.

(Ord. 6273 § 1(part), 1996)

7.10.060 - Emergency.

"Emergency" means any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action.

(Ord. 6273 § 1(part), 1996)

7.10.065 - Emergency work.

"Emergency work" means work made necessary to restore property to a safe condition following a physical trauma or property damage caused by an emergency or work necessary to prevent or minimize damage from a potential emergency.

(Ord. 6273 § 1(part), 1996)

7.10.070 - Fixed noise source.

"Fixed noise source" means a stationary device which creates sounds from a fixed location, including residential, agricultural, industrial and commercial machinery and equipment, pumps fans, compressors, air conditioners and refrigeration devices.

(Ord. 6273 § 1(part), 1996)

7.10.075 - Grading.

"Grading" means any excavating and/or filling of earth material to prepare a site for construction or the placement of improvements.

(Ord. 6273 § 1(part), 1996)

7.10.080 - Impulsive sound.

"Impulsive sound" means sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples include explosions, drum beats, drop-forge impacts, fire crackers, discharge of firearms and one object striking another.

(Ord. 6273 § 1(part), 1996)

7.10.085 - Industrial land use category.

"Industrial land use category" means any area occupied by land uses whose primary operation involves warehousing, manufacturing, assembling, distributing, packaging or processing goods in the BMP, I, and AIR zones.

(Ord. 6273 § 1(part), 1996)

7.10.090 - Intrusive noise.

"Intrusive noise" means a noise which intrudes over and above the existing ambient noise. The relative intrusiveness of the sound depends upon its amplitude, duration, frequency and time of occurrence, tonal or informational content as well as its relationship to the prevailing ambient noise level.

(Ord. 6273 § 1(part), 1996)

7.10.095 - Minor maintenance.

"Minor maintenance" means work required to keep property used for residential purposes in an existing state.

(Ord. 6273 § 1(part), 1996)

7.10.100 - Mobile noise source.

"Mobile noise source" means any noise source other than a fixed noise source.

(Ord. 6273 § 1(part), 1996)

7.10.105 - Motor vehicle.

"Motor vehicle" means any self-propelled vehicle as defined in the California Vehicle Code, including all on-highway types of motor vehicles subject to registration under said code, and all off-highway type motor vehicles subject to identification under said code.

(Ord. 6273 § 1(part), 1996)

7.10.110 - Muffler or sound dissipative device.

"Muffler or sound dissipative device" means a device for abating the sound of escaping gases from an internal combustion engine.

([Ord. 7489](#) § 8, 2019; Ord. 6273 § 1(part), 1996)

7.10.115 - Noise.

"Noise" means any sound which exceeds the appropriate actual or presumed ambient noise level or which annoys or tends to disturb humans or which causes or tends to cause an adverse psychological or physiological effect on humans.

(Ord. 6273 § 1(part), 1996)

7.10.120 - Noise Control Officer.

"Noise Control Officer" means the City official(s) or duly authorized representative(s) with the responsibility to enforce the noise ordinance.

(Ord. 6273 § 1(part), 1996)

7.10.125 - Noise disturbance.

"Noise disturbance" means any sound which, as judged by a City police officer or code enforcement officer, annoys or disturbs a reasonable person of normal sensitivities or exceeds a standard set forth in this title.

([Ord. 7489](#) § 9, 2019; Ord. 6273 § 1(part), 1996)

7.10.130 - Noise source.

"Noise source" means a disturbance causing operation which originates from noise generating mechanism. An example of a noise source is the combination of a motor, pump and compressor.

(Ord. 6273 § 1(part), 1996)

7.10.135 - Noise zone.

"Noise zone" means defined areas of generally consistent land use where the ambient noise levels are generally similar within a range of five decibels.

(Ord. 6273 § 1(part), 1996)

7.10.140 - Nonurban land use category.

"Nonurban land use category" means vacant land or land primarily for agricultural production containing ten acres or more.

(Ord. 6273 § 1(part), 1996)

7.10.145 - Office/commercial land use category.

"Office/commercial land use category" means areas developed with office and/or commercial uses in the O, CRC, CR-NC, CR, and CG zones.

(Ord. 6967 § 2, 2007; Ord. 6273 § 1(part), 1996)

7.10.150 - Person.

"Person" means any individual, association, partnership or corporation and includes any officer, employee, department, agency or instrumentality of a State or any political subdivision of a State.

(Ord. 6273 § 1(part), 1996)

7.10.155 - Powered model vehicle.

"Powered model vehicle" means airborne, waterborne or land-borne vehicles such as model airplanes, model boats, and model vehicles of any type or size which are not designed for carrying persons or property and which can be propelled in any form other than manpower or wind power.

(Ord. 6273 § 1(part), 1996)

7.10.160 - Public recreation facility land use category.

"Public recreation facility land use category" means areas developed with public parks and other public recreational facilities.

(Ord. 6273 § 1(part), 1996)

7.10.165 - Public right-of-way.

"Public right-of-way" means any street, avenue, boulevard, highway, sidewalk or alley or similar place which is owned or controlled by a government entity.

(Ord. 6273 § 1(part), 1996)

7.10.170 - Public space.

"Public space" means any real property or structures which are owned or controlled by a government entity.

(Ord. 6273 § 1(part), 1996)

7.10.175 - Residential land use category.

"Residential land use category" means areas primarily used for residential purposes in the RE, RA-5, RR, RC, R-1-1-1/2 acre, R-1-13000, R-1-10500, R-1-8500, R-1-7000, R-3-2500, R-3-4000, R-3-3000, R-3-2000, R-3-1500, and R-4 zones.

(Ord. 6967, § 2, 2007; Ord. 6273 § 1(part), 1996)

7.10.180 - Sound.

"Sound" means an oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium. The description of sound may include any characteristic of such sound, including duration, intensity and frequency.

(Ord. 6273 § 1(part), 1996)

7.10.185 - Sound amplifying equipment.

"Sound amplifying equipment" means any device for the amplification of the human voice, or music, or any other sound, excluding devices in motor vehicles when heard only by the occupants of the vehicle, excluding warning devices on authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes.

(Ord. 6273 § 1(part), 1996)

7.10.190 - Sound level.

"Sound level" means the weighted sound pressure level obtained by the use of a sound level meter and frequency weighing network, such as A, B or C, as specified in American National Standards Institute

specifications for sound level meter ANSI S1.4-1971 or the latest approved revision thereof. If the frequency weighing method used is not stated, the A-weighting shall apply.

(Ord. 6273 § 1(part), 1996)

7.10.195 - Sound level meter.

"Sound level meter" means an instrument, including a microphone, an amplifier, an output meter, and frequency weighing networks for the measurement of sound levels which satisfies the requirements for S2A meters in American National Standards Institute specifications for sound level meters, S1.4-1971, or the most recent revision thereof.

(Ord. 6273 § 1(part), 1996)

7.10.200 - Sound pressure.

"Sound pressure" means the instantaneous difference between the actual pressure and the average or barometric pressure at a given point in space, as produced by sound energy.

(Ord. 6273 § 1(part), 1996)

7.10.205 - Sound pressure level.

"Sound pressure level" means 20 times the logarithm to the base ten of the ratio of the pressure of this sound to the reference pressure, which reference pressure shall be explicitly stated.

([Ord. 7489](#) § 10, 2019; Ord. 6273 § 1(part), 1996)

7.10.210 - Supplementary definitions of technical terms.

Definitions of technical terms not defined herein shall be obtained from the American National Standard, "Acoustical Terminology" S1.1-1961 (R-1971) or the latest revision thereof.

(Ord. 6273 § 1 (part), 1996)

Chapter 7.15 - ADMINISTRATION AND ENFORCEMENT

7.15.005 - Administration and enforcement.

- A. The noise regulation shall be enforced by the Code Enforcement Division of the Community & Economic Development Department and/or the Riverside Police Department.
- B. It shall be the responsibility of the Code Enforcement Division and/or the Riverside Police Department to enforce the provisions of this title and to perform all other functions required by this title. Such duties shall include, but not be limited to investigating potential violations, issuing warning notices and citations, and providing evidence to the City Attorney for legal action.
- C. A violation of these regulations may be prosecuted as a misdemeanor or as an infraction. Each day a violation occurs shall constitute a separate offense and shall be punishable as such. However, nothing in these regulations shall prevent any code compliance officer or his duly authorized representatives from efforts to obtain voluntary compliance by way of warning, notice or education.

([Ord. 7489](#) § 11, 2019; Ord. 7341 § 6, 2016; Ord. 6959 § 1, 2007; Ord. 6844 § 15, 2006; Ord. 6273 § 1 (part), 1996)

7.15.010 - Fines and penalties.

- A. Any violation of this title shall be subject to fines as set forth in Chapter 1.17 of the Riverside Municipal Code.
- B. The civil fines and criminal penalties imposed shall be in addition to any other fines and/or penalties imposed for violation of local, State, and/or Federal law.

([Ord. 7489](#) § 13, 2019)

7.15.015 - Responsible parties.

Persons responsible for violations of this title shall include the person, persons, entity, or entities responsible for the noise disturbance including, but not limited to, the property owner, business operations, renters, or lessees on whose premises the noise originates.

([Ord. 7489](#) § 14, 2019)

Chapter 7.20 - SOUND LEVEL MEASUREMENT

7.20.010 - Sound level measurement.

Except as provided by Chapter 17.35, General Noise Regulations, any sound or noise level measurement made to enforce this title shall be measured with a sound level meter using the A-weighting scale at slow response. The exterior noise level shall be measured at the position or positions along the complainant's property line closest to the noise source or where the noise level is highest. If the complaint concerns an interior source, noise measurements shall be made at a point at least four feet from the wall, ceiling or floor nearest the noise source with windows opened or closed as would be normal for the season.

([Ord. 7489](#) § 15, 2019; Ord. 6273 § 1 (part), 1996)

Chapter 7.23 - AMBIENT SOUND LEVELS⁽¹⁾

Footnotes:

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Editor's note— [Ord. 7489](#) § 16, adopted Nov. 5, 2019, amended the title of Ch. 7.23 from "Ambient Noise Levels" to "Ambient Sound Levels," as set out herein.

7.23.010 - Ambient sound levels.

Title 7 - Noise Control of the Riverside Municipal Code shall be consistent with Title 24 of the California Code of Regulations as may be amended from time to time.

([Ord. 7489](#) § 17, 2019; Ord. 6967 § 3, 2007)

7.23.020 - Mixed use development.

Where a new development proposal includes a mix of residential and nonresidential uses within the same project, the interior ambient noise standard for the residential component of the project may be increased by five decibels.

([Ord. 7489](#) § 18, 2019; Ord. 6967 § 3, 2007)

7.23.030 - Infill single-family residential development.

Where a new development proposal includes an infill single-family residential use, the interior ambient noise standard for the proposal may be increased by five decibels.

([Ord. 7489](#) § 19, 2019; Ord. 6967 § 3, 2007)

Chapter 7.25 - NUISANCE EXTERIOR SOUND LEVEL LIMITS

7.25.010 - Exterior sound level limits.

- A. Unless a variance has been granted as provided in this title, it shall be unlawful for any person to cause or allow the creation of any noise which exceeds the following:
 - 1. The exterior noise standard of the applicable land use category, up to five decibels, for a cumulative period of more than 30 minutes in any hour; or
 - 2. The exterior noise standard of the applicable land use category, plus five decibels, for a cumulative period of more than 15 minutes in any hour; or
 - 3. The exterior noise standard of the applicable land use category, plus ten decibels, for a cumulative period of more than five minutes in any hour; or
 - 4. The exterior noise standard of the applicable land use category, plus 15 decibels, for the cumulative period of more than one minute in any hour; or
 - 5. The exterior noise standard for the applicable land use category, plus 20 decibels or the maximum measured ambient noise level, for any period of time.
- B. If the measured ambient noise level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.
- C. If possible, the ambient noise level shall be measured at the same location along the property line with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, then the ambient noise must be estimated by performing a measurement in the same general area of the source but at a sufficient distance that the offending noise is inaudible. If the measurement location is on the boundary between two different districts, the noise shall be the arithmetic mean of the two districts.
- D. Where the intruding noise source is an air-conditioning unit or refrigeration system which was installed prior to the effective date of this title, the exterior noise level when measured at the property line shall not exceed 60 dBA for units installed before 1-1-80 and 55 dBA for units installed after 1-1-80.

Table 7.25.010A

Exterior Noise Standards		
Land Use Category	Time Period	Noise Level
Residential	Night (10:00 p.m. to 7:00 a.m.)	45 dBA
	Day (7:00 a.m. to 10:00 p.m.)	55 dBA
Office/commercial	Any time	65 dBA
Industrial	Any time	70 dBA
Community support	Any time	60 dBA
Public recreation facility	Any time	65 dBA
Nonurban	Any time	70 dBA

Table 7.25.010.B

Land Use Category/Zoning Matrix	
Land Use Category	Underlying Zone
Residential	RE, RA-5, RR, RC, R-1-1/2 acre, R-1-13000, R-1-10500, R-1-8500, R-1-7000, R-3-2500, R-3-4000, R-3-3000, R-3-2000, R-3-1500, R-4
Office/commercial	O, CRC, CR-NC, CR, CG
Industrial	BMP, I, AIR
Community support	Any permitted zone
Nonurban	Any permitted zone

([Ord. 7489](#) § 20, 21(Exh. A), 2019; Ord. 6967 § 5, 2007; Ord. 6273 § 1 (part), 1996)

Chapter 7.30 - NUISANCE INTERIOR SOUND LEVEL LIMITS

7.30.015 - Interior sound level limits.

- A. No person shall operate or cause to be operated, any source of sound indoors which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:
1. The interior noise standard for the applicable land category area, up to five decibels, for a cumulative period of more than five minutes in any hour;
 2. The interior noise standard for the applicable land use category, plus five decibels, for a cumulative period of more than one minute in any hour;
 3. The interior noise standard for the applicable land use category, plus ten decibels or the maximum measured ambient noise level, for any period of time.
- B. If the measured interior ambient noise level exceeds that permissible within the first two noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to reflect the interior ambient noise level. In the event the interior ambient noise level exceeds the third noise limit category, the maximum allowable interior noise level under said category shall be increased to reflect the maximum interior ambient noise level.
- C. The interior noise standard for various land use districts shall apply, unless otherwise specifically indicated, within structures located in designated zones with windows opened or closed as is typical of the season.

Table 7.30.015

Interior Noise Standard		
Land Use Category	Time Period	Noise Level
Residential	Night (10 p.m. to 7 a.m.)	35 dBA
	Day (7 a.m. to 10 p.m.)	45 dBA
School	7 a.m. to 10 p.m. (while school is in session)	45 dBA
Hospital	Any time	45 dBA

([Ord. 7489](#) § 22, 23(Exh. B), 2019; Ord. 6273 § 1 (part), 1996)

Chapter 7.35 - GENERAL NOISE REGULATIONS

7.35.010 - General noise regulations.

- A. It is unlawful for any person to make, continue, or cause to be made or continued any noise disturbance. The factors which should be considered in determining whether a violation of this section exists, include the following:
 - 1. The sound level of the objectionable noise.
 - 2. The sound level of the ambient noise.
 - 3. The proximity of the noise to dwelling units, hospital, hotels and the like.
 - 4. The zoning of the area.
 - 5. The population density of the area.
 - 6. The time of day or night.
 - 7. The duration of the noise.
 - 8. Whether the noise is recurrent, intermittent, or constant.
 - 9. Whether the noise is produced by a commercial or noncommercial activity.
 - 10. Whether the nature of the noise is usual or unusual.
 - 11. Whether the noise is natural or unnatural.
- B. It is unlawful for any person to make, continue, or cause to be made or continued any noise disturbance.
- C. Any noise plainly audible through partitions common to two dwelling units within a building shall be prohibited.

([Ord. 7489](#) § 24, 2019; Ord. 7341 §6, 2016; Ord. 6959 §2, 2007; Ord. 6328 § 1, 1996; Ord. 6273 § 1 (part), 1996)

7.35.020 - Exemptions.

The following activities shall be exempt from the provisions of this title:

- A. *Emergency work* . The provisions of this title shall not apply to the emission of sound for the purpose of alerting persons to the existence of an emergency or in the performance of emergency work.
- B. *School events* . Sanctioned school activities conducted on public or private school grounds including but not limited to school athletic and entertainment events are exempted from the provisions of this chapter conducted between the hours of 7:00 a.m. and 11:00 p.m.
- C. *Federal or State preempted activities* . The provisions of this Chapter shall not apply to any other activity the noise level of which is regulated by state or federal law.
- D. *Minor maintenance to residential property* . The provisions of this title shall not apply to noise sources associated with minor maintenance to property used for residential purposes, provided the activities take place between the hours of 7:00 a.m. and 10:00 p.m.
- E. *Right-of-way construction* . The provisions of this title shall not apply to any work performed in the City right-of-ways when, in the opinion of the Public Works Director or his designee, such work will create traffic congestion and/or hazardous or unsafe conditions.
- F. *Public health, welfare and safety activities* . The provisions of this title shall not apply to construction maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins,

repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.

- G. *Construction.* Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a federal holiday.
- H. *Warning devices.* Warning devices necessary for the protection of public safety, as for example fire, police, and ambulance sirens, including the testing of such devices, are exempted from the provisions of this title.
- I. *Agriculture.* Any agricultural activity, operation, or facility, or appurtenances thereof (e.g., wind machines), conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards as allowed under California Civil Code Section 3482 as amended from time to time.

([Ord. 7489](#) § 25, 2019; Ord. 7341 § 6, 2016; Ord. 6917 § 1, 2006; Ord. 6328 § 2, 1996; Ord. 6273 § 1 (part), 1996)

Chapter 7.40 - VARIANCE PROCEDURE

7.40.010 - Variance procedure.

- A. The Community & Economic Development Director is authorized to grant variances for exemption from any provision of this title, and may limit area of applicability, noise levels, time limits, and other terms and conditions determined appropriate to protect the public health, safety, and welfare. The provisions of this section shall in no way affect the duty to obtain any permit or license required by law for such activities.
- B. Any person seeking a variance pursuant to this section shall file an application with the Community & Economic Development Director. The application shall be signed by the property owner or owner's representative using forms supplied by the Community & Economic Development Department-Planning Division. The application shall contain information which demonstrates that bringing the source of the sound or activity into compliance with this title would constitute an unreasonable hardship to the applicant, the community, or other persons. The Community & Economic Development Director may require additional information if it is necessary to make a determination regarding the variance request. The application shall be accompanied by a fee established by resolution of the City Council.
- C. A separate application shall be filed for each noise source; provided, however, several mobile sources under common ownership or several fixed sources on a single property may be combined into one application. Any person who claims to be adversely affected by the allowance of the variance may file a statement with the Community & Economic Development Director containing any information to support his claim. If the Community & Economic Development Director determines that a sufficient controversy exists regarding a variance application, the variance may be set for public hearing before the Planning Commission.
- D. Public notice of the consideration of a proposed variance from the standards of this title shall be provided by the Community & Economic Development Director by mailing such notice to property owners within 300 feet of the exterior boundaries of the property under consideration. The notice shall invite interested persons to notify the Planning Division of any concerns or comments within ten days of the date of the notice.
- E. In determining whether to grant or deny the application, the Community & Economic Development Director or the Planning Commission shall consider comments received from property owners within 300 feet, hardship on the applicant, the community, or other persons affected and property affected

and any other adverse impacts. The requested variance may be granted in whole or in part and upon such terms and conditions as it deems necessary if, from the facts presented on the application, the Community & Economic Development Director or the Planning Commission finds that:

1. The strict application of the provisions of this title would result in practical difficulties or unnecessary hardships inconsistent with the general purpose of this Title; 2. There are exceptional circumstances or conditions applicable to the property involved or to the intended use or development of the property that do not apply generally to other property in the same zone or neighborhood;
 3. The granting of such variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zone or neighborhood in which the property is located;
 4. The granting of such variance will not be contrary to the objectives of any part of the adopted General Plan.
- F. A variance shall be granted by a notice to the applicant containing all the necessary conditions, including any time limits on the permitted activity. The variance shall not become effective until all the conditions are agreed to by the applicant. Noncompliance with any condition of the variance shall terminate the variance and subject the person holding it to those provisions of this title for which the variance was granted.
- G. A variance shall be valid for a period not exceeding one year after the date on which it was granted. Applications for extensions of the time limits specified in variances or for the modification of other substantial conditions shall be treated like applications for initial variances.
- H. In the event the Community & Economic Development Director does not approve an application for a variance within ten days after the application is filed it shall be placed on the agenda of the next regularly scheduled Planning Commission, unless the Commission refers the matter to the City Council.

([Ord. 7489](#) § 26, 2019; Ord. 7341 § 6, 2016; Ord. 6967 § 7, 2007; Ord. 6462 § 8-10, 1999; Ord. 6273 § 1 (part), 1996)

7.40.020 - Appeals.

Any person aggrieved by the approval or disapproval of a variance, may appeal the decision of the Community & Economic Development Director or Planning Commission to the City Council within ten days after the date of such approval or disapproval. The City Council shall hold a hearing thereon, upon notice to the applicant, considering the same criteria presented to the Community & Economic Development Director.

([Ord. 7489](#) § 27, 2019; Ord. 6462 § 11, 1999; Ord. 6273 § 1 (part), 1996)

Chapter 7.45 - SEVERABILITY

7.45.010 - Severability.

If any section, subsection, sentence, clause or phrase in this title is for any reason held to be invalid or unconstitutional by decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this title. The City Council hereby declares that it would have passed this title and each section, subsection, clause or phrase thereof irrespective of the fact that any one or more other sections, subsections, clauses or phrases may be declared invalid or unconstitutional.

(Ord. 6328 § 3, 1996)

APPENDIX 3.3:

COUNTY OF RIVERSIDE MUNICIPAL CODE

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Chapter 9.52 - NOISE REGULATION

Sections:

9.52.010 - Intent.

At certain levels, sound becomes noise and may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life. Pursuant to its police power, the board of supervisors declares that noise shall be regulated in the manner described in this chapter. This chapter is intended to establish county-wide standards regulating noise. This chapter is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are established.

(Ord. 847 § 1, 2006)

9.52.020 - Exemptions.

Sound emanating from the following sources is exempt from the provisions of this chapter:

- A. Facilities owned or operated by or for a governmental agency;
- B. Capital improvement projects of a governmental agency;
- C. The maintenance or repair of public properties;
- D. Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;
- E. Public or private schools and school-sponsored activities;
- F. Agricultural operations on land designated "Agriculture" in the Riverside County general plan, or land zoned A-I (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), A-D (agriculture-dairy) or C/V (citrus/vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;
- G. Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Riverside County Ordinance No. 348;
- H. Private construction projects located one-quarter of a mile or more from an inhabited dwelling;
- I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:
 - 1. Construction does not occur between the hours of six p.m. and six a.m. during the months of June through September, and
 - 2. Construction does not occur between the hours of six p.m. and seven a.m. during the months of October through May;
- J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of seven a.m. and eight p.m.;
- K. Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;
- L. Heating and air conditioning equipment;
- M. Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety, and welfare;

N. The discharge of firearms consistent with all state laws.

(Ord. 847 § 2, 2006)

9.52.030 - Definitions.

As used in this chapter, the following terms shall have the following meanings:

"Audio equipment" means a television, stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device.

"Decibel (dB)" means a unit for measuring the relative amplitude of a sound equal approximately to the smallest difference normally detectable by the human ear, the range of which includes approximately one hundred thirty (130) decibels on a scale beginning with zero decibels for the faintest detectable sound. Decibels are measured with a sound level meter using different methodologies as defined below:

1. "A-weighting (dBA)" means the standard A-weighted frequency response of a sound level meter, which de-emphasizes low and high frequencies of sound in a manner similar to the human ear for moderate sounds.
2. "Maximum sound level (L_{max})" means the maximum sound level measured on a sound level meter.

"Governmental agency" means the United States, the state of California, Riverside County, any city within Riverside County, any special district within Riverside County or any combination of these agencies.

"Land use permit" means a discretionary permit issued by Riverside County pursuant to Riverside County Ordinance No. 348.

"Motor vehicle" means a vehicle that is self-propelled.

"Motor vehicle sound system" means a stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device.

"Noise" means any loud, discordant or disagreeable sound.

"Occupied property" means property upon which is located a residence, business or industrial or manufacturing use.

"Off-highway vehicle" means a motor vehicle designed to travel over any terrain.

"Public or private school" means an institution conducting academic instruction at the preschool, elementary school, junior high school, high school, or college level.

"Public property" means property owned by a governmental agency or held open to the public, including, but not limited to, parks, streets, sidewalks, and alleys.

"Sensitive receptor" means a land use that is identified as sensitive to noise in the noise element of the Riverside County general plan, including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries or public libraries.

"Sound-amplifying equipment" means a loudspeaker, microphone, megaphone or other similar device.

"Sound level meter" means an instrument meeting the standards of the American National Standards Institute for Type 1 or Type 2 sound level meters or an instrument that provides equivalent data.

(Ord. 847 § 3, 2006)

9.52.040 - General sound level standards.

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 1.

TABLE 1
Sound Level Standards (Db L_{max})

GENERAL PLAN FOUNDATION COMPONENT	GENERAL PLAN LAND USE DESIGNATION	GENERAL PLAN LAND USE DESIGNATION NAME	DENSITY	MAXIMUM DECIBEL LEVEL	
				7 am— 10 pm	10 pm—7 am
Community Development	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
	MDR	Medium Density Residential	2—5	55	45
	MHDR	Medium High Density Residential	5—8	55	45
	HDR	High Density Residential	8—14	55	45
	VHDR	Very High Density Residential	14—20	55	45
	H'TDR	Highest Density Residential	20+	55	45
	CR	Retail Commercial		65	55
	CO	Office Commercial		65	55
	CT	Tourist Commercial		65	55

	CC	Community Center		65	55
	LI	Light Industrial		75	55
	HI	Heavy Industrial		75	75
	BP	Business Park		65	45
	PF	Public Facility		65	45
	SP	Specific Plan-Residential		55	45
		Specific Plan-Commercial		65	55
		Specific Plan-Light Industrial		75	55
		Specific Plan-Heavy Industrial		75	75
Rural Community	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
Rural	RR	Rural Residential	5 AC	45	45
	RM	Rural Mountainous	10 AC	45	45
	RD	Rural Desert	10 AC	45	45
Agriculture	AG	Agriculture	10 AC	45	45
Open Space	C	Conservation		45	45
	CH	Conservation Habitat		45	45

	REC	Recreation		45	45
	RUR	Rural	20 AC	45	45
	W	Watershed		45	45
	MR	Mineral Resources		75	45

(Ord. 847 § 4, 2006)

9.52.050 - Sound level measurement methodology.

Sound level measurements may be made anywhere within the boundaries of an occupied property. The actual location of a sound level measurement shall be at the discretion of the enforcement officials identified in Section 9.52.080 of this chapter. Sound level measurements shall be made with a sound level meter. Immediately before a measurement is made, the sound level meter shall be calibrated utilizing an acoustical calibrator meeting the standards of the American National Standards Institute. Following a sound level measurement, the calibration of the sound level meter shall be re-verified. Sound level meters and calibration equipment shall be certified annually.

(Ord. 847 § 5, 2006)

9.52.060 - Special sound sources standards.

The general sound level standards set forth in Section 9.52.040 of this chapter apply to sound emanating from all sources, including the following special sound sources, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitutes separate violations of this chapter:

A. Motor Vehicles.

1. Off-Highway Vehicles.

- a. No person shall operate an off-highway vehicle unless it is equipped with a USDA-qualified spark arrester and a constantly operating and properly maintained muffler. A muffler is not considered constantly operating and properly maintained if it is equipped with a cutout, bypass or similar device.
- b. No person shall operate an off-highway vehicle unless the noise emitted by the vehicle is not more than ninety-six (96) dBA if the vehicle was manufactured on or after January 1, 1986 or is not more than one hundred one (101) dBA if the vehicle was manufactured before January 1, 1986. For purposes of this subsection, emitted noise shall be measured a distance of twenty (20) inches from the vehicle tailpipe using test procedures established by the Society of Automotive Engineers under Standard J-1287.

2. Sound Systems. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of ten p.m. and eight a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate

a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than one hundred (100) feet from the vehicle.

- B. Power Tools and Equipment. No person shall operate any power tools or equipment between the hours of ten p.m. and eight a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a distance greater than one hundred (100) feet from the power tools or equipment.
- C. Audio Equipment. No person shall operate any audio equipment, whether portable or not, between the hours of ten p.m. and eight a.m. such that the equipment is audible to the human ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than one hundred (100) feet from the equipment.
- D. Sound-Amplifying Equipment and Live Music. No person shall install, use or operate sound-amplifying equipment, or perform, or allow to be performed, live music unless such activities comply with the following requirements. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control:
 - 1. Sound-amplifying equipment or live music is prohibited between the hours of ten p.m. and eight a.m.
 - 2. Sound emanating from sound-amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than two hundred (200) feet from the equipment or music.

(Ord. 847 § 6, 2006)

9.52.070 - Exceptions.

Exceptions may be requested from the standards set forth in Section 9.52.040 or 9.52.060 of this chapter and may be characterized as construction-related, single-event or continuous-events exceptions.

- A. Application and Processing.
 - 1. Construction-Related Exceptions. An application for a construction-related exception shall be made to and considered by the director of building and safety on forms provided by the building and safety department and shall be accompanied by the appropriate filing fee. No public hearing is required.
 - 2. Single-Event Exceptions. An application for a single-event exception shall be made to and considered by the planning director on forms provided by the planning department and shall be accompanied by the appropriate filing fee. No public hearing is required.
 - 3. Continuous-Events Exceptions. An application for a continuous-events exception shall be made to the planning director on forms provided by the planning department and shall be accompanied by the appropriate filing fee. Upon receipt of an application for a continuous-events exception, the planning director shall set the matter for public hearing before the planning commission, notice of which shall be given as provided in Section 18.26c of Riverside County Ordinance No. 348. Notwithstanding the above, an application for a continuous-events exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.

- B. Requirements for Approval. The appropriate decisionmaking body or officer shall not approve an exception application unless the applicant demonstrates that the activities described in the application would not be detrimental to the health, safety or general welfare of the community. In determining whether activities are detrimental to the health, safety or general welfare of the community, the appropriate decisionmaking body or officer shall consider such factors as the proposed duration of the activities and their location in relation to sensitive receptors. If an exception application is approved, reasonable conditions may be imposed to minimize the public detriment, including, but not limited to, restrictions on sound level, sound duration and operating hours.
- C. Appeals. The director of building and safety's decision on an application for a construction-related exception is considered final. The planning director's decision on an application for a single-event exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decisionmaking body or officer shall mail notice of the decision to the applicant. Within ten (10) calendar days after the mailing of such notice, the applicant or an interested person may appeal the decision to the board of supervisors. Upon receipt of an appeal and payment of the appropriate appeal fee, the clerk of the board shall set the matter for hearing not less than five days nor more than thirty (30) days thereafter and shall give written notice of the hearing in the same manner as notice of the hearing was given by the appropriate hearing officer or body. The board of supervisors shall render its decision within thirty (30) days after the appeal hearing is closed.
- D. Effect of a Pending Continuous-Events Exception Application. For a period of one hundred eighty (180) days from the effective date of this chapter, no person creating any sound prohibited by this chapter shall be considered in violation of this chapter if the sound is related to a use that is operating pursuant to an approved land use permit, if an application for a continuous-events exception has been filed to sanction the sound and if a decision on the application is pending.

(Ord. 847 § 7, 2006)

9.52.080 - Enforcement.

The Riverside County sheriff and code enforcement shall have the primary responsibility for enforcing this chapter; provided, however, the sheriff and code enforcement may be assisted by the public health department. Violations shall be prosecuted as described in Section 9.52.100 of this chapter, but nothing in this chapter shall prevent the sheriff, code enforcement or the department of public health from engaging in efforts to obtain voluntary compliance by means of warnings, notices, or educational programs.

(Ord. 847.1 § 1, 2007; Ord. 847 § 8, 2006)

9.52.090 - Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the enforcement officials identified in Section 9.52.080 of this chapter when they are engaged in the process of enforcing the provisions of this chapter. This duty to cooperate may require a person to extinguish a sound source so that it can be determined whether sound emanating from the source violates the provisions of this chapter.

(Ord. 847 § 9, 2006)

9.52.100 - Violations and penalties.

Any person who violates any provision of this chapter once or twice within a one hundred eighty (180) day period shall be guilty of an infraction. Any person who violates any provision of this chapter more than twice within a one hundred eighty (180) day period shall be guilty of a misdemeanor. Each day a violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. Penalties shall not exceed the following amounts:

- A. For the first violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be five hundred dollars (\$500.00).
- B. For the second violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be seven hundred fifty dollars (\$750.00).
- C. For any further violations within a one hundred eighty (180) day period, the minimum mandatory fine shall be one thousand dollars (\$1,000.00) or imprisonment in the county jail for a period not exceeding six months, or both.

(Ord. 847 § 10, 2006)

APPENDIX 5.1:

STUDY AREA PHOTOS

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JN: 12761 Study Area Photos



L1_East

33, 52' 23.080000", 117, 18' 39.400000"



L1_North

33, 52' 23.080000", 117, 18' 39.400000"



L1_South

33, 52' 23.080000", 117, 18' 39.400000"



L1_West

33, 52' 23.080000", 117, 18' 39.400000"



L2_East

33, 52' 23.080000", 117, 18' 39.400000"



L2_North

33, 52' 23.080000", 117, 18' 39.400000"

JN: 12761 Study Area Photos



L2_South

33, 52' 23.080000", 117, 18' 39.400000"



L2_West

33, 52' 23.080000", 117, 18' 39.400000"



L3_East

33, 52' 23.080000", 117, 18' 39.400000"



L3_North

33, 52' 23.080000", 117, 18' 39.400000"



L3_South

33, 52' 23.080000", 117, 18' 39.400000"



L3_West

33, 52' 23.080000", 117, 18' 39.400000"

JN: 12761 Study Area Photos



L4_East

33, 52' 23.080000", 117, 18' 39.400000"



L4_North

33, 52' 23.080000", 117, 18' 39.400000"



L4_South

33, 52' 23.080000", 117, 18' 39.400000"



L4_West

33, 52' 23.080000", 117, 18' 39.400000"



L5_East

33, 52' 47.020000", 117, 17' 15.820000"



L5_North

33, 52' 47.480000", 117, 17' 15.900000"

JN: 12761 Study Area Photos



L5_South
33, 52' 46.930000", 117, 17' 15.790000"



L5_West
33, 52' 47.030000", 117, 17' 15.820000"



L6_East
33, 52' 23.080000", 117, 18' 39.400000"



L6_North
33, 52' 23.080000", 117, 18' 39.400000"



L6_South
33, 52' 23.080000", 117, 18' 39.400000"



L6_West
33, 52' 23.080000", 117, 18' 39.400000"

JN: 12761 Study Area Photos



L7_East
33, 52' 46.970000", 117, 17' 15.870000"



L7_North
33, 52' 46.970000", 117, 17' 15.870000"



L7_South
33, 52' 46.970000", 117, 17' 15.870000"



L7_West
33, 52' 46.970000", 117, 17' 15.870000"



L8_East
33, 52' 23.130000", 117, 18' 39.400000"



L8_North
33, 52' 41.290000", 117, 18' 8.880000"

JN: 12761 Study Area Photos



L8_South
33, 52' 23.200000", 117, 18' 39.420000"



L8_West
33, 52' 23.080000", 117, 18' 39.400000"



L9_East
33, 52' 23.080000", 117, 18' 39.400000"



L9_North
33, 52' 23.080000", 117, 18' 39.400000"



L9_South
33, 52' 23.080000", 117, 18' 39.400000"



L9_West
33, 52' 23.080000", 117, 18' 39.400000"

JN: 12761 Study Area Photos



L10_East

33, 52' 23.080000", 117, 18' 39.400000"



L10_North

33, 52' 23.080000", 117, 18' 39.400000"



L10_South

33, 52' 23.080000", 117, 18' 39.400000"



L10_West

33, 52' 23.080000", 117, 18' 39.400000"

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

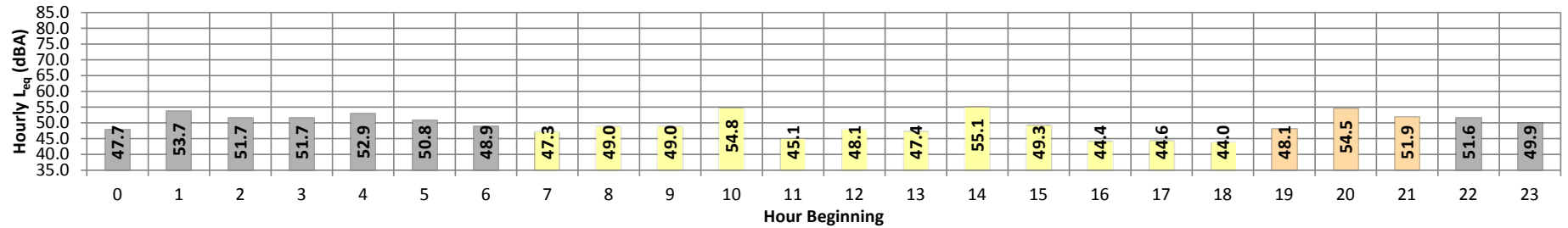
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L1 - Located north of Project site on Gumtree Lane and Aptos Street near Amelia Earhart middle school.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}		
Night	0	47.7	69.4	40.4	54.0	52.0	50.0	49.0	47.0	45.0	42.0	42.0	41.0	47.7	10.0	57.7		
	1	53.7	78.7	42.5	63.0	61.0	58.0	57.0	52.0	49.0	45.0	45.0	43.0	53.7	10.0	63.7		
	2	51.7	60.7	46.2	55.0	55.0	54.0	54.0	53.0	51.0	47.0	47.0	46.0	51.7	10.0	61.7		
	3	51.7	64.1	46.7	55.0	55.0	54.0	53.0	52.0	51.0	49.0	48.0	47.0	51.7	10.0	61.7		
	4	52.9	62.0	48.0	58.0	57.0	56.0	56.0	53.0	51.0	49.0	49.0	48.0	52.9	10.0	62.9		
	5	50.8	61.4	45.6	54.0	54.0	53.0	53.0	52.0	50.0	47.0	46.0	46.0	50.8	10.0	60.8		
	6	48.9	55.2	46.3	51.0	51.0	50.0	50.0	49.0	48.0	47.0	47.0	46.0	48.9	10.0	58.9		
Day	7	47.3	59.9	45.9	50.0	49.0	48.0	48.0	47.0	47.0	46.0	46.0	46.0	47.3	0.0	47.3		
	8	49.0	57.7	46.4	54.0	53.0	52.0	51.0	49.0	48.0	47.0	46.0	46.0	49.0	0.0	49.0		
	9	49.0	52.9	47.6	51.0	50.0	50.0	49.0	49.0	48.0	48.0	48.0	48.0	49.0	0.0	49.0		
	10	54.8	73.2	43.3	65.0	63.0	61.0	59.0	52.0	50.0	44.0	44.0	43.0	54.8	0.0	54.8		
	11	45.1	54.2	43.5	48.0	47.0	47.0	46.0	45.0	44.0	44.0	44.0	43.0	45.1	0.0	45.1		
	12	48.1	71.9	41.7	56.0	53.0	50.0	50.0	47.0	45.0	43.0	43.0	42.0	48.1	0.0	48.1		
	13	47.4	62.4	38.8	56.0	55.0	52.0	51.0	47.0	44.0	40.0	40.0	40.0	47.4	0.0	47.4		
	14	55.1	69.7	39.7	66.0	63.0	60.0	59.0	55.0	48.0	41.0	41.0	40.0	55.1	0.0	55.1		
	15	49.3	70.5	38.7	61.0	58.0	52.0	50.0	45.0	42.0	40.0	40.0	39.0	49.3	0.0	49.3		
	16	44.4	61.7	38.7	52.0	50.0	48.0	47.0	44.0	42.0	40.0	40.0	40.0	44.4	0.0	44.4		
	17	44.6	57.3	41.7	52.0	51.0	48.0	46.0	44.0	42.0	42.0	41.0	41.0	44.6	0.0	44.6		
	18	44.0	59.5	41.7	51.0	48.0	46.0	44.0	44.0	43.0	42.0	42.0	41.0	41.0	44.0	0.0	44.0	
Evening	19	48.1	68.5	42.4	60.0	56.0	50.0	47.0	44.0	43.0	42.0	42.0	42.0	48.1	5.0	53.1		
	20	54.5	69.8	43.4	60.0	59.0	58.0	58.0	56.0	53.0	43.0	43.0	43.0	54.5	5.0	59.5		
	21	51.9	67.8	46.7	55.0	55.0	54.0	53.0	52.0	51.0	48.0	48.0	47.0	51.9	5.0	56.9		
Night	22	51.6	63.0	45.2	59.0	58.0	57.0	55.0	51.0	49.0	46.0	45.0	45.0	51.6	10.0	61.6		
	23	49.9	56.9	45.6	53.0	52.0	52.0	51.0	50.0	49.0	47.0	46.0	46.0	49.9	10.0	59.9		
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)				
Day	Min	44.0	52.9	38.7	48.0	47.0	46.0	44.0	43.0	42.0	40.0	40.0	39.0	24-Hour	Daytime	Nighttime		
	Max	55.1	73.2	47.6	66.0	63.0	61.0	59.0	55.0	50.0	48.0	48.0	48.0					
Energy Average		49.8	Average:		55.2	53.3	51.2	50.0	47.3	45.2	43.1	42.8	42.4	50.8			50.4	51.3
Evening	Min	48.1	67.8	42.4	55.0	55.0	50.0	47.0	44.0	43.0	42.0	42.0	42.0					
	Max	54.5	69.8	46.7	60.0	59.0	58.0	58.0	56.0	53.0	48.0	48.0	47.0	24-Hour CNEL (dBA)				
Energy Average		52.2	Average:		58.3	56.7	54.0	52.7	50.7	49.0	44.3	44.3	44.0	58.0				
Night	Min	47.7	55.2	40.4	51.0	51.0	50.0	49.0	47.0	45.0	42.0	42.0	41.0					
	Max	53.7	78.7	48.0	63.0	61.0	58.0	57.0	53.0	51.0	49.0	49.0	48.0					
Energy Average		51.3	Average:		55.8	55.0	53.8	53.1	51.0	49.2	46.6	46.1	45.3					

24-Hour Noise Level Measurement Summary

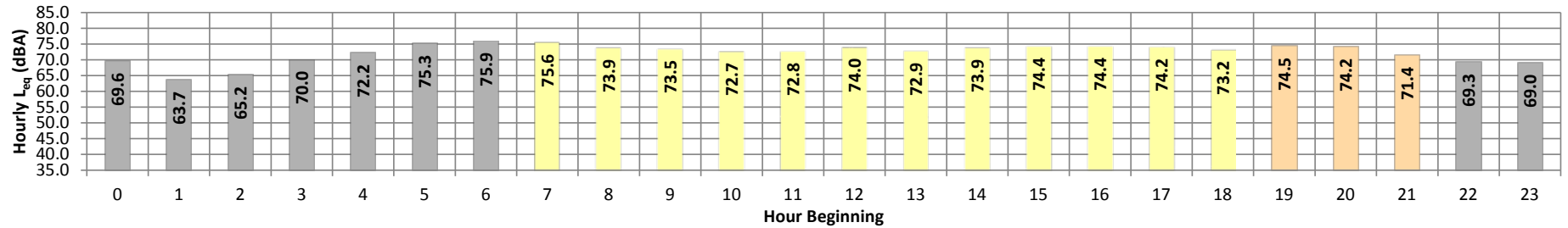
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L2 - Located north of project site on Coyote Bush Boulevard
and Van Buren Boulevard.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	69.6	99.0	39.7	79.0	77.0	73.0	71.0	63.0	51.0	42.0	41.0	40.0	69.6	10.0	79.6
	1	63.7	84.2	38.7	76.0	74.0	70.0	68.0	58.0	49.0	39.0	38.0	38.0	63.7	10.0	73.7
	2	65.2	86.2	38.7	77.0	75.0	72.0	69.0	58.0	47.0	41.0	40.0	38.0	65.2	10.0	75.2
	3	70.0	92.7	40.5	81.0	79.0	76.0	74.0	66.0	56.0	44.0	42.0	40.0	70.0	10.0	80.0
	4	72.2	87.1	42.7	81.0	80.0	78.0	77.0	73.0	66.0	51.0	49.0	44.0	72.2	10.0	82.2
	5	75.3	94.4	47.4	83.0	82.0	80.0	80.0	76.0	71.0	56.0	54.0	50.0	75.3	10.0	85.3
	6	75.9	92.9	49.7	84.0	83.0	81.0	80.0	76.0	72.0	60.0	57.0	54.0	75.9	10.0	85.9
Day	7	75.6	97.5	50.8	85.0	83.0	80.0	79.0	74.0	70.0	62.0	59.0	56.0	75.6	0.0	75.6
	8	73.9	95.3	46.3	82.0	81.0	79.0	78.0	74.0	70.0	57.0	55.0	51.0	73.9	0.0	73.9
	9	73.5	85.7	48.0	82.0	80.0	79.0	78.0	74.0	69.0	59.0	56.0	52.0	73.5	0.0	73.5
	10	72.7	89.8	44.6	81.0	79.0	78.0	77.0	73.0	68.0	56.0	54.0	51.0	72.7	0.0	72.7
	11	72.8	92.3	48.3	81.0	80.0	78.0	76.0	73.0	69.0	57.0	55.0	50.0	72.8	0.0	72.8
	12	74.0	99.6	48.8	82.0	80.0	77.0	76.0	73.0	68.0	59.0	57.0	52.0	74.0	0.0	74.0
	13	72.9	91.8	47.6	82.0	80.0	78.0	76.0	73.0	68.0	58.0	55.0	51.0	72.9	0.0	72.9
	14	73.9	100.2	50.7	81.0	80.0	78.0	76.0	73.0	69.0	60.0	58.0	54.0	73.9	0.0	73.9
	15	74.4	90.1	49.5	83.0	82.0	79.0	78.0	75.0	70.0	59.0	57.0	54.0	74.4	0.0	74.4
	16	74.4	93.5	47.5	82.0	81.0	79.0	78.0	75.0	70.0	59.0	56.0	50.0	74.4	0.0	74.4
Evening	17	74.2	88.8	48.4	83.0	81.0	79.0	78.0	75.0	69.0	59.0	57.0	53.0	74.2	0.0	74.2
	18	73.2	86.6	43.9	82.0	80.0	79.0	78.0	74.0	69.0	56.0	54.0	49.0	73.2	0.0	73.2
	19	74.5	95.7	42.5	84.0	81.0	79.0	78.0	74.0	70.0	56.0	53.0	46.0	74.5	5.0	79.5
Night	20	74.2	100.7	43.1	82.0	80.0	78.0	77.0	73.0	68.0	52.0	49.0	47.0	74.2	5.0	79.2
	21	71.4	93.1	40.3	80.0	79.0	77.0	76.0	71.0	65.0	50.0	46.0	42.0	71.4	5.0	76.4
Night	22	69.3	88.0	38.8	79.0	77.0	75.0	74.0	69.0	62.0	46.0	43.0	39.0	69.3	10.0	79.3
	23	69.0	90.0	40.5	78.0	77.0	75.0	73.0	67.0	59.0	45.0	43.0	41.0	69.0	10.0	79.0
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	72.7	85.7	43.9	81.0	79.0	77.0	76.0	73.0	68.0	56.0	54.0	49.0	24-Hour	Daytime	Nighttime
	Max	75.6	100.2	50.8	85.0	83.0	80.0	79.0	75.0	70.0	62.0	59.0	56.0			
Energy Average		73.9	Average:		82.2	80.6	78.6	77.3	73.8	69.1	58.4	56.1	51.9	73.1	73.8	71.6
Evening	Min	71.4	93.1	40.3	80.0	79.0	77.0	76.0	71.0	65.0	50.0	46.0	42.0			
	Max	74.5	100.7	43.1	84.0	81.0	79.0	78.0	74.0	70.0	56.0	53.0	47.0	24-Hour CNEL (dBA)		
Energy Average		73.6	Average:		82.0	80.0	78.0	77.0	72.7	67.7	52.7	49.3	45.0	78.8		
Night	Min	63.7	84.2	38.7	76.0	74.0	70.0	68.0	58.0	47.0	39.0	38.0	38.0			
	Max	75.9	99.0	49.7	84.0	83.0	81.0	80.0	76.0	72.0	60.0	57.0	54.0			
Energy Average		71.6	Average:		79.8	78.2	75.6	74.0	67.3	59.2	47.1	45.2	42.7			

24-Hour Noise Level Measurement Summary

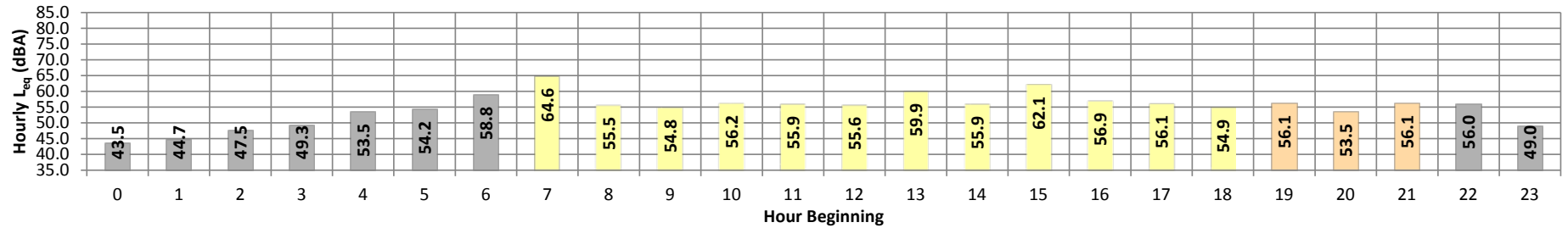
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L3 - Located north of Project site on Golden Rain Road near existing single-family homes.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	43.5	62.0	38.6	49.0	47.0	46.0	45.0	43.0	41.0	39.0	38.0	38.0	43.5	10.0	53.5
	1	44.7	68.6	38.6	49.0	47.0	46.0	45.0	44.0	42.0	40.0	40.0	38.0	44.7	10.0	54.7
	2	47.5	70.4	41.9	57.0	50.0	47.0	46.0	45.0	44.0	43.0	42.0	42.0	47.5	10.0	57.5
	3	49.3	67.8	43.8	57.0	55.0	52.0	50.0	49.0	47.0	45.0	44.0	44.0	49.3	10.0	59.3
	4	53.5	73.9	43.1	66.0	63.0	58.0	53.0	50.0	48.0	45.0	44.0	43.0	53.5	10.0	63.5
	5	54.2	75.6	43.9	66.0	64.0	59.0	55.0	49.0	47.0	45.0	45.0	44.0	54.2	10.0	64.2
	6	58.8	78.7	47.4	70.0	68.0	65.0	62.0	53.0	50.0	49.0	48.0	47.0	58.8	10.0	68.8
Day	7	64.6	77.7	45.0	75.0	74.0	74.0	73.0	57.0	52.0	47.0	46.0	46.0	64.6	0.0	64.6
	8	55.5	82.5	41.7	66.0	64.0	60.0	55.0	48.0	45.0	43.0	43.0	42.0	55.5	0.0	55.5
	9	54.8	78.6	41.4	67.0	65.0	60.0	56.0	47.0	45.0	42.0	42.0	41.0	54.8	0.0	54.8
	10	56.2	78.0	40.3	68.0	65.0	62.0	59.0	49.0	46.0	42.0	42.0	41.0	56.2	0.0	56.2
	11	55.9	72.5	40.4	66.0	65.0	62.0	60.0	55.0	48.0	44.0	43.0	42.0	55.9	0.0	55.9
	12	55.6	76.4	41.6	67.0	65.0	62.0	60.0	51.0	47.0	44.0	43.0	42.0	55.6	0.0	55.6
	13	59.9	84.7	44.4	71.0	67.0	63.0	61.0	52.0	49.0	46.0	45.0	45.0	59.9	0.0	59.9
	14	55.9	75.9	44.6	67.0	65.0	62.0	60.0	52.0	49.0	47.0	46.0	45.0	55.9	0.0	55.9
	15	62.1	90.5	44.1	73.0	68.0	64.0	61.0	53.0	49.0	46.0	46.0	45.0	62.1	0.0	62.1
	16	56.9	80.1	45.2	67.0	65.0	63.0	61.0	54.0	51.0	47.0	47.0	46.0	56.9	0.0	56.9
	17	56.1	75.3	43.9	67.0	65.0	62.0	59.0	52.0	49.0	46.0	45.0	44.0	56.1	0.0	56.1
	18	54.9	73.7	42.8	66.0	64.0	61.0	59.0	50.0	48.0	46.0	45.0	44.0	54.9	0.0	54.9
Evening	19	56.1	79.6	43.1	67.0	65.0	61.0	58.0	51.0	48.0	45.0	45.0	44.0	56.1	5.0	61.1
	20	53.5	76.0	42.0	65.0	63.0	60.0	56.0	48.0	45.0	44.0	43.0	42.0	53.5	5.0	58.5
	21	56.1	77.5	41.1	69.0	67.0	62.0	58.0	49.0	47.0	44.0	43.0	42.0	56.1	5.0	61.1
Night	22	56.0	83.1	39.4	63.0	60.0	53.0	49.0	46.0	44.0	42.0	41.0	40.0	56.0	10.0	66.0
	23	49.0	69.0	41.1	61.0	57.0	50.0	48.0	46.0	45.0	42.0	42.0	41.0	49.0	10.0	59.0
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	54.8	72.5	40.3	66.0	64.0	60.0	55.0	47.0	45.0	42.0	42.0	41.0	24-Hour	Daytime	Nighttime
	Max	64.6	90.5	45.2	75.0	74.0	74.0	73.0	57.0	52.0	47.0	47.0	46.0			
Energy Average		58.7	Average:		68.3	66.0	62.9	60.3	51.7	48.2	45.0	44.4	43.6	56.9	58.2	53.3
Evening	Min	53.5	76.0	41.1	65.0	63.0	60.0	56.0	48.0	45.0	44.0	43.0	42.0			
	Max	56.1	79.6	43.1	69.0	67.0	62.0	58.0	51.0	48.0	45.0	45.0	44.0	24-Hour CNEL (dBA)		
Energy Average		55.4	Average:		67.0	65.0	61.0	57.3	49.3	46.7	44.3	43.7	42.7	61.2		
Night	Min	43.5	62.0	38.6	49.0	47.0	46.0	45.0	43.0	41.0	39.0	38.0	38.0			
	Max	58.8	83.1	47.4	70.0	68.0	65.0	62.0	53.0	50.0	49.0	48.0	47.0			
Energy Average		53.3	Average:		59.8	56.8	52.9	50.3	47.2	45.3	43.3	42.7	41.9			

24-Hour Noise Level Measurement Summary

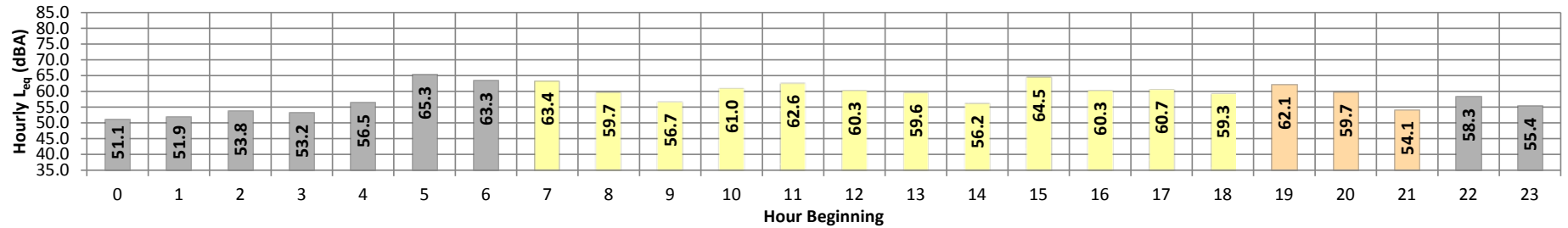
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L4 - Located on Krameria Avenue and Bundy Avenue near
existing vacant land.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	51.1	75.9	39.0	63.0	56.0	47.0	45.0	42.0	41.0	39.0	39.0	39.0	51.1	10.0	61.1
	1	51.9	81.3	39.1	62.0	59.0	54.0	47.0	43.0	42.0	40.0	40.0	39.0	51.9	10.0	61.9
	2	53.8	79.7	40.8	64.0	59.0	51.0	47.0	44.0	43.0	42.0	42.0	41.0	53.8	10.0	63.8
	3	53.2	75.9	41.0	65.0	62.0	56.0	52.0	47.0	45.0	43.0	43.0	42.0	53.2	10.0	63.2
	4	56.5	84.3	42.0	67.0	65.0	60.0	58.0	51.0	46.0	44.0	43.0	42.0	56.5	10.0	66.5
	5	65.3	90.4	45.1	76.0	72.0	67.0	64.0	55.0	50.0	47.0	46.0	45.0	65.3	10.0	75.3
	6	63.3	89.9	45.2	74.0	71.0	66.0	64.0	55.0	51.0	47.0	46.0	46.0	63.3	10.0	73.3
Day	7	63.4	92.4	42.5	73.0	69.0	65.0	63.0	54.0	49.0	45.0	44.0	43.0	63.4	0.0	63.4
	8	59.7	85.1	39.1	71.0	67.0	62.0	58.0	49.0	44.0	41.0	41.0	40.0	59.7	0.0	59.7
	9	56.7	78.7	39.1	70.0	66.0	61.0	58.0	48.0	43.0	40.0	39.0	39.0	56.7	0.0	56.7
	10	61.0	87.2	39.0	73.0	68.0	62.0	58.0	49.0	44.0	40.0	39.0	39.0	61.0	0.0	61.0
	11	62.6	92.1	39.1	71.0	68.0	64.0	61.0	52.0	45.0	41.0	40.0	39.0	62.6	0.0	62.6
	12	60.3	82.6	39.2	74.0	70.0	64.0	61.0	52.0	46.0	42.0	41.0	40.0	60.3	0.0	60.3
	13	59.6	80.9	40.8	72.0	69.0	64.0	61.0	53.0	48.0	43.0	42.0	41.0	59.6	0.0	59.6
	14	56.2	77.7	40.5	67.0	64.0	60.0	58.0	53.0	49.0	44.0	43.0	42.0	56.2	0.0	56.2
	15	64.5	92.8	40.8	73.0	70.0	65.0	62.0	54.0	49.0	44.0	43.0	42.0	64.5	0.0	64.5
	16	60.3	86.2	40.5	71.0	67.0	62.0	60.0	54.0	49.0	44.0	43.0	41.0	60.3	0.0	60.3
Evening	17	60.7	83.4	39.2	71.0	68.0	65.0	63.0	56.0	50.0	43.0	42.0	41.0	60.7	0.0	60.7
	18	59.3	83.6	40.9	70.0	67.0	63.0	61.0	53.0	48.0	44.0	43.0	42.0	59.3	0.0	59.3
	19	62.1	83.8	40.6	75.0	73.0	67.0	62.0	51.0	45.0	42.0	41.0	40.0	62.1	5.0	67.1
Night	20	59.7	88.1	39.1	70.0	65.0	58.0	55.0	48.0	43.0	40.0	39.0	39.0	59.7	5.0	64.7
	21	54.1	73.9	39.1	67.0	64.0	59.0	56.0	47.0	44.0	42.0	41.0	40.0	54.1	5.0	59.1
	22	58.3	80.6	39.1	71.0	67.0	60.0	57.0	48.0	44.0	41.0	40.0	39.0	58.3	10.0	68.3
	23	55.4	84.1	39.1	66.0	62.0	57.0	54.0	46.0	43.0	41.0	41.0	40.0	55.4	10.0	65.4
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	56.2	77.7	39.0	67.0	64.0	60.0	58.0	48.0	43.0	40.0	39.0	39.0	24-Hour	Daytime	Nighttime
	Max	64.5	92.8	42.5	74.0	70.0	65.0	63.0	56.0	50.0	45.0	44.0	43.0			
Energy Average		61.0	Average:		71.3	67.8	63.1	60.3	52.3	47.0	42.6	41.7	40.8	60.3		
Evening	Min	54.1	73.9	39.1	67.0	64.0	58.0	55.0	47.0	43.0	40.0	39.0	39.0			
	Max	62.1	88.1	40.6	75.0	73.0	67.0	62.0	51.0	45.0	42.0	41.0	40.0	24-Hour CNEL (dBA)		
Energy Average		59.7	Average:		70.7	67.3	61.3	57.7	48.7	44.0	41.3	40.3	39.7	66.2		
Night	Min	51.1	75.9	39.0	62.0	56.0	47.0	45.0	42.0	41.0	39.0	39.0	39.0			
	Max	65.3	90.4	45.2	76.0	72.0	67.0	64.0	55.0	51.0	47.0	46.0	46.0			
Energy Average		59.3	Average:		67.6	63.7	57.6	54.2	47.9	45.0	42.7	42.2	41.4			

66.2

24-Hour Noise Level Measurement Summary

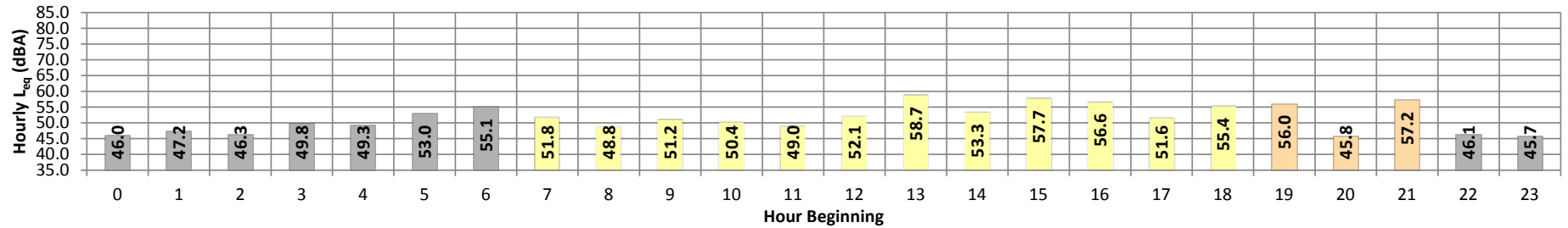
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L5 - Located east of the Project site on Village West Drive
near General Old Golf Course and Riverside National
Cemetery.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	46.0	64.9	40.7	53.0	50.0	48.0	47.0	45.0	44.0	43.0	42.0	41.0	46.0	10.0	56.0
	1	47.2	60.4	42.5	51.0	50.0	50.0	49.0	48.0	46.0	44.0	43.0	43.0	47.2	10.0	57.2
	2	46.3	66.4	42.0	51.0	49.0	48.0	47.0	46.0	45.0	43.0	43.0	42.0	46.3	10.0	56.3
	3	49.8	71.1	44.0	54.0	53.0	51.0	51.0	49.0	49.0	46.0	46.0	45.0	49.8	10.0	59.8
	4	49.3	68.7	44.7	57.0	55.0	52.0	50.0	48.0	47.0	46.0	45.0	45.0	49.3	10.0	59.3
	5	53.0	67.7	46.8	61.0	60.0	57.0	55.0	52.0	51.0	48.0	48.0	47.0	53.0	10.0	63.0
	6	55.1	76.2	49.4	63.0	61.0	58.0	56.0	53.0	52.0	50.0	50.0	50.0	55.1	10.0	65.1
Day	7	51.8	66.5	42.4	60.0	59.0	57.0	55.0	52.0	49.0	44.0	43.0	43.0	51.8	0.0	51.8
	8	48.8	65.2	40.6	59.0	58.0	54.0	52.0	46.0	44.0	43.0	42.0	40.0	48.8	0.0	48.8
	9	51.2	74.5	39.2	63.0	60.0	55.0	52.0	45.0	42.0	40.0	39.0	39.0	51.2	0.0	51.2
	10	50.4	72.5	38.6	63.0	59.0	54.0	52.0	45.0	42.0	39.0	39.0	39.0	50.4	0.0	50.4
	11	49.0	69.2	37.8	60.0	58.0	54.0	52.0	46.0	43.0	40.0	39.0	39.0	49.0	0.0	49.0
	12	52.1	76.4	39.3	63.0	61.0	56.0	53.0	47.0	44.0	41.0	40.0	39.0	52.1	0.0	52.1
	13	58.7	85.4	40.4	70.0	63.0	56.0	54.0	49.0	46.0	43.0	42.0	41.0	58.7	0.0	58.7
	14	53.3	78.3	40.8	63.0	60.0	56.0	54.0	51.0	48.0	45.0	44.0	43.0	53.3	0.0	53.3
	15	57.7	82.0	41.4	69.0	65.0	60.0	58.0	52.0	49.0	45.0	44.0	42.0	57.7	0.0	57.7
	16	56.6	85.1	39.5	63.0	62.0	59.0	57.0	53.0	49.0	43.0	42.0	40.0	56.6	0.0	56.6
Evening	17	51.6	74.5	37.7	63.0	61.0	57.0	54.0	47.0	43.0	39.0	39.0	37.0	51.6	0.0	51.6
	18	55.4	83.0	41.8	64.0	62.0	57.0	55.0	50.0	47.0	44.0	43.0	42.0	55.4	0.0	55.4
	19	56.0	73.4	39.5	69.0	66.0	61.0	59.0	50.0	45.0	40.0	40.0	40.0	56.0	5.0	61.0
Night	20	45.8	61.6	37.8	57.0	54.0	50.0	48.0	44.0	42.0	39.0	39.0	37.0	45.8	5.0	50.8
	21	57.2	78.5	41.2	71.0	66.0	58.0	53.0	46.0	44.0	43.0	42.0	42.0	57.2	5.0	62.2
Night	22	46.1	62.5	40.7	55.0	53.0	49.0	48.0	45.0	43.0	41.0	41.0	40.0	46.1	10.0	56.1
	23	45.7	62.6	40.3	53.0	51.0	48.0	47.0	45.0	44.0	41.0	41.0	40.0	45.7	10.0	55.7
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	48.8	65.2	37.7	59.0	58.0	54.0	52.0	45.0	42.0	39.0	39.0	37.0	24-Hour	Daytime	Nighttime
	Max	58.7	85.4	42.4	70.0	65.0	60.0	58.0	53.0	49.0	45.0	44.0	43.0			
Energy Average		54.3	Average:		63.3	60.7	56.3	54.0	48.6	45.5	42.2	41.3	40.3	53.3	54.4	50.1
Evening	Min	45.8	61.6	37.8	57.0	54.0	50.0	48.0	44.0	42.0	39.0	39.0	37.0			
	Max	57.2	78.5	41.2	71.0	66.0	61.0	59.0	50.0	45.0	43.0	42.0	42.0	24-Hour CNEL (dBA)		
Energy Average		55.1	Average:		65.7	62.0	56.3	53.3	46.7	43.7	40.7	40.3	39.7	58.1		
Night	Min	45.7	60.4	40.3	51.0	49.0	48.0	47.0	45.0	43.0	41.0	41.0	40.0			
	Max	55.1	76.2	49.4	63.0	61.0	58.0	56.0	53.0	52.0	50.0	50.0	50.0			
Energy Average		50.1	Average:		55.3	53.6	51.2	50.0	47.9	46.8	44.7	44.3	43.7			

24-Hour Noise Level Measurement Summary

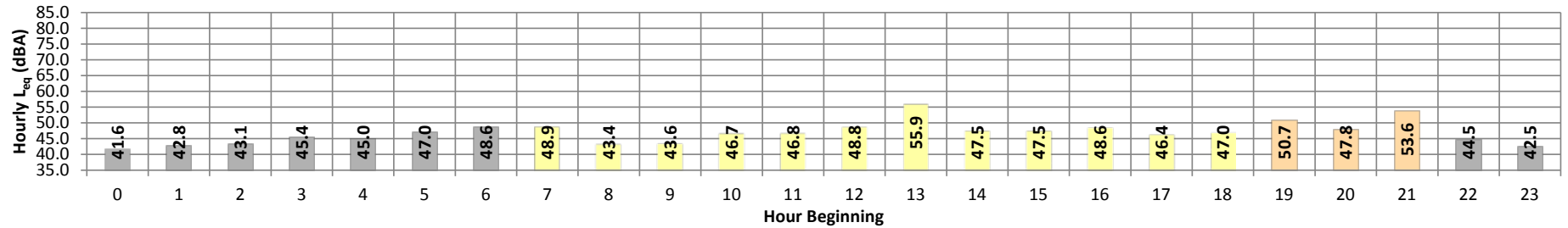
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L6 - Located on white street near the northwest corner of
Altavita Village apartment complex.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	41.6	50.3	39.1	44.0	44.0	44.0	43.0	42.0	41.0	39.0	39.0	39.0	41.6	10.0	51.6
	1	42.8	48.7	39.2	46.0	46.0	45.0	45.0	43.0	42.0	41.0	40.0	39.0	42.8	10.0	52.8
	2	43.1	48.5	40.9	45.0	45.0	44.0	44.0	43.0	42.0	42.0	42.0	41.0	43.1	10.0	53.1
	3	45.4	56.8	42.1	49.0	48.0	47.0	47.0	45.0	44.0	43.0	43.0	42.0	45.4	10.0	55.4
	4	45.0	54.9	41.0	48.0	48.0	47.0	47.0	46.0	44.0	42.0	42.0	42.0	45.0	10.0	55.0
	5	47.0	63.4	43.0	54.0	52.0	49.0	48.0	46.0	45.0	44.0	44.0	44.0	43.0	10.0	57.0
	6	48.6	63.6	43.2	57.0	54.0	51.0	50.0	48.0	46.0	44.0	44.0	44.0	48.6	10.0	58.6
Day	7	48.9	64.4	41.6	55.0	53.0	51.0	51.0	49.0	47.0	43.0	42.0	42.0	48.9	0.0	48.9
	8	43.4	58.6	39.1	52.0	49.0	47.0	46.0	42.0	41.0	39.0	39.0	39.0	43.4	0.0	43.4
	9	43.6	61.6	39.0	53.0	51.0	47.0	46.0	42.0	41.0	39.0	39.0	39.0	43.6	0.0	43.6
	10	46.7	68.2	39.1	58.0	54.0	47.0	46.0	43.0	42.0	41.0	40.0	39.0	46.7	0.0	46.7
	11	46.8	63.0	39.2	57.0	55.0	52.0	50.0	45.0	43.0	41.0	41.0	39.0	46.8	0.0	46.8
	12	48.8	65.8	39.3	61.0	58.0	53.0	51.0	46.0	43.0	41.0	41.0	40.0	48.8	0.0	48.8
	13	55.9	86.0	41.5	66.0	58.0	51.0	48.0	45.0	44.0	42.0	42.0	42.0	55.9	0.0	55.9
	14	47.5	65.2	40.9	57.0	55.0	52.0	50.0	46.0	44.0	42.0	42.0	41.0	47.5	0.0	47.5
	15	47.5	64.1	41.7	58.0	55.0	51.0	49.0	46.0	44.0	43.0	42.0	42.0	47.5	0.0	47.5
	16	48.6	63.3	40.9	58.0	56.0	53.0	52.0	48.0	45.0	43.0	42.0	41.0	48.6	0.0	48.6
	17	46.4	61.7	39.2	55.0	54.0	51.0	49.0	45.0	43.0	41.0	41.0	39.0	46.4	0.0	46.4
	18	47.0	60.8	42.2	55.0	52.0	50.0	49.0	47.0	45.0	43.0	43.0	42.0	47.0	0.0	47.0
Evening	19	50.7	74.0	42.1	58.0	55.0	51.0	49.0	46.0	44.0	43.0	42.0	42.0	50.7	5.0	55.7
	20	47.8	70.8	39.1	61.0	54.0	48.0	46.0	43.0	42.0	39.0	39.0	39.0	47.8	5.0	52.8
	21	53.6	74.0	41.0	68.0	62.0	52.0	49.0	44.0	43.0	42.0	42.0	41.0	53.6	5.0	58.6
Night	22	44.5	67.3	39.3	47.0	45.0	44.0	44.0	43.0	42.0	41.0	41.0	40.0	44.5	10.0	54.5
	23	42.5	53.5	40.4	46.0	45.0	44.0	43.0	42.0	42.0	41.0	41.0	41.0	42.5	10.0	52.5
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	43.4	58.6	39.0	52.0	49.0	47.0	46.0	42.0	41.0	39.0	39.0	39.0	24-Hour	Daytime	Nighttime
	Max	55.9	86.0	42.2	66.0	58.0	53.0	52.0	49.0	47.0	43.0	43.0	42.0			
Energy Average		49.0	Average:		57.1	54.2	50.4	48.9	45.3	43.5	41.5	41.2	40.4	48.4	49.6	45.1
Evening	Min	47.8	70.8	39.1	58.0	54.0	48.0	46.0	43.0	42.0	39.0	39.0	39.0			
	Max	53.6	74.0	42.1	68.0	62.0	52.0	49.0	46.0	44.0	43.0	42.0	42.0	24-Hour CNEL (dBA)		
Energy Average		51.3	Average:		62.3	57.0	50.3	48.0	44.3	43.0	41.3	41.0	40.7	53.3		
Night	Min	41.6	48.5	39.1	44.0	44.0	44.0	43.0	42.0	41.0	39.0	39.0	39.0			
	Max	48.6	67.3	43.2	57.0	54.0	51.0	50.0	48.0	46.0	44.0	44.0	44.0			
Energy Average		45.1	Average:		48.4	47.4	46.1	45.7	44.2	43.1	41.9	41.8	41.2			

24-Hour Noise Level Measurement Summary

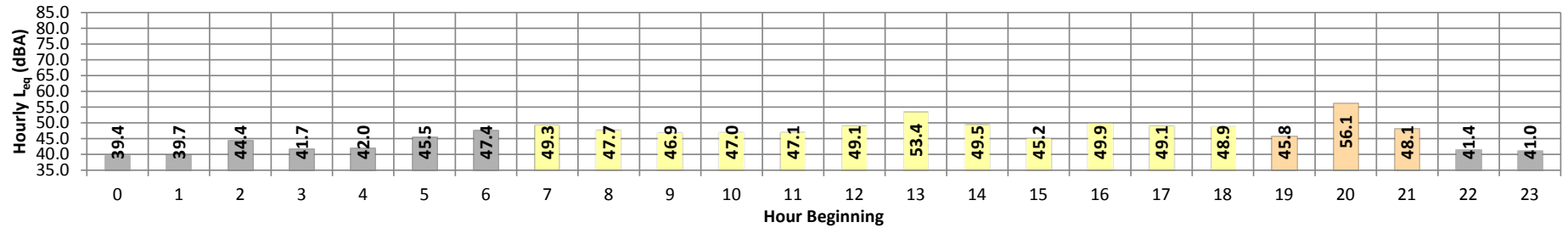
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L7 - Located southwest of 12th Street and Davis Avenue near
Ben Clark Public Safety Training Center.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	39.4	57.7	36.5	44.0	42.0	40.0	39.0	39.0	39.0	38.0	36.0	36.0	39.4	10.0	49.4
	1	39.7	52.0	36.5	46.0	43.0	41.0	41.0	39.0	39.0	36.0	36.0	36.0	39.7	10.0	49.7
	2	44.4	65.9	37.0	56.0	52.0	44.0	43.0	42.0	40.0	39.0	39.0	38.0	44.4	10.0	54.4
	3	41.7	57.5	39.3	48.0	45.0	43.0	43.0	41.0	41.0	39.0	39.0	39.0	41.7	10.0	51.7
	4	42.0	52.7	39.3	49.0	48.0	45.0	44.0	41.0	40.0	39.0	39.0	39.0	42.0	10.0	52.0
	5	45.5	61.7	41.3	52.0	49.0	47.0	47.0	45.0	44.0	42.0	42.0	42.0	45.5	10.0	55.5
	6	47.4	66.8	41.9	55.0	52.0	50.0	49.0	47.0	45.0	43.0	42.0	42.0	47.4	10.0	57.4
Day	7	49.3	67.0	44.9	57.0	55.0	52.0	50.0	48.0	47.0	46.0	46.0	45.0	49.3	0.0	49.3
	8	47.7	63.0	43.1	57.0	54.0	51.0	49.0	46.0	45.0	44.0	44.0	43.0	47.7	0.0	47.7
	9	46.9	64.1	42.2	57.0	54.0	50.0	48.0	45.0	44.0	43.0	43.0	42.0	46.9	0.0	46.9
	10	47.0	61.4	41.3	57.0	55.0	51.0	49.0	45.0	44.0	43.0	43.0	42.0	47.0	0.0	47.0
	11	47.1	63.5	39.5	57.0	55.0	52.0	50.0	45.0	43.0	41.0	41.0	40.0	47.1	0.0	47.1
	12	49.1	65.4	39.5	61.0	58.0	54.0	51.0	47.0	45.0	41.0	41.0	39.0	49.1	0.0	49.1
	13	53.4	74.3	39.5	67.0	64.0	56.0	53.0	47.0	44.0	41.0	41.0	40.0	53.4	0.0	53.4
	14	49.5	68.3	41.1	61.0	58.0	54.0	51.0	46.0	45.0	42.0	42.0	41.0	49.5	0.0	49.5
	15	45.2	58.6	41.2	52.0	49.0	47.0	46.0	45.0	44.0	42.0	42.0	41.0	45.2	0.0	45.2
	16	49.9	62.7	41.6	58.0	56.0	54.0	53.0	50.0	47.0	43.0	43.0	42.0	49.9	0.0	49.9
	17	49.1	66.8	39.5	58.0	57.0	54.0	52.0	48.0	46.0	41.0	41.0	40.0	49.1	0.0	49.1
	18	48.9	67.8	38.8	62.0	60.0	54.0	48.0	43.0	41.0	39.0	39.0	39.0	48.9	0.0	48.9
Evening	19	45.8	67.2	36.5	55.0	53.0	49.0	47.0	42.0	41.0	39.0	39.0	37.0	45.8	5.0	50.8
	20	56.1	76.9	37.4	70.0	68.0	57.0	49.0	42.0	41.0	39.0	39.0	38.0	56.1	5.0	61.1
	21	48.1	67.7	39.2	61.0	58.0	50.0	48.0	44.0	42.0	39.0	39.0	39.0	48.1	5.0	53.1
Night	22	41.4	55.3	36.5	50.0	48.0	45.0	44.0	41.0	39.0	39.0	37.0	36.0	41.4	10.0	51.4
	23	41.0	51.7	36.5	48.0	47.0	45.0	43.0	40.0	39.0	39.0	39.0	37.0	41.0	10.0	51.0
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	45.2	58.6	38.8	52.0	49.0	47.0	46.0	43.0	41.0	39.0	39.0	39.0	24-Hour	Daytime	Nighttime
	Max	53.4	74.3	44.9	67.0	64.0	56.0	53.0	50.0	47.0	46.0	46.0	45.0			
Energy Average		49.1	Average:		58.7	56.3	52.4	50.0	46.3	44.6	42.2	42.2	41.2	48.4	50.0	43.3
Evening	Min	45.8	67.2	36.5	55.0	53.0	49.0	47.0	42.0	41.0	39.0	39.0	37.0			
	Max	56.1	76.9	39.2	70.0	68.0	57.0	49.0	44.0	42.0	39.0	39.0	39.0			
Energy Average		52.3	Average:		62.0	59.7	52.0	48.0	42.7	41.3	39.0	39.0	38.0	52.7		
Night	Min	39.4	51.7	36.5	44.0	42.0	40.0	39.0	39.0	39.0	36.0	36.0	36.0			
	Max	47.4	66.8	41.9	56.0	52.0	50.0	49.0	47.0	45.0	43.0	42.0	42.0			
Energy Average		43.3	Average:		49.8	47.3	44.4	43.7	41.7	40.7	39.3	38.8	38.3			

24-Hour Noise Level Measurement Summary

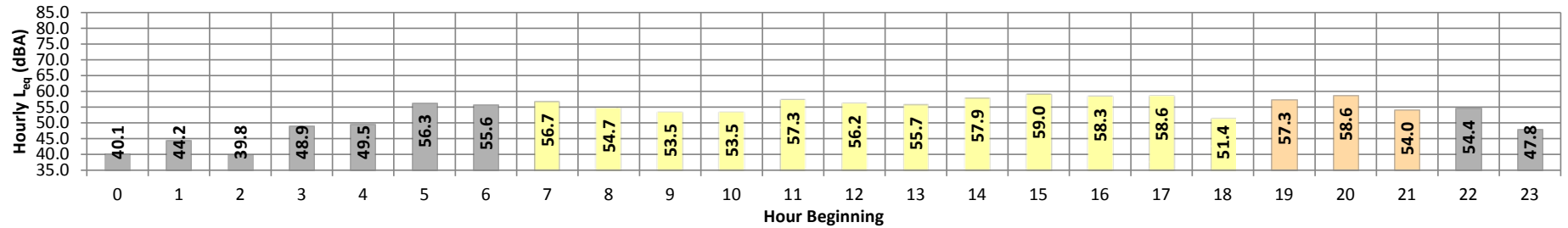
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L8 - Located south of Project site on Larry Parrish Parkway
near existing vacant land.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
Night	0	40.1	51.3	37.5	45.0	44.0	42.0	42.0	40.0	39.0	38.0	38.0	38.0	40.1	10.0	50.1
	1	44.2	71.2	37.9	49.0	46.0	42.0	41.0	39.0	38.0	38.0	38.0	38.0	44.2	10.0	54.2
	2	39.8	51.4	37.9	45.0	44.0	42.0	41.0	39.0	38.0	38.0	38.0	38.0	39.8	10.0	49.8
	3	48.9	75.1	37.9	60.0	53.0	49.0	47.0	43.0	41.0	39.0	39.0	38.0	48.9	10.0	58.9
	4	49.5	73.6	37.9	61.0	55.0	49.0	48.0	45.0	43.0	39.0	39.0	39.0	49.5	10.0	59.5
	5	56.3	77.8	40.8	69.0	66.0	62.0	57.0	47.0	45.0	43.0	42.0	41.0	56.3	10.0	66.3
	6	55.6	75.6	42.3	68.0	66.0	60.0	56.0	51.0	48.0	44.0	43.0	43.0	55.6	10.0	65.6
Day	7	56.7	80.1	40.5	68.0	66.0	63.0	60.0	50.0	48.0	42.0	41.0	41.0	56.7	0.0	56.7
	8	54.7	75.6	37.9	67.0	66.0	62.0	57.0	45.0	41.0	39.0	38.0	38.0	54.7	0.0	54.7
	9	53.5	74.4	37.9	67.0	64.0	59.0	55.0	44.0	40.0	38.0	38.0	38.0	53.5	0.0	53.5
	10	53.5	74.7	37.8	68.0	65.0	57.0	52.0	42.0	39.0	38.0	38.0	38.0	53.5	0.0	53.5
	11	57.3	84.5	37.8	68.0	67.0	62.0	59.0	46.0	41.0	38.0	38.0	38.0	57.3	0.0	57.3
	12	56.2	74.4	37.9	69.0	67.0	63.0	60.0	47.0	41.0	38.0	38.0	38.0	56.2	0.0	56.2
	13	55.7	79.6	37.9	68.0	66.0	61.0	57.0	46.0	42.0	39.0	39.0	38.0	55.7	0.0	55.7
	14	57.9	80.0	38.0	70.0	67.0	64.0	60.0	48.0	43.0	39.0	39.0	38.0	57.9	0.0	57.9
	15	59.0	87.1	39.7	69.0	67.0	64.0	61.0	49.0	45.0	41.0	41.0	39.0	59.0	0.0	59.0
	16	58.3	77.9	37.9	70.0	69.0	66.0	62.0	51.0	47.0	41.0	40.0	38.0	58.3	0.0	58.3
	17	58.6	81.5	37.9	71.0	68.0	64.0	62.0	50.0	45.0	39.0	39.0	38.0	58.6	0.0	58.6
	18	51.4	73.4	39.5	65.0	59.0	53.0	50.0	45.0	43.0	41.0	41.0	39.0	51.4	0.0	51.4
Evening	19	57.3	76.1	39.6	69.0	67.0	61.0	59.0	51.0	45.0	41.0	41.0	40.0	57.3	5.0	62.3
	20	58.6	75.9	42.8	68.0	65.0	61.0	60.0	60.0	55.0	51.0	49.0	44.0	58.6	5.0	63.6
	21	54.0	71.7	39.7	60.0	60.0	60.0	60.0	54.0	47.0	41.0	41.0	40.0	54.0	5.0	59.0
Night	22	54.4	61.1	37.9	60.0	60.0	59.0	59.0	57.0	43.0	39.0	38.0	38.0	54.4	10.0	64.4
	23	47.8	73.3	37.9	58.0	52.0	45.0	44.0	42.0	41.0	39.0	39.0	38.0	47.8	10.0	57.8
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	51.4	73.4	37.8	65.0	59.0	53.0	50.0	42.0	39.0	38.0	38.0	38.0	24-Hour	Daytime	Nighttime
	Max	59.0	87.1	40.5	71.0	69.0	66.0	62.0	51.0	48.0	42.0	41.0	41.0			
Energy Average		56.6	Average:		68.3	65.9	61.5	57.9	46.9	42.9	39.4	39.2	38.4	55.4	56.7	51.7
Evening	Min	54.0	71.7	39.6	60.0	60.0	60.0	59.0	51.0	45.0	41.0	41.0	40.0			
	Max	58.6	76.1	42.8	69.0	67.0	61.0	60.0	60.0	55.0	51.0	49.0	44.0	24-Hour CNEL (dBA)		
Energy Average		57.0	Average:		65.7	64.0	60.7	59.7	55.0	49.0	44.3	43.7	41.3	59.9		
Night	Min	39.8	51.3	37.5	45.0	44.0	42.0	41.0	39.0	38.0	38.0	38.0	38.0			
	Max	56.3	77.8	42.3	69.0	66.0	62.0	59.0	57.0	48.0	44.0	43.0	43.0			
Energy Average		51.7	Average:		57.2	54.0	50.0	48.3	44.8	41.8	39.7	39.3	39.0			

24-Hour Noise Level Measurement Summary

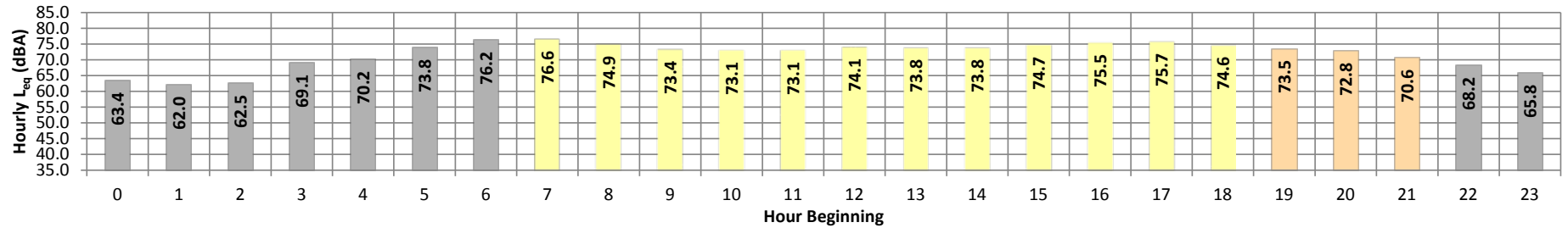
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L9 - Located west of the Project site on Barton Street and
Lurin Avenue near existing single-family homes.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}		
Night	0	63.4	87.1	37.1	77.0	74.0	68.0	62.0	47.0	40.0	38.0	38.0	37.0	63.4	10.0	73.4		
	1	62.0	87.2	37.8	76.0	73.0	64.0	56.0	45.0	41.0	38.0	38.0	37.0	62.0	10.0	72.0		
	2	62.5	85.8	37.8	77.0	73.0	62.0	56.0	42.0	39.0	39.0	38.0	37.0	62.5	10.0	72.5		
	3	69.1	94.6	37.9	81.0	79.0	75.0	72.0	55.0	45.0	39.0	39.0	38.0	69.1	10.0	79.1		
	4	70.2	87.9	37.8	81.0	80.0	78.0	76.0	64.0	53.0	42.0	40.0	37.0	70.2	10.0	80.2		
	5	73.8	89.0	40.9	83.0	82.0	80.0	79.0	74.0	64.0	47.0	45.0	43.0	73.8	10.0	83.8		
	6	76.2	90.0	45.1	83.0	83.0	81.0	80.0	77.0	72.0	55.0	52.0	48.0	76.2	10.0	86.2		
Day	7	76.6	90.7	45.1	83.0	82.0	81.0	80.0	78.0	74.0	62.0	58.0	51.0	76.6	0.0	76.6		
	8	74.9	91.8	37.9	83.0	82.0	80.0	80.0	76.0	69.0	48.0	43.0	39.0	74.9	0.0	74.9		
	9	73.4	87.8	35.4	82.0	81.0	79.0	78.0	74.0	64.0	41.0	39.0	37.0	73.4	0.0	73.4		
	10	73.1	90.7	34.9	82.0	81.0	79.0	78.0	73.0	63.0	39.0	38.0	37.0	73.1	0.0	73.1		
	11	73.1	90.3	36.8	82.0	81.0	79.0	78.0	74.0	65.0	45.0	41.0	38.0	73.1	0.0	73.1		
	12	74.1	88.0	37.5	82.0	81.0	79.0	78.0	75.0	70.0	46.0	41.0	38.0	74.1	0.0	74.1		
	13	73.8	88.8	37.7	82.0	81.0	79.0	79.0	75.0	67.0	43.0	40.0	38.0	73.8	0.0	73.8		
	14	73.8	92.1	37.5	82.0	81.0	79.0	78.0	75.0	68.0	45.0	42.0	38.0	73.8	0.0	73.8		
	15	74.7	94.2	37.7	83.0	81.0	80.0	79.0	76.0	70.0	48.0	43.0	38.0	74.7	0.0	74.7		
	16	75.5	88.9	35.9	83.0	82.0	80.0	79.0	77.0	72.0	54.0	48.0	39.0	75.5	0.0	75.5		
	17	75.7	88.5	37.3	83.0	82.0	80.0	80.0	77.0	72.0	53.0	49.0	41.0	75.7	0.0	75.7		
	18	74.6	86.3	41.5	82.0	81.0	80.0	79.0	76.0	70.0	51.0	48.0	43.0	74.6	0.0	74.6		
Evening	19	73.5	91.1	42.6	81.0	81.0	79.0	78.0	74.0	67.0	50.0	47.0	44.0	73.5	5.0	78.5		
	20	72.8	86.5	41.9	81.0	80.0	79.0	78.0	74.0	65.0	47.0	45.0	43.0	72.8	5.0	77.8		
	21	70.6	84.6	40.9	81.0	80.0	78.0	76.0	68.0	56.0	44.0	43.0	42.0	70.6	5.0	75.6		
Night	22	68.2	86.0	39.6	79.0	78.0	76.0	74.0	62.0	48.0	41.0	41.0	40.0	68.2	10.0	78.2		
	23	65.8	88.1	39.6	78.0	77.0	73.0	70.0	53.0	44.0	41.0	41.0	40.0	65.8	10.0	75.8		
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)				
Day	Min	73.1	86.3	34.9	82.0	81.0	79.0	78.0	73.0	63.0	39.0	38.0	37.0	24-Hour	Daytime	Nighttime		
	Max	76.6	94.2	45.1	83.0	82.0	81.0	80.0	78.0	74.0	62.0	58.0	51.0					
Energy Average		74.6	Average:		82.4	81.3	79.6	78.8	75.5	68.7	47.9	44.2	39.8	73.2			74.2	70.5
Evening	Min	70.6	84.6	40.9	81.0	80.0	78.0	76.0	68.0	56.0	44.0	43.0	42.0					
	Max	73.5	91.1	42.6	81.0	81.0	79.0	78.0	74.0	67.0	50.0	47.0	44.0	24-Hour CNEL (dBA)				
Energy Average		72.5	Average:		81.0	80.3	78.7	77.3	72.0	62.7	47.0	45.0	43.0	78.0				
Night	Min	62.0	85.8	37.1	76.0	73.0	62.0	56.0	42.0	39.0	38.0	38.0	37.0					
	Max	76.2	94.6	45.1	83.0	83.0	81.0	80.0	77.0	72.0	55.0	52.0	48.0					
Energy Average		70.5	Average:		79.4	77.7	73.0	69.4	57.7	49.6	42.2	41.3	39.7					

24-Hour Noise Level Measurement Summary

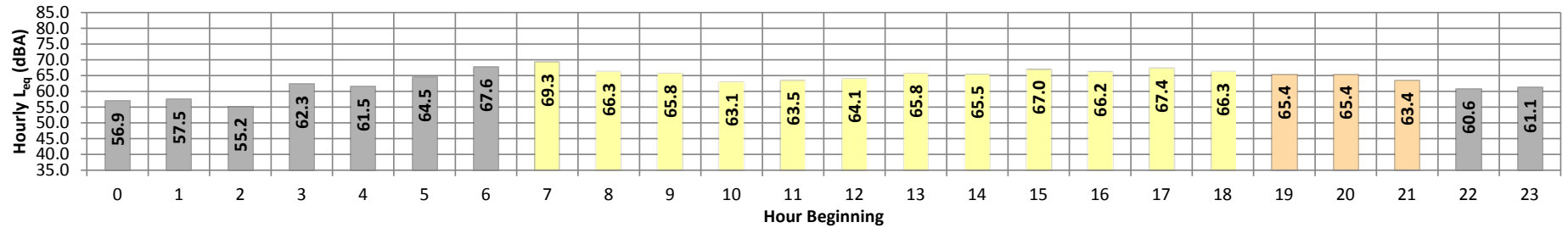
Date: Wednesday, September 04, 2019
Project: Meridian South Campus

Location: L10 - Located west of Project site on Barton Street and Glass Ranch Road near existing single family homes and orange farm.

Meter: Piccolo I

JN: 12761
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}		
Night	0	56.9	78.0	39.8	70.0	67.0	62.0	57.0	51.0	47.0	45.0	41.0	40.0	56.9	10.0	66.9		
	1	57.5	86.2	40.4	68.0	65.0	58.0	55.0	52.0	51.0	50.0	49.0	43.0	57.5	10.0	67.5		
	2	55.2	78.1	40.3	68.0	65.0	57.0	53.0	50.0	48.0	45.0	43.0	40.0	55.2	10.0	65.2		
	3	62.3	91.1	41.6	72.0	70.0	66.0	64.0	53.0	51.0	50.0	48.0	46.0	62.3	10.0	72.3		
	4	61.5	81.6	44.5	73.0	71.0	68.0	66.0	57.0	52.0	49.0	48.0	46.0	61.5	10.0	71.5		
	5	64.5	81.5	45.0	75.0	73.0	70.0	69.0	64.0	56.0	50.0	49.0	46.0	64.5	10.0	74.5		
	6	67.6	84.9	46.8	77.0	75.0	73.0	72.0	67.0	62.0	52.0	51.0	49.0	67.6	10.0	77.6		
Day	7	69.3	91.0	42.8	78.0	76.0	74.0	73.0	69.0	65.0	53.0	51.0	45.0	69.3	0.0	69.3		
	8	66.3	82.7	38.5	75.0	74.0	72.0	71.0	66.0	60.0	44.0	42.0	40.0	66.3	0.0	66.3		
	9	65.8	93.2	39.1	75.0	73.0	70.0	69.0	63.0	55.0	43.0	41.0	40.0	65.8	0.0	65.8		
	10	63.1	82.0	38.4	73.0	72.0	69.0	68.0	62.0	54.0	43.0	41.0	39.0	63.1	0.0	63.1		
	11	63.5	81.2	38.5	73.0	72.0	69.0	68.0	63.0	56.0	45.0	43.0	41.0	63.5	0.0	63.5		
	12	64.1	80.2	40.3	72.0	71.0	70.0	68.0	64.0	59.0	48.0	46.0	44.0	64.1	0.0	64.1		
	13	65.8	89.9	41.8	76.0	74.0	70.0	69.0	64.0	59.0	48.0	46.0	44.0	65.8	0.0	65.8		
	14	65.5	88.5	42.5	76.0	74.0	71.0	69.0	65.0	59.0	48.0	46.0	44.0	65.5	0.0	65.5		
	15	67.0	93.6	41.2	77.0	74.0	71.0	70.0	65.0	60.0	47.0	45.0	43.0	67.0	0.0	67.0		
	16	66.2	90.3	39.5	75.0	73.0	71.0	70.0	66.0	61.0	47.0	44.0	41.0	66.2	0.0	66.2		
	17	67.4	85.2	38.5	76.0	74.0	72.0	71.0	68.0	63.0	48.0	45.0	42.0	67.4	0.0	67.4		
	18	66.3	83.3	42.5	75.0	73.0	72.0	71.0	67.0	61.0	50.0	48.0	45.0	66.3	0.0	66.3		
Evening	19	65.4	81.5	43.9	74.0	73.0	71.0	70.0	66.0	60.0	51.0	49.0	45.0	65.4	5.0	70.4		
	20	65.4	85.8	42.2	75.0	73.0	71.0	70.0	65.0	59.0	47.0	45.0	43.0	65.4	5.0	70.4		
	21	63.4	81.8	44.1	73.0	72.0	70.0	69.0	61.0	53.0	46.0	46.0	45.0	63.4	5.0	68.4		
Night	22	60.6	78.7	43.3	71.0	70.0	68.0	66.0	56.0	48.0	45.0	44.0	44.0	60.6	10.0	70.6		
	23	61.1	90.6	38.5	71.0	69.0	66.0	62.0	50.0	45.0	41.0	40.0	39.0	61.1	10.0	71.1		
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)				
Day	Min	63.1	80.2	38.4	72.0	71.0	69.0	68.0	62.0	54.0	43.0	41.0	39.0	24-Hour	Daytime	Nighttime		
	Max	69.3	93.6	42.8	78.0	76.0	74.0	73.0	69.0	65.0	53.0	51.0	45.0					
Energy Average		66.2	Average:		75.1	73.3	70.9	69.8	65.2	59.3	47.0	44.8	42.3	64.9	65.9	62.4		
Evening	Min	63.4	81.5	42.2	73.0	72.0	70.0	69.0	61.0	53.0	46.0	45.0	43.0					
	Max	65.4	85.8	44.1	75.0	73.0	71.0	70.0	66.0	60.0	51.0	49.0	45.0					
Energy Average		64.8	Average:		74.0	72.7	70.7	69.7	64.0	57.3	48.0	46.7	44.3	24-Hour CNEL (dBA)				
Night	Min	55.2	78.0	38.5	68.0	65.0	57.0	53.0	50.0	45.0	41.0	40.0	39.0	69.9				
	Max	67.6	91.1	46.8	77.0	75.0	73.0	72.0	67.0	62.0	52.0	51.0	49.0					
Energy Average		62.4	Average:		71.7	69.4	65.3	62.7	55.6	51.1	47.4	45.9	43.7					

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Wood Rd. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 12,963 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,002 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
				Autos:		0.000				
				Medium Trucks:		2.297				
				Heavy Trucks:		8.004				
				Grade Adjustment: 0.0						
				Lane Equivalent Distance (in feet)						
				Autos:		40.460				
				Medium Trucks:		40.241				
				Heavy Trucks:		40.262				
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	-2.22	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	79.45	-15.16	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-15.87	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	66.3	65.2	63.1	60.4	67.8	68.2				
Medium Trucks:	64.4	63.4	59.6	58.7	66.0	66.3				
Heavy Trucks:	68.5	67.6	63.1	62.6	69.9	70.2				
Vehicle Noise:	71.5	70.5	67.0	65.6	73.0	73.3				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			70	150	323	696				
CNEL:			73	157	337	727				

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: Existing (2019) Road Name: Wood Rd. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 17,647 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,364 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 40.460				
				Medium Trucks: 40.241				
				Heavy Trucks: 40.262				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	66.51	-0.37	1.28	-1.20	-4.61	0.000	0.000	
Medium Trucks:	77.72	-13.31	1.31	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	82.99	-14.02	1.31	-1.20	-5.50	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	66.2	65.1	63.0	60.3	67.7	68.1		
Medium Trucks:	64.5	63.5	59.7	58.8	66.1	66.4		
Heavy Trucks:	69.1	68.2	63.7	63.1	70.5	70.8		
Vehicle Noise:	71.8	70.8	67.2	65.9	73.3	73.6		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			73	157	338	729		
CNEL:			76	164	353	761		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Trautwein Rd. Road Segment: n/o Canyon Crest Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 14,943 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,155 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-2.06	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-15.00	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-15.71	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.1	65.9	63.8	61.2	68.6	68.9			
Medium Trucks:	64.9	63.9	60.2	59.2	66.5	66.8			
Heavy Trucks:	68.6	67.7	63.2	62.7	70.1	70.3			
Vehicle Noise:	71.9	70.9	67.4	66.0	73.4	73.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			101	218	469	1,011			
CNEL:			106	228	490	1,057			

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: Existing (2019) Road Name: Trautwein Rd. Road Segment: s/o Canyon Crest Dr.			Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 479 vehicles			Autos: 15				
Peak Hour Percentage: 7.73%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 37 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph							
Near/Far Lane Distance: 72 feet			Vehicle Mix				
			Vehicle Type	Day	Evening	Night	Daily
			Autos: 71.1% 10.9% 18.0% 91.42%				
			Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
			Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Site Data			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet			Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks: 2.297				
Centerline Dist. to Barrier: 60.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 60.0 feet							
Barrier Distance to Observer: 0.0 feet							
Observer Height (Above Pad): 5.0 feet							
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet							
Road Grade: 0.0%			Lane Equivalent Distance (in feet)				
Left View: -90.0 degrees			Autos: 48.260				
Right View: 90.0 degrees			Medium Trucks: 48.076				
			Heavy Trucks: 48.094				
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-17.00	0.13	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-29.95	0.15	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-30.66	0.15	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	52.1	51.0	48.9	46.2	53.6	54.0	
Medium Trucks:	50.0	49.0	45.2	44.3	51.6	51.9	
Heavy Trucks:	53.7	52.8	48.3	47.7	55.1	55.4	
Vehicle Noise:	57.0	56.0	52.5	51.1	58.5	58.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			10	22	47	102	
CNEL:			11	23	49	107	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: Existing (2019) Road Name: Trautwein Rd. Road Segment: s/o Alessandro Bl.				Project Name: Meridian South Campus Job Number: 12761							
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 36,613 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,830 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15							
Site Data				Vehicle Mix							
				Vehicle Type	Day	Evening	Night	Daily			
				Autos: 71.1% 10.9% 18.0% 91.42%							
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%							
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%							
				Noise Source Elevations (in feet)							
				Autos: 0.000							
				Medium Trucks: 2.297							
				Heavy Trucks: 8.004 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)							
				Autos: 49.739							
				Medium Trucks: 49.561							
				Heavy Trucks: 49.578							
				FHWA Noise Model Calculations							
				Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos: 70.20 1.83 -0.07 -1.20 -4.67 0.000 0.000											
Medium Trucks: 81.00 -11.11 -0.05 -1.20 -4.87 0.000 0.000											
Heavy Trucks: 85.38 -11.82 -0.05 -1.20 -5.38 0.000 0.000											
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos: 70.8 69.6 67.5 64.9 72.3 72.6											
Medium Trucks: 68.6 67.6 63.9 62.9 70.2 70.5											
Heavy Trucks: 72.3 71.4 66.9 66.4 73.8 74.0											
Vehicle Noise: 75.6 74.6 71.1 69.7 77.1 77.4											
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				163	352	758	1,634				
CNEL:				171	368	793	1,708				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Trautwein Rd. Road Segment: n/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 36,018 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,784 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 48 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004				
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Grade: 0.0%					Autos: 49.739				
Left View: -90.0 degrees					Medium Trucks: 49.561				
Right View: 90.0 degrees					Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.76	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-11.18	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-11.89	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.7	69.5	67.4	64.8	72.2	72.6			
Medium Trucks:	68.6	67.6	63.8	62.9	70.2	70.4			
Heavy Trucks:	72.2	71.3	66.8	66.3	73.7	73.9			
Vehicle Noise:	75.5	74.5	71.1	69.7	77.0	77.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				162	348	750	1,616		
CNEL:				169	364	784	1,689		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Trautwein Rd. Road Segment: s/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,171 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,868 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.03	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-12.92	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-13.63	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.0	67.8	65.7	63.1	70.5	70.8			
Medium Trucks:	66.8	65.8	62.1	61.1	68.4	68.7			
Heavy Trucks:	70.5	69.6	65.1	64.6	72.0	72.2			
Vehicle Noise:	73.8	72.8	69.3	67.9	75.3	75.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				124	267	575	1,239		
CNEL:				129	279	601	1,295		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Barton St. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,852 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 375 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph					Vehicle Mix				
Near/Far Lane Distance: 36 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 44.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 44.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 40.460				
Road Grade: 0.0%					Medium Trucks: 40.241				
Left View: -90.0 degrees					Heavy Trucks: 40.262				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-5.97	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-18.92	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-19.63	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	60.6	59.5	57.3	54.7	62.1	62.5			
Medium Trucks:	58.9	57.9	54.1	53.2	60.5	60.8			
Heavy Trucks:	63.5	62.6	58.1	57.5	64.9	65.2			
Vehicle Noise:	66.2	65.2	61.6	60.3	67.7	68.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				31	66	143	308		
CNEL:				32	69	149	322		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Barton St. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,734 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 907 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-2.14	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-15.08	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-15.79	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	64.4	63.3	61.2	58.6	65.9	66.3			
Medium Trucks:	62.7	61.7	58.0	57.0	64.3	64.6			
Heavy Trucks:	67.3	66.4	61.9	61.4	68.8	69.0			
Vehicle Noise:	70.0	69.0	65.4	64.1	71.5	71.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				56	120	258	555		
CNEL:				58	125	269	580		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Barton St. Road Segment: n/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,881 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 841 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph					Vehicle Mix				
Near/Far Lane Distance: 36 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 44.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 44.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 40.460				
Road Grade: 0.0%					Medium Trucks: 40.241				
Left View: -90.0 degrees					Heavy Trucks: 40.262				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-2.47	1.28	-1.20	-4.61	0.000		0.000	
Medium Trucks:	77.72	-15.41	1.31	-1.20	-4.87	0.000		0.000	
Heavy Trucks:	82.99	-16.12	1.31	-1.20	-5.50	0.000		0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	64.1	63.0	60.9	58.2	65.6	66.0			
Medium Trucks:	62.4	61.4	57.6	56.7	64.0	64.3			
Heavy Trucks:	67.0	66.1	61.6	61.0	68.4	68.7			
Vehicle Noise:	69.7	68.7	65.1	63.8	71.2	71.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				53	114	245	528		
CNEL:				55	119	256	551		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Barton St. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,260 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 793 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-2.72	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-15.67	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-16.38	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.9	62.7	60.6	58.0	65.4	65.7			
Medium Trucks:	62.2	61.2	57.4	56.4	63.8	64.0			
Heavy Trucks:	66.7	65.8	61.3	60.8	68.2	68.4			
Vehicle Noise:	69.4	68.5	64.8	63.6	70.9	71.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				51	109	236	508		
CNEL:				53	114	246	530		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Barton St. Road Segment: s/o Lurin Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,091 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 780 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph					Vehicle Mix				
Near/Far Lane Distance: 36 feet					Vehicle Type				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 44.0 feet					Daily				
Centerline Dist. to Observer: 44.0 feet					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Pad Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Elevation: 0.0 feet					Autos: 0.000				
Road Grade: 0.0%					Medium Trucks: 2.297				
Left View: -90.0 degrees					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Right View: 90.0 degrees					Lane Equivalent Distance (in feet)				
					Autos: 40.460				
					Medium Trucks: 40.241				
					Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-2.79	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-15.74	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-16.45	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.8	62.6	60.5	57.9	65.3	65.7			
Medium Trucks:	62.1	61.1	57.3	56.4	63.7	63.9			
Heavy Trucks:	66.7	65.8	61.3	60.7	68.1	68.3			
Vehicle Noise:	69.4	68.4	64.8	63.5	70.9	71.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				50	108	233	502		
CNEL:				52	113	243	524		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Coyote Bush Rd. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 1,708 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 132 vehicles Vehicle Speed: 25 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type	Day	Evening	Night	Daily		
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%						
				Noise Source Elevations (in feet)						
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0						
				Lane Equivalent Distance (in feet)						
				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589						
				FHWA Noise Model Calculations						
				Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten
Autos:				58.73	-8.47	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:				70.80	-21.41	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:				77.97	-22.12	2.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:		51.7	50.5	48.4	45.8	53.2	53.6			
Medium Trucks:		50.9	49.9	46.1	45.2	52.5	52.7			
Heavy Trucks:		57.3	56.4	51.9	51.4	58.8	59.0			
Vehicle Noise:		59.1	58.1	54.3	53.2	60.6	60.8			
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				8	17	36	78			
CNEL:				8	17	38	81			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Orange Terrace Pkwy. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		7,581 vehicles		Autos:		15			
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15			
Peak Hour Volume:		586 vehicles		Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		45 mph		Vehicle Mix					
Near/Far Lane Distance:		48 feet		Vehicle Type		Day	Evening	Night	Daily
Site Data				Autos:		71.1%	10.9%	18.0%	91.42%
Barrier Height:		0.0 feet		Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:		55.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		55.0 feet		Autos:		0.000			
Barrier Distance to Observer:		0.0 feet		Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet		Heavy Trucks:		8.004		Grade Adjustment: 0.0	
Pad Elevation:		0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation:		0.0 feet		Autos:		49.739			
Road Grade:		0.0%		Medium Trucks:		49.561			
Left View:		-90.0 degrees		Heavy Trucks:		49.578			
Right View:		90.0 degrees							
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-4.55	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-17.49	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-18.20	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	62.6	61.5	59.4	56.8	64.1	64.5			
Medium Trucks:	60.7	59.7	55.9	55.0	62.3	62.6			
Heavy Trucks:	64.8	63.9	59.4	58.9	66.3	66.5			
Vehicle Noise:	67.8	66.8	63.3	61.9	69.3	69.6			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			49	106	229	494			
CNEL:			52	111	240	516			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Village West Dr. Road Segment: n/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 4,661 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 360 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees						Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004		Grade Adjustment: 0.0		
				Lane Equivalent Distance (in feet)						
						Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	-6.15	-0.33	-1.20	-4.67	0.000	0.000			
Medium Trucks:	77.72	-19.09	-0.30	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-19.80	-0.31	-1.20	-5.37	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	58.8	57.7	55.6	53.0	60.3	60.7				
Medium Trucks:	57.1	56.1	52.3	51.4	58.7	59.0				
Heavy Trucks:	61.7	60.8	56.3	55.8	63.1	63.4				
Vehicle Noise:	64.4	63.4	59.8	58.5	65.9	66.2				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			30	64	138	298				
CNEL:			31	67	144	311				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Village West Dr. Road Segment: s/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 1,488 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 115 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 24 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 39.0 feet Centerline Dist. to Observer: 39.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
Autos: 37.443 Medium Trucks: 37.206 Heavy Trucks: 37.229									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-11.11	1.78	-1.20	-4.58	0.000	0.000		
Medium Trucks:	77.72	-24.05	1.82	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-24.76	1.82	-1.20	-5.57	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	56.0	54.8	52.7	50.1	57.5	57.9			
Medium Trucks:	54.3	53.3	49.5	48.6	55.9	56.1			
Heavy Trucks:	58.8	58.0	53.4	52.9	60.3	60.5			
Vehicle Noise:	61.6	60.6	57.0	55.7	63.1	63.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				13	29	62	134		
CNEL:				14	30	65	140		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Meridian Pkwy. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 20,377 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,575 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740				
					Medium Trucks: 51.568				
					Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-0.25	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-13.20	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-13.91	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.7	65.5	63.4	60.8	68.2	68.5			
Medium Trucks:	64.7	63.7	60.0	59.0	66.3	66.6			
Heavy Trucks:	68.8	67.9	63.4	62.9	70.3	70.5			
Vehicle Noise:	71.8	70.9	67.3	66.0	73.3	73.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				94	201	434	935		
CNEL:				98	210	453	977		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: Existing (2019) Road Name: Meridian Pkwy. Road Segment: n/o Cactus Av.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,600 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,515 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 51.740				
				Medium Trucks: 51.568				
				Heavy Trucks: 51.585				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	-0.42	-0.33	-1.20	-4.67	0.000	0.000	
Medium Trucks:	79.45	-13.37	-0.30	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	84.25	-14.08	-0.31	-1.20	-5.37	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	66.5	65.4	63.2	60.6	68.0	68.4		
Medium Trucks:	64.6	63.6	59.8	58.9	66.2	66.4		
Heavy Trucks:	68.7	67.8	63.3	62.7	70.1	70.4		
Vehicle Noise:	71.7	70.7	67.2	65.8	73.2	73.5		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			91	196	423	911		
CNEL:			95	205	442	952		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Meridian Pkwy. Road Segment: s/o Cactus Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 16,379 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,266 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.42%					
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000					
				Medium Trucks: 2.297					
				Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 51.740					
				Medium Trucks: 51.568					
				Heavy Trucks: 51.585					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-1.20	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-14.15	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-14.86	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.7	64.6	62.5	59.8	67.2	67.6			
Medium Trucks:	63.8	62.8	59.0	58.1	65.4	65.7			
Heavy Trucks:	67.9	67.0	62.5	62.0	69.3	69.6			
Vehicle Noise:	70.9	69.9	66.4	65.0	72.4	72.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			81	174	375	808			
CNEL:			84	182	392	844			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Meridian Pkwy. Road Segment: n/o Opportunity Way				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 16,651 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,287 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type		Day	Evening	Night	Daily
				Autos:		71.1%	10.9%	18.0%	91.42%
				Medium Trucks:		73.6%	7.7%	18.6%	4.64%
				Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)					
				Autos:		0.000			
				Medium Trucks:		2.297			
				Heavy Trucks:		8.004		Grade Adjustment: 0.0	
				Lane Equivalent Distance (in feet)					
				Autos:		51.740			
				Medium Trucks:		51.568			
				Heavy Trucks:		51.585			
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-1.13	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-14.08	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-14.79	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.8	64.6	62.5	59.9	67.3	67.7			
Medium Trucks:	63.9	62.9	59.1	58.1	65.5	65.7			
Heavy Trucks:	68.0	67.1	62.6	62.0	69.4	69.7			
Vehicle Noise:	71.0	70.0	66.4	65.1	72.5	72.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA		65 dBA		60 dBA		55 dBA
Ldn:			82		176		379		817
CNEL:			85		184		396		854

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: Existing (2019) Road Name: Meridian Pkwy. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,503 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 812 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
Autos: 51.740								
Medium Trucks: 51.568								
Heavy Trucks: 51.585								
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	-3.13	-0.33	-1.20	-4.67	0.000	0.000	
Medium Trucks:	79.45	-16.08	-0.30	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	84.25	-16.79	-0.31	-1.20	-5.37	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	63.8	62.6	60.5	57.9	65.3	65.7		
Medium Trucks:	61.9	60.9	57.1	56.1	63.5	63.7		
Heavy Trucks:	66.0	65.1	60.6	60.0	67.4	67.7		
Vehicle Noise:	69.0	68.0	64.4	63.1	70.5	70.7		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			60	130	279	601		
CNEL:			63	135	291	628		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Day St. Road Segment: n/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,365 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 801 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.42%
					Medium Trucks:		73.6%	7.7%	18.6%	4.64%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		36.551			
					Medium Trucks:		36.308			
					Heavy Trucks:		36.332			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	-2.68	1.94	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-15.62	1.98	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-16.33	1.98	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	64.6	63.4	61.3	58.7	66.1	66.4				
Medium Trucks:	62.9	61.9	58.1	57.2	64.5	64.7				
Heavy Trucks:	67.4	66.5	62.0	61.5	68.9	69.1				
Vehicle Noise:	70.1	69.2	65.6	64.3	71.6	71.9				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				57	122	263	566			
CNEL:				59	127	274	591			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Day St. Road Segment: s/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 7,769 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 601 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 36.551 Medium Trucks: 36.308 Heavy Trucks: 36.332				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-3.93	1.94	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-16.88	1.98	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-17.59	1.98	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.3	62.2	60.1	57.4	64.8	65.2			
Medium Trucks:	61.6	60.6	56.8	55.9	63.2	63.5			
Heavy Trucks:	66.2	65.3	60.8	60.3	67.6	67.9			
Vehicle Noise:	68.9	67.9	64.3	63.0	70.4	70.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				47	101	217	467		
CNEL:				49	105	226	488		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Alessandro Bl. Road Segment: w/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 46,485 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,593 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.46	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.49	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.20	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.2	72.0	69.9	67.3	74.7	75.0			
Medium Trucks:	70.9	69.9	66.1	65.1	72.5	72.7			
Heavy Trucks:	74.1	73.3	68.7	68.2	75.6	75.8			
Vehicle Noise:	77.7	76.7	73.3	71.8	79.2	79.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				246	531	1,144	2,464		
CNEL:				258	555	1,196	2,577		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Alessandro Bl. Road Segment: e/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 49,202 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,803 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.70	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.24	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-10.95	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.4	72.3	70.1	67.5	74.9	75.3			
Medium Trucks:	71.1	70.1	66.3	65.4	72.7	73.0			
Heavy Trucks:	74.4	73.5	69.0	68.5	75.9	76.1			
Vehicle Noise:	77.9	76.9	73.5	72.1	79.4	79.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				256	551	1,188	2,559		
CNEL:				268	577	1,242	2,676		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Alessandro Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 44,182 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,415 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.24	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.71	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.42	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.9	71.8	69.7	67.1	74.4	74.8			
Medium Trucks:	70.6	69.6	65.9	64.9	72.2	72.5			
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6			
Vehicle Noise:	77.5	76.5	73.1	71.6	79.0	79.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				238	513	1,106	2,382		
CNEL:				249	537	1,156	2,491		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Alessandro Bl. Road Segment: w/o Old 215 Frontage Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 35,971 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,781 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.21	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-10.73	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.44	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.6	68.4	66.3	63.7	71.1	71.5			
Medium Trucks:	67.7	66.7	62.9	62.0	69.3	69.5			
Heavy Trucks:	71.8	70.9	66.4	65.8	73.2	73.5			
Vehicle Noise:	74.8	73.8	70.2	68.9	76.3	76.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				157	338	729	1,570		
CNEL:				164	353	761	1,639		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Alessandro Bl. Road Segment: w/o Day St.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 29,951 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,315 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.42%
					Medium Trucks:		73.6%	7.7%	18.6%	4.64%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
					Noise Source Elevations (in feet)					
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	1.42	-0.51	-1.20	-4.71	0.000	0.000			
Medium Trucks:	79.45	-11.53	-0.49	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	84.25	-12.24	-0.49	-1.20	-5.29	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	68.2	67.0	64.9	62.3	69.7	70.0				
Medium Trucks:	66.2	65.2	61.5	60.5	67.8	68.1				
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0				
Vehicle Noise:	73.3	72.3	68.8	67.5	74.8	75.1				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				141		303		653		1,406
CNEL:				147		316		682		1,468

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Alessandro Bl. Road Segment: e/o Day St.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 29,744 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,299 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
					Noise Source Elevations (in feet)					
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004					Grade Adjustment: 0.0
					Lane Equivalent Distance (in feet)					
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	1.39	-0.51	-1.20	-4.71	0.000	0.000			
Medium Trucks:	79.45	-11.56	-0.49	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	84.25	-12.27	-0.49	-1.20	-5.29	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	68.1	67.0	64.9	62.3	69.6	70.0				
Medium Trucks:	66.2	65.2	61.4	60.5	67.8	68.1				
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0				
Vehicle Noise:	73.3	72.3	68.8	67.4	74.8	75.1				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				140	301	650	1,399			
CNEL:				146	315	678	1,462			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: Existing (2019) Road Name: Cactus Av. Road Segment: w/o Innovation Dr.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,577 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,204 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822								
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	-1.42	0.58	-1.20	-4.69	0.000	0.000	
Medium Trucks:	79.45	-14.37	0.61	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	84.25	-15.08	0.61	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	66.4	65.3	63.2	60.5	67.9	68.3		
Medium Trucks:	64.5	63.5	59.7	58.8	66.1	66.4		
Heavy Trucks:	68.6	67.7	63.2	62.7	70.0	70.3		
Vehicle Noise:	71.6	70.6	67.1	65.7	73.1	73.4		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				96	208	447	964	
CNEL:				101	217	467	1,007	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Cactus Av. Road Segment: e/o Innovation Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,653 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,519 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-0.41	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-13.36	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-14.07	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.4	66.3	64.2	61.5	68.9	69.3			
Medium Trucks:	65.5	64.5	60.7	59.8	67.1	67.4			
Heavy Trucks:	69.6	68.7	64.2	63.7	71.1	71.3			
Vehicle Noise:	72.6	71.6	68.1	66.7	74.1	74.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				113	242	522	1,125		
CNEL:				118	253	546	1,176		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Cactus Av. Road Segment: w/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 43,936 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,396 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.63	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-10.32	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-11.03	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.1	70.0	67.9	65.2	72.6	73.0			
Medium Trucks:	69.0	68.0	64.2	63.3	70.6	70.8			
Heavy Trucks:	72.7	71.8	67.3	66.7	74.1	74.4			
Vehicle Noise:	75.9	74.9	71.5	70.1	77.4	77.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				210	452	975	2,100		
CNEL:				219	473	1,019	2,195		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Cactus Av. Road Segment: e/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 42,759 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,305 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.51	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-10.44	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-11.15	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.0	69.8	67.7	65.1	72.5	72.9			
Medium Trucks:	68.9	67.9	64.1	63.2	70.5	70.7			
Heavy Trucks:	72.5	71.6	67.1	66.6	74.0	74.2			
Vehicle Noise:	75.8	74.8	71.4	70.0	77.3	77.6			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			206	444	957	2,062			
CNEL:			216	464	1,000	2,155			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Cactus Av. Road Segment: w/o Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 46,821 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,619 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 82 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 67.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 67.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 53.226				
Road Grade: 0.0%					Medium Trucks: 53.059				
Left View: -90.0 degrees					Heavy Trucks: 53.076				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.90	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-10.04	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.75	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.4	70.2	68.1	65.5	72.9	73.3			
Medium Trucks:	69.3	68.3	64.5	63.5	70.9	71.1			
Heavy Trucks:	72.9	72.0	67.5	67.0	74.4	74.6			
Vehicle Noise:	76.2	75.2	71.8	70.3	77.7	78.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			219	472	1,017	2,191			
CNEL:			229	493	1,063	2,290			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Cactus Av. Road Segment: e/o Graham St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 40,546 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,134 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
				Autos:	71.1%	10.9%	18.0%	91.42%	
				Medium Trucks:	73.6%	7.7%	18.6%	4.64%	
				Heavy Trucks:	75.6%	6.7%	17.8%	3.94%	
				Noise Source Elevations (in feet)					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.28	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-10.67	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-11.38	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.8	69.6	67.5	64.9	72.3	72.6			
Medium Trucks:	68.6	67.6	63.9	62.9	70.2	70.5			
Heavy Trucks:	72.3	71.4	66.9	66.4	73.8	74.0			
Vehicle Noise:	75.6	74.6	71.1	69.7	77.1	77.4			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			199	429	924	1,990			
CNEL:			208	448	966	2,080			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: w/o Wood Rd.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 39,524 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,055 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type		Day	Evening	Night	Daily
				Autos:		71.1%	10.9%	18.0%	91.42%
				Medium Trucks:		73.6%	7.7%	18.6%	4.64%
				Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)					
Autos:		0.000							
Medium Trucks:		2.297							
Heavy Trucks:		8.004		Grade Adjustment: 0.0					
Lane Equivalent Distance (in feet)									
Autos:		48.260							
Medium Trucks:		48.076							
Heavy Trucks:		48.094							
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.17	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-10.78	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-11.49	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.3	70.1	68.0	65.4	72.8	73.2			
Medium Trucks:	69.2	68.2	64.4	63.5	70.8	71.0			
Heavy Trucks:	72.8	71.9	67.4	66.9	74.3	74.5			
Vehicle Noise:	76.1	75.1	71.7	70.3	77.6	77.9			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			193	417	897	1,934			
CNEL:			202	435	938	2,021			

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: e/o Wood Rd.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 37,118 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,869 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.42%					
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000					
				Medium Trucks: 2.297					
				Heavy Trucks: 8.004					
				Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 48.260					
				Medium Trucks: 48.076					
				Heavy Trucks: 48.094					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.89	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-11.05	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-11.76	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.0	69.9	67.8	65.1	72.5	72.9			
Medium Trucks:	68.9	67.9	64.1	63.2	70.5	70.8			
Heavy Trucks:	72.6	71.7	67.2	66.6	74.0	74.3			
Vehicle Noise:	75.9	74.9	71.4	70.0	77.4	77.6			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			185	399	861	1,854			
CNEL:			194	418	900	1,938			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: w/o Barton St.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 34,815 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,691 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.42%
					Medium Trucks:		73.6%	7.7%	18.6%	4.64%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		48.260			
					Medium Trucks:		48.076			
					Heavy Trucks:		48.094			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	1.61	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	81.00	-11.33	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-12.04	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	70.7	69.6	67.5	64.9	72.2	72.6				
Medium Trucks:	68.6	67.6	63.8	62.9	70.2	70.5				
Heavy Trucks:	72.3	71.4	66.9	66.4	73.7	74.0				
Vehicle Noise:	75.6	74.6	71.1	69.7	77.1	77.4				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			178	383	825	1,777				
CNEL:			186	400	862	1,857				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: e/o Barton St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 33,068 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,556 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	0.98	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-11.97	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-12.68	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.7	70.5	68.4	65.8	73.2	73.6			
Medium Trucks:	69.4	68.4	64.6	63.7	71.0	71.2			
Heavy Trucks:	72.7	71.8	67.3	66.7	74.1	74.4			
Vehicle Noise:	76.2	75.2	71.8	70.4	77.7	78.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			196	423	911	1,964			
CNEL:			205	442	953	2,053			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: w/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 31,904 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,466 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1%		10.9%	18.0%	91.42%	
				Medium Trucks: 73.6%		7.7%	18.6%	4.64%	
				Heavy Trucks: 75.6%		6.7%	17.8%	3.94%	
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	0.82	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-12.12	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-12.83	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.5	70.4	68.3	65.6	73.0	73.4			
Medium Trucks:	69.2	68.2	64.5	63.5	70.8	71.1			
Heavy Trucks:	72.5	71.6	67.1	66.6	74.0	74.2			
Vehicle Noise:	76.1	75.1	71.7	70.2	77.6	77.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				192	413	890	1,917		
CNEL:				200	432	931	2,005		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: e/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,824 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,460 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004				
				Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 48.260				
				Medium Trucks: 48.076				
				Heavy Trucks: 48.094				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	0.81	0.13	-1.20	-4.69	0.000	0.000	
Medium Trucks:	82.40	-12.13	0.15	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	86.40	-12.84	0.15	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	71.5	70.4	68.3	65.6	73.0	73.4		
Medium Trucks:	69.2	68.2	64.4	63.5	70.8	71.1		
Heavy Trucks:	72.5	71.6	67.1	66.6	74.0	74.2		
Vehicle Noise:	76.1	75.1	71.6	70.2	77.6	77.8		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				191	412	888	1,914	
CNEL:				200	431	929	2,001	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: w/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 37,208 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,876 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 73 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 41.446				
Road Grade: 0.0%					Medium Trucks: 41.232				
Left View: -90.0 degrees					Heavy Trucks: 41.253				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	1.49	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-11.46	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-12.17	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.2	72.0	69.9	67.3	74.7	75.1			
Medium Trucks:	70.9	69.9	66.1	65.2	72.5	72.8			
Heavy Trucks:	74.2	73.3	68.8	68.2	75.6	75.9			
Vehicle Noise:	77.7	76.7	73.3	71.9	79.2	79.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				227	489	1,053	2,269		
CNEL:				237	511	1,101	2,373		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,529 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,437 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	0.77	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-12.17	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-12.89	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.5	71.3	69.2	66.6	74.0	74.3			
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.0			
Heavy Trucks:	73.5	72.6	68.1	67.5	74.9	75.2			
Vehicle Noise:	77.0	76.0	72.6	71.1	78.5	78.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				203	438	943	2,032		
CNEL:				212	458	986	2,125		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing (2019) Road Name: Van Buren Bl. Road Segment: e/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 34,862 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,695 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.42%
					Medium Trucks:		73.6%	7.7%	18.6%	4.64%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		41.446			
					Medium Trucks:		41.232			
					Heavy Trucks:		41.253			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	1.21	1.12	-1.20	-4.67	0.000	0.000			
Medium Trucks:	82.40	-11.74	1.15	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	86.40	-12.45	1.15	-1.20	-5.38	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	72.9	71.8	69.6	67.0	74.4	74.8				
Medium Trucks:	70.6	69.6	65.8	64.9	72.2	72.5				
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6				
Vehicle Noise:	77.4	76.4	73.0	71.6	78.9	79.2				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				217	468	1,009	2,173			
CNEL:				227	489	1,055	2,272			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P (Proposed) Road Name: Wood Rd. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt):		12,972 vehicles		Autos:		15	
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15	
Peak Hour Volume:		1,003 vehicles		Heavy Trucks (3+ Axles):		15	
Vehicle Speed:		45 mph		Vehicle Mix			
Near/Far Lane Distance:		36 feet		Vehicle Type			
Site Data				Day	Evening	Night	Daily
Barrier Height:		0.0 feet		Autos:		71.1% 10.9% 18.0% 91.43%	
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:		73.6% 7.7% 18.6% 4.64%	
Centerline Dist. to Barrier:		44.0 feet		Heavy Trucks:		75.6% 6.7% 17.8% 3.94%	
Centerline Dist. to Observer:		44.0 feet		Noise Source Elevations (in feet)			
Barrier Distance to Observer:		0.0 feet		Autos:			
Observer Height (Above Pad):		5.0 feet		Medium Trucks:			
Pad Elevation:		0.0 feet		Heavy Trucks:			
Road Elevation:		0.0 feet		Grade Adjustment: 0.0			
Road Grade:		0.0%		Lane Equivalent Distance (in feet)			
Left View:		-90.0 degrees		Autos:			
Right View:		90.0 degrees		Medium Trucks:			
				Heavy Trucks:			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.21	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-15.16	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-15.87	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.3	65.2	63.1	60.4	67.8	68.2	
Medium Trucks:	64.4	63.4	59.6	58.7	66.0	66.3	
Heavy Trucks:	68.5	67.6	63.1	62.6	69.9	70.2	
Vehicle Noise:	71.5	70.5	67.0	65.6	73.0	73.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			70	150	323	696	
CNEL:			73	157	337	727	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Wood Rd. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 17,656 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,365 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
						Autos:	0.000			
						Medium Trucks:	2.297			
						Heavy Trucks:	8.004			
						Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)						
						Autos:	40.460			
						Medium Trucks:	40.241			
						Heavy Trucks:	40.262			
				FHWA Noise Model Calculations						
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	-0.36	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-13.31	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-14.02	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	66.2	65.1	63.0	60.3	67.7	68.1				
Medium Trucks:	64.5	63.5	59.7	58.8	66.1	66.4				
Heavy Trucks:	69.1	68.2	63.7	63.1	70.5	70.8				
Vehicle Noise:	71.8	70.8	67.2	65.9	73.3	73.6				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			73	157	338	729				
CNEL:			76	164	353	761				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P (Proposed) Road Name: Trautwein Rd. Road Segment: n/o Canyon Crest Dr.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 14,996 vehicles				Autos: 15			
Peak Hour Percentage: 7.73%				Medium Trucks (2 Axles): 15			
Peak Hour Volume: 1,159 vehicles				Heavy Trucks (3+ Axles): 15			
Vehicle Speed: 50 mph				Vehicle Mix			
Near/Far Lane Distance: 72 feet				VehicleType			
Site Data				Day			
Barrier Height: 0.0 feet				Evening			
Barrier Type (0-Wall, 1-Berm): 0.0				Night			
Centerline Dist. to Barrier: 60.0 feet				Daily			
Centerline Dist. to Observer: 60.0 feet				Autos: 71.1% 10.9% 18.0% 91.45%			
Barrier Distance to Observer: 0.0 feet				Medium Trucks: 73.6% 7.7% 18.6% 4.62%			
Observer Height (Above Pad): 5.0 feet				Heavy Trucks: 75.6% 6.7% 17.8% 3.93%			
Pad Elevation: 0.0 feet				Noise Source Elevations (in feet)			
Road Elevation: 0.0 feet				Autos: 0.000			
Road Grade: 0.0%				Medium Trucks: 2.297			
Left View: -90.0 degrees				Heavy Trucks: 8.004			
Right View: 90.0 degrees				Grade Adjustment: 0.0			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.04	0.13	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-15.00	0.15	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-15.71	0.15	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.1	65.9	63.8	61.2	68.6	69.0	
Medium Trucks:	64.9	63.9	60.2	59.2	66.5	66.8	
Heavy Trucks:	68.6	67.7	63.2	62.7	70.1	70.3	
Vehicle Noise:	71.9	70.9	67.4	66.0	73.4	73.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			101	218	470	1,012	
CNEL:			106	228	491	1,058	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Trautwein Rd. Road Segment: s/o Canyon Crest Dr.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		550 vehicles			Autos: 15					
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles): 15					
Peak Hour Volume:		43 vehicles			Heavy Trucks (3+ Axles): 15					
Vehicle Speed:		50 mph								
Near/Far Lane Distance:		72 feet			Vehicle Mix					
Site Data					Vehicle Type		Day	Evening	Night	Daily
Barrier Height:		0.0 feet			Autos:		71.1%	10.9%	18.0%	92.53%
Barrier Type (0-Wall, 1-Berm):		0.0			Medium Trucks:		73.6%	7.7%	18.6%	4.04%
Centerline Dist. to Barrier:		60.0 feet			Heavy Trucks:		75.6%	6.7%	17.8%	3.43%
Centerline Dist. to Observer:		60.0 feet			Noise Source Elevations (in feet)					
Barrier Distance to Observer:		0.0 feet			Autos:		0.000			
Observer Height (Above Pad):		5.0 feet			Medium Trucks:		2.297			
Pad Elevation:		0.0 feet			Heavy Trucks:		8.004			
Road Elevation:		0.0 feet					Grade Adjustment: 0.0			
Road Grade:		0.0%			Lane Equivalent Distance (in feet)					
Left View:		-90.0 degrees			Autos:		48.260			
Right View:		90.0 degrees			Medium Trucks:		48.076			
					Heavy Trucks:		48.094			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	-16.35	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	81.00	-29.95	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-30.66	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	52.8	51.6	49.5	46.9	54.3	54.7				
Medium Trucks:	50.0	49.0	45.2	44.3	51.6	51.9				
Heavy Trucks:	53.7	52.8	48.3	47.7	55.1	55.4				
Vehicle Noise:	57.2	56.2	52.8	51.3	58.7	59.0				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				11	23	49	106			
CNEL:				11	24	51	110			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Trautwein Rd. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 36,711 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,838 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.44%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004					
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 49.739					
					Medium Trucks: 49.561					
					Heavy Trucks: 49.578					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	1.85	-0.07	-1.20	-4.67	0.000	0.000			
Medium Trucks:	81.00	-11.11	-0.05	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	85.38	-11.82	-0.05	-1.20	-5.38	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	70.8	69.6	67.5	64.9	72.3	72.6				
Medium Trucks:	68.6	67.6	63.9	62.9	70.2	70.5				
Heavy Trucks:	72.3	71.4	66.9	66.4	73.8	74.0				
Vehicle Noise:	75.6	74.6	71.1	69.7	77.1	77.4				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				164	352	759	1,635			
CNEL:				171	368	793	1,709			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P (Proposed) Road Name: Trautwein Rd. Road Segment: n/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 36,143 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,794 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.45%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.62%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 49.739				
				Medium Trucks: 49.561				
				Heavy Trucks: 49.578				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 70.20 1.78 -0.07 -1.20 -4.67 0.000 0.000								
Medium Trucks: 81.00 -11.18 -0.05 -1.20 -4.87 0.000 0.000								
Heavy Trucks: 85.38 -11.89 -0.05 -1.20 -5.38 0.000 0.000								
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos: 70.7 69.6 67.5 64.8 72.2 72.6								
Medium Trucks: 68.6 67.6 63.8 62.9 70.2 70.4								
Heavy Trucks: 72.2 71.3 66.8 66.3 73.7 73.9								
Vehicle Noise: 75.5 74.5 71.1 69.7 77.0 77.3								
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				162	348	751	1,618	
CNEL:				169	364	785	1,691	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Trautwein Rd. Road Segment: s/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,305 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,879 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.47% Medium Trucks: 73.6% 7.7% 18.6% 4.61% Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.06	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-12.92	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-13.63	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.0	67.8	65.7	63.1	70.5	70.9			
Medium Trucks:	66.8	65.8	62.1	61.1	68.4	68.7			
Heavy Trucks:	70.5	69.6	65.1	64.6	72.0	72.2			
Vehicle Noise:	73.8	72.8	69.3	67.9	75.3	75.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				124	267	576	1,240		
CNEL:				130	279	602	1,297		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Barton St. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,869 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 376 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph					Vehicle Mix				
Near/Far Lane Distance: 36 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.45%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.62%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Centerline Dist. to Barrier: 44.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 44.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 40.460				
Road Grade: 0.0%					Medium Trucks: 40.241				
Left View: -90.0 degrees					Heavy Trucks: 40.262				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-5.96	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-18.92	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-19.63	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	60.6	59.5	57.4	54.7	62.1	62.5			
Medium Trucks:	58.9	57.9	54.1	53.2	60.5	60.8			
Heavy Trucks:	63.5	62.6	58.1	57.5	64.9	65.2			
Vehicle Noise:	66.2	65.2	61.6	60.3	67.7	68.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				31	66	143	308		
CNEL:				32	69	149	322		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Barton St. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,761 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 909 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph									
Near/Far Lane Distance: 36 feet					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.44%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Site Data					Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet					Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0					Medium Trucks: 2.297				
Centerline Dist. to Barrier: 44.0 feet					Heavy Trucks: 8.004				
Centerline Dist. to Observer: 44.0 feet					Grade Adjustment: 0.0				
Barrier Distance to Observer: 0.0 feet									
Observer Height (Above Pad): 5.0 feet									
Pad Elevation: 0.0 feet									
Road Elevation: 0.0 feet									
Road Grade: 0.0%									
Left View: -90.0 degrees									
Right View: 90.0 degrees									
					Lane Equivalent Distance (in feet)				
					Autos: 40.460				
					Medium Trucks: 40.241				
					Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-2.13	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-15.08	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-15.79	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	64.5	63.3	61.2	58.6	66.0	66.3			
Medium Trucks:	62.7	61.7	58.0	57.0	64.3	64.6			
Heavy Trucks:	67.3	66.4	61.9	61.4	68.8	69.0			
Vehicle Noise:	70.0	69.0	65.4	64.1	71.5	71.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				56	120	258	555		
CNEL:				58	125	269	580		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Barton St. Road Segment: n/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,908 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 843 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262					
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:		66.51	-2.46	1.28	-1.20	-4.61	0.000	0.000	
Medium Trucks:		77.72	-15.41	1.31	-1.20	-4.87	0.000	0.000	
Heavy Trucks:		82.99	-16.12	1.31	-1.20	-5.50	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:		64.1	63.0	60.9	58.2	65.6	66.0		
Medium Trucks:		62.4	61.4	57.6	56.7	64.0	64.3		
Heavy Trucks:		67.0	66.1	61.6	61.0	68.4	68.7		
Vehicle Noise:		69.7	68.7	65.1	63.8	71.2	71.5		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				53	114	245	528		
CNEL:				55	119	256	551		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Barton St. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,286 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 795 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-2.71	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-15.67	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-16.38	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.9	62.7	60.6	58.0	65.4	65.7			
Medium Trucks:	62.2	61.2	57.4	56.4	63.8	64.0			
Heavy Trucks:	66.7	65.8	61.3	60.8	68.2	68.4			
Vehicle Noise:	69.4	68.5	64.9	63.6	70.9	71.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				51	109	236	508		
CNEL:				53	114	246	530		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Barton St. Road Segment: s/o Lurin Av.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,118 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 782 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.44%
					Medium Trucks:		73.6%	7.7%	18.6%	4.63%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.93%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004 Grade Adjustment: 0.0			
					Lane Equivalent Distance (in feet)					
					Autos: 40.460					
					Medium Trucks: 40.241					
					Heavy Trucks: 40.262					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	-2.78	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-15.74	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-16.45	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	63.8	62.7	60.5	57.9	65.3	65.7				
Medium Trucks:	62.1	61.1	57.3	56.4	63.7	63.9				
Heavy Trucks:	66.7	65.8	61.3	60.7	68.1	68.3				
Vehicle Noise:	69.4	68.4	64.8	63.5	70.9	71.1				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				50		108		233		502
CNEL:				52		113		243		524

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P (Proposed) Road Name: Coyote Bush Rd. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 1,726 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 133 vehicles Vehicle Speed: 25 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.51%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.59%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.90%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 32.833				
				Medium Trucks: 32.562				
				Heavy Trucks: 32.589				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	58.73	-8.42	2.64	-1.20	-4.52	0.000	0.000	
Medium Trucks:	70.80	-21.41	2.69	-1.20	-4.86	0.000	0.000	
Heavy Trucks:	77.97	-22.12	2.69	-1.20	-5.69	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	51.8	50.6	48.5	45.9	53.2	53.6		
Medium Trucks:	50.9	49.9	46.1	45.2	52.5	52.7		
Heavy Trucks:	57.3	56.4	51.9	51.4	58.8	59.0		
Vehicle Noise:	59.1	58.1	54.3	53.2	60.6	60.9		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				8	17	36	78	
CNEL:				8	17	38	81	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Orange Terrace Pkwy. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		7,599 vehicles		Autos:		15			
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15			
Peak Hour Volume:		587 vehicles		Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		45 mph		Vehicle Mix					
Near/Far Lane Distance:		48 feet							
Site Data				Vehicle Type					
Barrier Height:		0.0 feet		Autos:		71.1%	10.9%	18.0%	91.44%
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:		73.6%	7.7%	18.6%	4.63%
Centerline Dist. to Barrier:		55.0 feet		Heavy Trucks:		75.6%	6.7%	17.8%	3.93%
Centerline Dist. to Observer:		55.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer:		0.0 feet		Autos:		0.000			
Observer Height (Above Pad):		5.0 feet		Medium Trucks:		2.297			
Pad Elevation:		0.0 feet		Heavy Trucks:		8.004		Grade Adjustment: 0.0	
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade:		0.0%		Autos:		49.739			
Left View:		-90.0 degrees		Medium Trucks:		49.561			
Right View:		90.0 degrees		Heavy Trucks:		49.578			
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-4.54	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-17.49	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-18.20	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	62.7	61.5	59.4	56.8	64.1	64.5			
Medium Trucks:	60.7	59.7	55.9	55.0	62.3	62.6			
Heavy Trucks:	64.8	63.9	59.4	58.9	66.3	66.5			
Vehicle Noise:	67.8	66.8	63.3	61.9	69.3	69.6			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			49	107	230	495			
CNEL:			52	111	240	517			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Village West Dr. Road Segment: n/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,834 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 528 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 66.14% Medium Trucks: 73.6% 7.7% 18.6% 7.64% Heavy Trucks: 75.6% 6.7% 17.8% 26.22%				
					Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-5.89	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	77.72	-15.27	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-9.91	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	59.1	57.9	55.8	53.2	60.6	61.0			
Medium Trucks:	60.9	59.9	56.2	55.2	62.5	62.8			
Heavy Trucks:	71.6	70.7	66.2	65.6	73.0	73.3			
Vehicle Noise:	72.2	71.2	66.9	66.2	73.6	73.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				98	211	454	978		
CNEL:				101	219	471	1,015		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P (Proposed) Road Name: Village West Dr. Road Segment: s/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 1,506 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 116 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 24 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 39.0 feet Centerline Dist. to Observer: 39.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.52% Medium Trucks: 73.6% 7.7% 18.6% 4.59% Heavy Trucks: 75.6% 6.7% 17.8% 3.89%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
Autos: 37.443 Medium Trucks: 37.206 Heavy Trucks: 37.229								
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	66.51	-11.05	1.78	-1.20	-4.58	0.000	0.000	
Medium Trucks:	77.72	-24.05	1.82	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	82.99	-24.76	1.82	-1.20	-5.57	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	56.0	54.9	52.8	50.2	57.5	57.9		
Medium Trucks:	54.3	53.3	49.5	48.6	55.9	56.1		
Heavy Trucks:	58.8	58.0	53.4	52.9	60.3	60.5		
Vehicle Noise:	61.6	60.6	57.0	55.7	63.1	63.4		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				13	29	62	135	
CNEL:				14	30	65	141	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Meridian Pkwy. Road Segment: s/o Alessandro Bl.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 20,422 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,579 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type		Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-0.24	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-13.20	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-13.91	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.7	65.5	63.4	60.8	68.2	68.6			
Medium Trucks:	64.7	63.7	60.0	59.0	66.3	66.6			
Heavy Trucks:	68.8	67.9	63.4	62.9	70.3	70.5			
Vehicle Noise:	71.8	70.9	67.3	66.0	73.3	73.6			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			94	202	434	936			
CNEL:			98	211	454	977			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Meridian Pkwy. Road Segment: n/o Cactus Av.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 19,654 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,519 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.44%
						Medium Trucks:	73.6%	7.7%	18.6%	4.63%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.93%
				Noise Source Elevations (in feet)						
				Autos:		0.000				
				Medium Trucks:		2.297				
				Heavy Trucks:		8.004				
				Grade Adjustment: 0.0						
				Lane Equivalent Distance (in feet)						
				Autos:		51.740				
				Medium Trucks:		51.568				
				Heavy Trucks:		51.585				
FHWA Noise Model Calculations										
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:		68.46	-0.41	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:		79.45	-13.37	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:		84.25	-14.08	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:		66.5	65.4	63.3	60.6	68.0	68.4			
Medium Trucks:		64.6	63.6	59.8	58.9	66.2	66.4			
Heavy Trucks:		68.7	67.8	63.3	62.7	70.1	70.4			
Vehicle Noise:		71.7	70.7	67.2	65.8	73.2	73.5			
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				91	196	423	912			
CNEL:				95	205	442	952			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Meridian Pkwy. Road Segment: s/o Cactus Av.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 16,468 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,273 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.47%
						Medium Trucks:	73.6%	7.7%	18.6%	4.61%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.92%
				Noise Source Elevations (in feet)						
						Autos:	0.000			
		Medium Trucks:	2.297							
		Heavy Trucks:	8.004 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)						
						Autos:	51.740			
						Medium Trucks:	51.568			
		Heavy Trucks:	51.585							
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	-1.18	-0.33	-1.20	-4.67	0.000	0.000			
Medium Trucks:	79.45	-14.15	-0.30	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-14.86	-0.31	-1.20	-5.37	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	65.8	64.6	62.5	59.9	67.2	67.6				
Medium Trucks:	63.8	62.8	59.0	58.1	65.4	65.7				
Heavy Trucks:	67.9	67.0	62.5	62.0	69.3	69.6				
Vehicle Noise:	70.9	69.9	66.4	65.0	72.4	72.7				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			81	174	376	809				
CNEL:			85	182	392	846				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P (Proposed) Road Name: Meridian Pkwy. Road Segment: n/o Opportunity Way			Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,740 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,294 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			Vehicle Type	Day	Evening	Night	Daily
			Autos: 71.1% 10.9% 18.0% 91.47%				
			Medium Trucks: 73.6% 7.7% 18.6% 4.62%				
			Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.11	-0.33	-1.20	-4.67	0.000	0.000
Medium Trucks:	79.45	-14.08	-0.30	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-14.79	-0.31	-1.20	-5.37	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.8	64.7	62.6	59.9	67.3	67.7	
Medium Trucks:	63.9	62.9	59.1	58.1	65.5	65.7	
Heavy Trucks:	68.0	67.1	62.6	62.0	69.4	69.7	
Vehicle Noise:	71.0	70.0	66.5	65.1	72.5	72.8	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			82	176	380	818	
CNEL:			85	184	397	855	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P (Proposed) Road Name: Meridian Pkwy. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,592 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 819 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.49% Medium Trucks: 73.6% 7.7% 18.6% 4.60% Heavy Trucks: 75.6% 6.7% 17.8% 3.91%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	-3.09	-0.33	-1.20	-4.67	0.000	0.000	
Medium Trucks:	79.45	-16.08	-0.30	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	84.25	-16.79	-0.31	-1.20	-5.37	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	63.8	62.7	60.6	58.0	65.3	65.7		
Medium Trucks:	61.9	60.9	57.1	56.1	63.5	63.7		
Heavy Trucks:	66.0	65.1	60.6	60.0	67.4	67.7		
Vehicle Noise:	69.0	68.0	64.5	63.1	70.5	70.8		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			60	130	280	602		
CNEL:			63	136	292	629		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Day St. Road Segment: n/o Cottonwood Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		10,383 vehicles		Autos:		15			
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15			
Peak Hour Volume:		803 vehicles		Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		40 mph							
Near/Far Lane Distance:		50 feet							
Site Data				Vehicle Mix					
Barrier Height:		0.0 feet		Vehicle Type	Day	Evening	Night	Daily	
Barrier Type (0-Wall, 1-Berm):		0.0		Autos:		71.1%	10.9%	18.0%	91.43%
Centerline Dist. to Barrier:		44.0 feet		Medium Trucks:		73.6%	7.7%	18.6%	4.63%
Centerline Dist. to Observer:		44.0 feet		Heavy Trucks:		75.6%	6.7%	17.8%	3.93%
Barrier Distance to Observer:		0.0 feet							
Observer Height (Above Pad):		5.0 feet							
Pad Elevation:		0.0 feet							
Road Elevation:		0.0 feet							
Road Grade:		0.0%							
Left View:		-90.0 degrees							
Right View:		90.0 degrees							
				Noise Source Elevations (in feet)					
				Autos:		0.000			
				Medium Trucks:		2.297			
				Heavy Trucks:		8.004		Grade Adjustment: 0.0	
				Lane Equivalent Distance (in feet)					
				Autos:		36.551			
				Medium Trucks:		36.308			
				Heavy Trucks:		36.332			
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-2.67	1.94	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-15.62	1.98	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-16.33	1.98	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	64.6	63.4	61.3	58.7	66.1	66.4			
Medium Trucks:	62.9	61.9	58.1	57.2	64.5	64.7			
Heavy Trucks:	67.4	66.5	62.0	61.5	68.9	69.1			
Vehicle Noise:	70.1	69.2	65.6	64.3	71.6	71.9			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			57	122	263	566			
CNEL:			59	127	274	591			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Day St. Road Segment: s/o Cottonwood Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 7,796 vehicles				Autos: 15					
Peak Hour Percentage: 7.73%				Medium Trucks (2 Axles): 15					
Peak Hour Volume: 603 vehicles				Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph				Vehicle Mix					
Near/Far Lane Distance: 50 feet				Vehicle Type		Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.45%					
Barrier Height: 0.0 feet				Medium Trucks: 73.6% 7.7% 18.6% 4.62%					
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
Centerline Dist. to Barrier: 44.0 feet				Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 44.0 feet				Autos: 0.000					
Barrier Distance to Observer: 0.0 feet				Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet				Heavy Trucks: 8.004 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet				Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet				Autos: 36.551					
Road Grade: 0.0%				Medium Trucks: 36.308					
Left View: -90.0 degrees				Heavy Trucks: 36.332					
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-3.91	1.94	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-16.88	1.98	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-17.59	1.98	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.3	62.2	60.1	57.5	64.8	65.2			
Medium Trucks:	61.6	60.6	56.8	55.9	63.2	63.5			
Heavy Trucks:	66.2	65.3	60.8	60.3	67.6	67.9			
Vehicle Noise:	68.9	67.9	64.3	63.0	70.4	70.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			47	101	217	468			
CNEL:			49	105	227	488			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Alessandro Bl. Road Segment: w/o Mission Grove Pkwy.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 46,512 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,595 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
						Autos:	0.000			
		Medium Trucks:	2.297							
		Heavy Trucks:	8.004 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)						
						Autos:	48.260			
						Medium Trucks:	48.076			
		Heavy Trucks:	48.094							
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	2.46	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	82.40	-10.49	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-11.20	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	73.2	72.0	69.9	67.3	74.7	75.0				
Medium Trucks:	70.9	69.9	66.1	65.1	72.5	72.7				
Heavy Trucks:	74.1	73.3	68.7	68.2	75.6	75.8				
Vehicle Noise:	77.7	76.7	73.3	71.8	79.2	79.5				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			246	531	1,144	2,464				
CNEL:			258	555	1,196	2,577				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Alessandro Bl. Road Segment: e/o Mission Grove Pkwy.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 49,219 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,805 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
				Autos:		71.1%	10.9%	18.0%	91.42%	
				Medium Trucks:		73.6%	7.7%	18.6%	4.64%	
				Heavy Trucks:		75.6%	6.7%	17.8%	3.94%	
				Noise Source Elevations (in feet)						
				Autos:		0.000				
				Medium Trucks:		2.297				
				Heavy Trucks:		8.004				
				Grade Adjustment: 0.0						
				Lane Equivalent Distance (in feet)						
				Autos:		48.260				
				Medium Trucks:		48.076				
				Heavy Trucks:		48.094				
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	2.70	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	82.40	-10.24	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-10.95	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	73.4	72.3	70.2	67.5	74.9	75.3				
Medium Trucks:	71.1	70.1	66.3	65.4	72.7	73.0				
Heavy Trucks:	74.4	73.5	69.0	68.5	75.9	76.1				
Vehicle Noise:	77.9	76.9	73.5	72.1	79.4	79.7				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				256		551		1,188		2,559
CNEL:				268		577		1,242		2,676

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Alessandro Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 44,200 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,417 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.24	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.71	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.42	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.9	71.8	69.7	67.1	74.4	74.8			
Medium Trucks:	70.6	69.6	65.9	64.9	72.2	72.5			
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6			
Vehicle Noise:	77.5	76.5	73.1	71.6	79.0	79.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				238	513	1,106	2,382		
CNEL:				249	537	1,156	2,491		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Alessandro Bl. Road Segment: w/o Old 215 Frontage Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 36,033 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,785 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.22	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-10.73	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.44	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.6	68.5	66.3	63.7	71.1	71.5			
Medium Trucks:	67.7	66.7	62.9	62.0	69.3	69.5			
Heavy Trucks:	71.8	70.9	66.4	65.8	73.2	73.5			
Vehicle Noise:	74.8	73.8	70.2	68.9	76.3	76.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				157	338	729	1,570		
CNEL:				164	353	761	1,640		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Alessandro Bl. Road Segment: w/o Day St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,013 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,320 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.44%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.43	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-11.53	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-12.24	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.2	67.0	64.9	62.3	69.7	70.0			
Medium Trucks:	66.2	65.2	61.5	60.5	67.8	68.1			
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0			
Vehicle Noise:	73.3	72.3	68.8	67.5	74.8	75.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				141	303	653	1,406		
CNEL:				147	317	682	1,469		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Alessandro Bl. Road Segment: e/o Day St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,780 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,302 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.39	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-11.56	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-12.27	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.1	67.0	64.9	62.3	69.6	70.0			
Medium Trucks:	66.2	65.2	61.4	60.5	67.8	68.1			
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0			
Vehicle Noise:	73.3	72.3	68.8	67.4	74.8	75.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			140	302	650	1,400			
CNEL:			146	315	679	1,462			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P (Proposed) Road Name: Cactus Av. Road Segment: w/o Innovation Dr.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		15,595 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		1,205 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		45 mph		Vehicle Mix				
Near/Far Lane Distance:		80 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.43%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier:		60.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		60.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 45.000				
Left View:		-90.0 degrees		Medium Trucks: 44.803				
Right View:		90.0 degrees		Heavy Trucks: 44.822				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	-1.42	0.58	-1.20	-4.69	0.000	0.000	
Medium Trucks:	79.45	-14.37	0.61	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	84.25	-15.08	0.61	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	66.4	65.3	63.2	60.5	67.9	68.3		
Medium Trucks:	64.5	63.5	59.7	58.8	66.1	66.4		
Heavy Trucks:	68.6	67.7	63.2	62.7	70.0	70.3		
Vehicle Noise:	71.6	70.6	67.1	65.7	73.1	73.4		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			96	208	447	964		
CNEL:			101	217	467	1,007		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Cactus Av. Road Segment: e/o Innovation Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,671 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,521 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-0.41	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-13.36	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-14.07	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.4	66.3	64.2	61.6	68.9	69.3			
Medium Trucks:	65.5	64.5	60.7	59.8	67.1	67.4			
Heavy Trucks:	69.6	68.7	64.2	63.7	71.1	71.3			
Vehicle Noise:	72.6	71.6	68.1	66.7	74.1	74.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				113	242	522	1,126		
CNEL:				118	253	546	1,176		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Cactus Av. Road Segment: w/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 44,069 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,407 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.28% Medium Trucks: 73.6% 7.7% 18.6% 4.65% Heavy Trucks: 75.6% 6.7% 17.8% 4.06%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.63	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-10.30	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.88	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.1	70.0	67.9	65.2	72.6	73.0			
Medium Trucks:	69.0	68.0	64.2	63.3	70.6	70.9			
Heavy Trucks:	72.8	71.9	67.4	66.9	74.3	74.5			
Vehicle Noise:	76.0	75.0	71.5	70.1	77.5	77.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			212	458	986	2,125			
CNEL:			222	478	1,031	2,220			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Cactus Av. Road Segment: e/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 42,883 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,315 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.28%
					Medium Trucks:		73.6%	7.7%	18.6%	4.65%
					Heavy Trucks:		75.6%	6.7%	17.8%	4.07%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004			
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos:		53.226			
					Medium Trucks:		53.059			
					Heavy Trucks:		53.076			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	2.51	-0.51	-1.20	-4.71	0.000	0.000			
Medium Trucks:	81.00	-10.41	-0.49	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-11.00	-0.49	-1.20	-5.29	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	71.0	69.9	67.7	65.1	72.5	72.9				
Medium Trucks:	68.9	67.9	64.1	63.2	70.5	70.8				
Heavy Trucks:	72.7	71.8	67.3	66.8	74.2	74.4				
Vehicle Noise:	75.9	74.9	71.4	70.0	77.4	77.7				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			209	450	969	2,087				
CNEL:			218	470	1,012	2,181				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Cactus Av. Road Segment: w/o Graham St.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 46,937 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,628 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.29%
						Medium Trucks:	73.6%	7.7%	18.6%	4.65%
						Heavy Trucks:	75.6%	6.7%	17.8%	4.06%
				Noise Source Elevations (in feet)						
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0						
				Lane Equivalent Distance (in feet)						
				Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076						
FHWA Noise Model Calculations										
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos: 70.20 2.91 -0.51 -1.20 -4.71 0.000 0.000										
Medium Trucks: 81.00 -10.02 -0.49 -1.20 -4.88 0.000 0.000										
Heavy Trucks: 85.38 -10.61 -0.49 -1.20 -5.29 0.000 0.000										
Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos: 71.4 70.2 68.1 65.5 72.9 73.3										
Medium Trucks: 69.3 68.3 64.5 63.6 70.9 71.1										
Heavy Trucks: 73.1 72.2 67.7 67.1 74.5 74.8										
Vehicle Noise: 76.3 75.3 71.8 70.4 77.8 78.1										
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				221	477	1,028	2,215			
CNEL:				231	499	1,074	2,315			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Cactus Av. Road Segment: e/o Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 40,635 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,141 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.26% Medium Trucks: 73.6% 7.7% 18.6% 4.66% Heavy Trucks: 75.6% 6.7% 17.8% 4.08%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.28	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-10.64	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-11.22	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.8	69.6	67.5	64.9	72.3	72.6			
Medium Trucks:	68.7	67.7	63.9	62.9	70.3	70.5			
Heavy Trucks:	72.5	71.6	67.1	66.5	73.9	74.2			
Vehicle Noise:	75.7	74.7	71.2	69.8	77.2	77.5			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			202	434	935	2,015			
CNEL:			211	454	978	2,106			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Wood Rd.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 39,640 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,064 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.45% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.18	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-10.78	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-11.49	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.3	70.2	68.0	65.4	72.8	73.2			
Medium Trucks:	69.2	68.2	64.4	63.5	70.8	71.0			
Heavy Trucks:	72.8	71.9	67.4	66.9	74.3	74.5			
Vehicle Noise:	76.1	75.1	71.7	70.3	77.6	77.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				193	417	898	1,935		
CNEL:				202	436	939	2,022		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 37,252 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,880 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.45%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.62%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004					
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 48.260					
					Medium Trucks: 48.076					
					Heavy Trucks: 48.094					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	1.91	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	81.00	-11.05	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-11.76	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	71.0	69.9	67.8	65.2	72.5	72.9				
Medium Trucks:	68.9	67.9	64.1	63.2	70.5	70.8				
Heavy Trucks:	72.6	71.7	67.2	66.6	74.0	74.3				
Vehicle Noise:	75.9	74.9	71.4	70.0	77.4	77.6				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				186	400	861	1,856			
CNEL:				194	418	900	1,940			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Barton St.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt):		35,092 vehicles		Autos:		15	
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15	
Peak Hour Volume:		2,713 vehicles		Heavy Trucks (3+ Axles):		15	
Vehicle Speed:		50 mph		Vehicle Mix			
Near/Far Lane Distance:		72 feet		Vehicle Type	Day	Evening	Night
Site Data							
Barrier Height:		0.0 feet		Autos:	71.1%	10.9%	18.0%
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:	73.6%	7.7%	18.6%
Centerline Dist. to Barrier:		60.0 feet		Heavy Trucks:	75.6%	6.7%	17.8%
Centerline Dist. to Observer:		60.0 feet		Grade Adjustment: 0.0			
Barrier Distance to Observer:		0.0 feet		Noise Source Elevations (in feet)			
Observer Height (Above Pad):		5.0 feet		Autos:	0.000		
Pad Elevation:		0.0 feet		Medium Trucks:	2.297		
Road Elevation:		0.0 feet		Heavy Trucks:	8.004		
Road Grade:		0.0%		Lane Equivalent Distance (in feet)			
Left View:		-90.0 degrees		Autos:	48.260		
Right View:		90.0 degrees		Medium Trucks:	48.076		
				Heavy Trucks:	48.094		
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.65	0.13	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-11.33	0.15	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-12.04	0.15	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	70.8	69.6	67.5	64.9	72.3	72.7	
Medium Trucks:	68.6	67.6	63.8	62.9	70.2	70.5	
Heavy Trucks:	72.3	71.4	66.9	66.4	73.7	74.0	
Vehicle Noise:	75.6	74.6	71.1	69.7	77.1	77.4	
Centerline Distance to Noise Contour (in feet)							
				70 dBA	65 dBA	60 dBA	55 dBA
Ldn:				178	384	826	1,780
CNEL:				186	401	864	1,861

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Barton St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 33,345 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,578 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.49% Medium Trucks: 73.6% 7.7% 18.6% 4.60% Heavy Trucks: 75.6% 6.7% 17.8% 3.91%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	1.02	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-11.97	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-12.68	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.7	70.6	68.5	65.8	73.2	73.6			
Medium Trucks:	69.4	68.4	64.6	63.7	71.0	71.2			
Heavy Trucks:	72.7	71.8	67.3	66.7	74.1	74.4			
Vehicle Noise:	76.2	75.2	71.8	70.4	77.7	78.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				197	424	913	1,968		
CNEL:				206	443	955	2,058		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,660 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,525 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 90.15%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.77%				
				Heavy Trucks: 75.6% 6.7% 17.8% 5.08%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	0.86	0.13	-1.20	-4.69	0.000	0.000	
Medium Trucks:	82.40	-11.90	0.15	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	86.40	-11.63	0.15	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	71.6	70.4	68.3	65.7	73.1	73.4		
Medium Trucks:	69.5	68.5	64.7	63.7	71.0	71.3		
Heavy Trucks:	73.7	72.8	68.3	67.8	75.2	75.4		
Vehicle Noise:	76.7	75.7	72.2	70.8	78.2	78.5		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			211	454	979	2,109		
CNEL:			220	475	1,023	2,204		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,562 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,517 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 90.14% Medium Trucks: 73.6% 7.7% 18.6% 4.77% Heavy Trucks: 75.6% 6.7% 17.8% 5.09%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	0.85	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-11.91	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.64	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.6	70.4	68.3	65.7	73.0	73.4			
Medium Trucks:	69.4	68.4	64.7	63.7	71.0	71.3			
Heavy Trucks:	73.7	72.8	68.3	67.8	75.2	75.4			
Vehicle Noise:	76.7	75.7	72.2	70.8	78.2	78.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				211	454	978	2,106		
CNEL:				220	474	1,021	2,200		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Meridian Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		40,118 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		3,101 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		55 mph		Vehicle Mix				
Near/Far Lane Distance:		73 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 86.08%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 5.26%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 8.66%				
Centerline Dist. to Barrier:		55.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		55.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 41.446				
Left View:		-90.0 degrees		Medium Trucks: 41.232				
Right View:		90.0 degrees		Heavy Trucks: 41.253				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	1.56	1.12	-1.20	-4.67	0.000	0.000	
Medium Trucks:	82.40	-10.59	1.15	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	86.40	-8.42	1.15	-1.20	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	73.3	72.1	70.0	67.4	74.7	75.1		
Medium Trucks:	71.8	70.8	67.0	66.1	73.4	73.6		
Heavy Trucks:	77.9	77.0	72.5	72.0	79.4	79.6		
Vehicle Noise:	79.9	79.0	75.2	74.0	81.4	81.7		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			317	683	1,472	3,171		
CNEL:			331	712	1,534	3,306		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Meridian Pkwy.			Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 34,350 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,655 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Vehicle Type	Day	Evening	Night	Daily
			Autos: 71.1% 10.9% 18.0% 85.16% Medium Trucks: 73.6% 7.7% 18.6% 5.37% Heavy Trucks: 75.6% 6.7% 17.8% 9.47%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.83	1.12	-1.20	-4.67	0.000	0.000
Medium Trucks:	82.40	-11.17	1.15	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-8.71	1.15	-1.20	-5.38	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	72.5	71.4	69.3	66.7	74.0	74.4	
Medium Trucks:	71.2	70.2	66.4	65.5	72.8	73.0	
Heavy Trucks:	77.6	76.7	72.2	71.7	79.1	79.3	
Vehicle Noise:	79.5	78.5	74.7	73.6	81.0	81.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			297	640	1,379	2,972	
CNEL:			310	667	1,437	3,096	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 37,683 vehicles					Autos: 15					
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,913 vehicles					Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 55 mph					Vehicle Mix					
Near/Far Lane Distance: 73 feet					Vehicle Type		Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 85.71%					
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 5.31%					
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 8.98%					
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000					
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet					Autos: 41.446					
Road Grade: 0.0%					Medium Trucks: 41.232					
Left View: -90.0 degrees					Heavy Trucks: 41.253					
Right View: 90.0 degrees										
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	1.26	1.12	-1.20	-4.67	0.000	0.000			
Medium Trucks:	82.40	-10.82	1.15	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	86.40	-8.53	1.15	-1.20	-5.38	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	73.0	71.8	69.7	67.1	74.5	74.8				
Medium Trucks:	71.5	70.5	66.8	65.8	73.1	73.4				
Heavy Trucks:	77.8	76.9	72.4	71.9	79.3	79.5				
Vehicle Noise:	79.8	78.8	75.0	73.9	81.2	81.5				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			309	665	1,434	3,089				
CNEL:			322	694	1,494	3,219				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: I-215 Fwy. Road Segment: n/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 84,866 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 6,560 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 89.71% Medium Trucks: 73.6% 7.7% 18.6% 4.85% Heavy Trucks: 75.6% 6.7% 17.8% 5.45%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	4.26	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-8.41	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-7.90	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.6	71.4	69.3	66.7	74.0	74.4			
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.1			
Heavy Trucks:	74.0	73.1	68.6	68.1	75.5	75.7			
Vehicle Noise:	77.3	76.3	72.9	71.4	78.8	79.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			483	1,040	2,241	4,829			
CNEL:			505	1,087	2,343	5,047			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: I-215 Fwy. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 84,192 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 6,508 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Distance to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 89.70% Medium Trucks: 73.6% 7.7% 18.6% 4.85% Heavy Trucks: 75.6% 6.7% 17.8% 5.46%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	4.23	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-8.45	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-7.93	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.5	71.4	69.3	66.6	74.0	74.4			
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.0			
Heavy Trucks:	74.0	73.1	68.6	68.1	75.5	75.7			
Vehicle Noise:	77.3	76.3	72.8	71.4	78.8	79.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			481	1,035	2,231	4,806			
CNEL:			502	1,082	2,332	5,023			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: I-215 Fwy. Road Segment: s/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 80,788 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 6,245 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 89.55%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.86%				
					Heavy Trucks: 75.6% 6.7% 17.8% 5.59%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	4.04	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-8.61	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-8.01	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.3	71.2	69.1	66.5	73.8	74.2			
Medium Trucks:	70.0	69.0	65.2	64.3	71.6	71.9			
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6			
Vehicle Noise:	77.1	76.1	72.7	71.3	78.6	78.9			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			471	1,015	2,187	4,711			
CNEL:			492	1,061	2,285	4,924			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P (Proposed) Road Name: I-215 Fwy. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 87,533 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 6,766 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 90.69% Medium Trucks: 73.6% 7.7% 18.6% 4.72% Heavy Trucks: 75.6% 6.7% 17.8% 4.59%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	4.44	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-8.39	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-8.52	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.7	71.6	69.5	66.9	74.2	74.6			
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.1			
Heavy Trucks:	73.4	72.5	68.0	67.5	74.9	75.1			
Vehicle Noise:	77.1	76.1	72.7	71.2	78.6	78.9			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			468	1,008	2,172	4,680			
CNEL:			489	1,055	2,272	4,895			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Wood Rd. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		14,313 vehicles		Autos: 15					
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles): 15					
Peak Hour Volume:		1,106 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed:		45 mph							
Near/Far Lane Distance:		36 feet							
Site Data				Vehicle Mix					
Barrier Height:		0.0 feet		VehicleType		Day	Evening	Night	Daily
Barrier Type (0-Wall, 1-Berm):		0.0		Autos:		71.1%	10.9%	18.0%	91.42%
Centerline Dist. to Barrier:		44.0 feet		Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Centerline Dist. to Observer:		44.0 feet		Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Barrier Distance to Observer:		0.0 feet							
Observer Height (Above Pad):		5.0 feet		Noise Source Elevations (in feet)					
Pad Elevation:		0.0 feet		Autos:		0.000			
Road Elevation:		0.0 feet		Medium Trucks:		2.297			
Road Grade:		0.0%		Heavy Trucks:		8.004		Grade Adjustment: 0.0	
Left View:		-90.0 degrees		Lane Equivalent Distance (in feet)					
Right View:		90.0 degrees		Autos:		40.460			
				Medium Trucks:		40.241			
				Heavy Trucks:		40.262			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-1.79	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	79.45	-14.73	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-15.44	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn		CNEL		
Autos:	66.7	65.6	63.5	60.9	68.2		68.6		
Medium Trucks:	64.8	63.8	60.1	59.1	66.4		66.7		
Heavy Trucks:	68.9	68.0	63.5	63.0	70.4		70.6		
Vehicle Noise:	71.9	70.9	67.4	66.0	73.4		73.7		
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	74	160	345	743					
CNEL:	78	167	360	777					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Wood Rd. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,484 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,506 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.06	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.88	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.59	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.7	65.5	63.4	60.8	68.1	68.5			
Medium Trucks:	64.9	63.9	60.2	59.2	66.5	66.8			
Heavy Trucks:	69.5	68.6	64.1	63.6	71.0	71.2			
Vehicle Noise:	72.2	71.2	67.6	66.3	73.7	74.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			78	168	361	778			
CNEL:			81	175	377	813			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: n/o Canyon Crest Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		17,015 vehicles			Autos: 15				
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles): 15				
Peak Hour Volume:		1,315 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed:		50 mph			Vehicle Mix				
Near/Far Lane Distance:		72 feet							
Site Data					Vehicle Type	Day	Evening	Night	Daily
Barrier Height:		0.0 feet			Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Type (0-Wall, 1-Berm):		0.0			Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Centerline Dist. to Barrier:		60.0 feet			Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Observer:		60.0 feet			Noise Source Elevations (in feet)				
Barrier Distance to Observer:		0.0 feet							
Observer Height (Above Pad):		5.0 feet			Autos: 0.000				
Pad Elevation:		0.0 feet			Medium Trucks: 2.297				
Road Elevation:		0.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Road Grade:		0.0%			Lane Equivalent Distance (in feet)				
Left View:		-90.0 degrees							
Right View:		90.0 degrees			Autos: 48.260				
					Medium Trucks: 48.076				
					Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-1.49	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-14.44	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-15.15	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn		CNEL		
Autos:	67.6	66.5	64.4	61.8	69.1		69.5		
Medium Trucks:	65.5	64.5	60.7	59.8	67.1		67.4		
Heavy Trucks:	69.2	68.3	63.8	63.2	70.6		70.9		
Vehicle Noise:	72.5	71.5	68.0	66.6	74.0		74.3		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				110	238	512	1,102		
CNEL:				115	248	535	1,152		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Canyon Crest Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		1,333 vehicles			Autos: 15				
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles): 15				
Peak Hour Volume:		103 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed:		50 mph			Vehicle Mix				
Near/Far Lane Distance:		72 feet							
Site Data					VehicleType	Day	Evening	Night	Daily
Barrier Height:		0.0 feet			Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Type (0-Wall, 1-Berm):		0.0			Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Centerline Dist. to Barrier:		60.0 feet			Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Observer:		60.0 feet			Noise Source Elevations (in feet)				
Barrier Distance to Observer:		0.0 feet			Autos: 0.000				
Observer Height (Above Pad):		5.0 feet			Medium Trucks: 2.297				
Pad Elevation:		0.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Road Elevation:		0.0 feet			Lane Equivalent Distance (in feet)				
Road Grade:		0.0%			Autos: 48.260				
Left View:		-90.0 degrees			Medium Trucks: 48.076				
Right View:		90.0 degrees			Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-12.56	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-25.50	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-26.21	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	56.6	55.4	53.3	50.7	58.1	58.4			
Medium Trucks:	54.5	53.4	49.7	48.7	56.0	56.3			
Heavy Trucks:	58.1	57.2	52.7	52.2	59.6	59.8			
Vehicle Noise:	61.4	60.4	56.9	55.5	62.9	63.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			20	43	94	202			
CNEL:			21	45	98	211			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 44,338 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,427 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004 Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 49.739					
					Medium Trucks: 49.561					
					Heavy Trucks: 49.578					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	2.66	-0.07	-1.20	-4.67	0.000	0.000			
Medium Trucks:	81.00	-10.28	-0.05	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	85.38	-10.99	-0.05	-1.20	-5.38	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	71.6	70.4	68.3	65.7	73.1	73.5				
Medium Trucks:	69.5	68.5	64.7	63.8	71.1	71.3				
Heavy Trucks:	73.1	72.2	67.7	67.2	74.6	74.8				
Vehicle Noise:	76.4	75.4	72.0	70.6	77.9	78.2				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				186	400	862	1,856			
CNEL:				194	418	901	1,940			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: n/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		43,937 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		3,396 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		50 mph		Vehicle Mix				
Near/Far Lane Distance:		48 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier:		55.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		55.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 49.739				
Left View:		-90.0 degrees		Medium Trucks: 49.561				
Right View:		90.0 degrees		Heavy Trucks: 49.578				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	2.63	-0.07	-1.20	-4.67	0.000	0.000	
Medium Trucks:	81.00	-10.32	-0.05	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	85.38	-11.03	-0.05	-1.20	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	71.6	70.4	68.3	65.7	73.1	73.4		
Medium Trucks:	69.4	68.4	64.7	63.7	71.0	71.3		
Heavy Trucks:	73.1	72.2	67.7	67.2	74.6	74.8		
Vehicle Noise:	76.4	75.4	71.9	70.5	77.9	78.2		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			185	398	856	1,845		
CNEL:			193	415	895	1,929		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,855 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,385 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.09	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-11.85	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-12.57	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.0	68.9	66.8	64.1	71.5	71.9			
Medium Trucks:	67.9	66.9	63.1	62.2	69.5	69.8			
Heavy Trucks:	71.6	70.7	66.2	65.6	73.0	73.3			
Vehicle Noise:	74.9	73.9	70.4	69.0	76.4	76.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				146	314	677	1,458		
CNEL:				152	328	707	1,524		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,115 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 473 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	66.51	-4.97	1.28	-1.20	-4.61	0.000	0.000	
Medium Trucks:	77.72	-17.92	1.31	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	82.99	-18.63	1.31	-1.20	-5.50	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	61.6	60.5	58.4	55.7	63.1	63.5		
Medium Trucks:	59.9	58.9	55.1	54.2	61.5	61.8		
Heavy Trucks:	64.5	63.6	59.1	58.5	65.9	66.2		
Vehicle Noise:	67.2	66.2	62.6	61.3	68.7	69.0		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			36	77	167	359		
CNEL:			38	81	174	375		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,244 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,410 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-0.22	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.17	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.88	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.4	65.2	63.1	60.5	67.9	68.2			
Medium Trucks:	64.7	63.7	59.9	58.9	66.3	66.5			
Heavy Trucks:	69.2	68.3	63.8	63.3	70.7	70.9			
Vehicle Noise:	71.9	71.0	67.3	66.1	73.4	73.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			75	161	346	745			
CNEL:			78	168	361	778			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: n/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 15,727 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,216 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 66.51 -0.87 1.28 -1.20 -4.61 0.000 0.000									
Medium Trucks: 77.72 -13.81 1.31 -1.20 -4.87 0.000 0.000									
Heavy Trucks: 82.99 -14.52 1.31 -1.20 -5.50 0.000 0.000									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos: 65.7 64.6 62.5 59.8 67.2 67.6									
Medium Trucks: 64.0 63.0 59.2 58.3 65.6 65.9									
Heavy Trucks: 68.6 67.7 63.2 62.6 70.0 70.3									
Vehicle Noise: 71.3 70.3 66.7 65.4 72.8 73.1									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				67	145	313	675		
CNEL:				70	152	327	704		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,609 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,284 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-0.63	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.58	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-14.29	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.0	64.8	62.7	60.1	67.4	67.8			
Medium Trucks:	64.3	63.2	59.5	58.5	65.8	66.1			
Heavy Trucks:	68.8	67.9	63.4	62.9	70.3	70.5			
Vehicle Noise:	71.5	70.5	66.9	65.7	73.0	73.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				70	151	325	700		
CNEL:				73	157	339	731		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Lurin Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,172 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,173 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-1.02	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.97	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-14.68	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.6	64.4	62.3	59.7	67.1	67.4			
Medium Trucks:	63.9	62.9	59.1	58.1	65.5	65.7			
Heavy Trucks:	68.4	67.5	63.0	62.5	69.9	70.1			
Vehicle Noise:	71.1	70.2	66.5	65.3	72.6	72.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				66	142	306	659		
CNEL:				69	148	319	688		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Coyote Bush Rd. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 2,514 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 194 vehicles Vehicle Speed: 25 mph Near/Far Lane Distance: 12 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004 Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 32.833					
					Medium Trucks: 32.562					
					Heavy Trucks: 32.589					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	58.73	-6.79	2.64	-1.20	-4.52	0.000	0.000			
Medium Trucks:	70.80	-19.74	2.69	-1.20	-4.86	0.000	0.000			
Heavy Trucks:	77.97	-20.45	2.69	-1.20	-5.69	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	53.4	52.2	50.1	47.5	54.9	55.2				
Medium Trucks:	52.6	51.5	47.8	46.8	54.1	54.4				
Heavy Trucks:	59.0	58.1	53.6	53.1	60.5	60.7				
Vehicle Noise:	60.8	59.8	55.9	54.9	62.3	62.5				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				10		22		47		101
CNEL:				10		23		49		105

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: Orange Terrace Pkwy. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		9,755 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		754 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		45 mph		Vehicle Mix				
Near/Far Lane Distance:		48 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier:		55.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		55.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 49.739				
Left View:		-90.0 degrees		Medium Trucks: 49.561				
Right View:		90.0 degrees		Heavy Trucks: 49.578				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	-3.45	-0.07	-1.20	-4.67	0.000	0.000	
Medium Trucks:	79.45	-16.40	-0.05	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	84.25	-17.11	-0.05	-1.20	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	63.7	62.6	60.5	57.9	65.2	65.6		
Medium Trucks:	61.8	60.8	57.0	56.1	63.4	63.7		
Heavy Trucks:	65.9	65.0	60.5	60.0	67.4	67.6		
Vehicle Noise:	68.9	67.9	64.4	63.0	70.4	70.7		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			58	126	271	585		
CNEL:			61	132	284	611		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Village West Dr. Road Segment: n/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,602 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,515 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.09	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	77.72	-12.86	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.57	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.1	63.9	61.8	59.2	66.6	66.9			
Medium Trucks:	63.4	62.4	58.6	57.6	64.9	65.2			
Heavy Trucks:	67.9	67.0	62.5	62.0	69.4	69.6			
Vehicle Noise:	70.6	69.7	66.0	64.8	72.1	72.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				78	167	361	777		
CNEL:				81	175	376	811		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Village West Dr. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 8,241 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 637 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 24 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 39.0 feet Centerline Dist. to Observer: 39.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 37.443 Medium Trucks: 37.206 Heavy Trucks: 37.229				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-3.67	1.78	-1.20	-4.58	0.000	0.000		
Medium Trucks:	77.72	-16.62	1.82	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-17.33	1.82	-1.20	-5.57	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.4	62.3	60.2	57.5	64.9	65.3			
Medium Trucks:	61.7	60.7	56.9	56.0	63.3	63.6			
Heavy Trucks:	66.3	65.4	60.9	60.4	67.7	68.0			
Vehicle Noise:	69.0	68.0	64.4	63.1	70.5	70.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				42	91	195	420		
CNEL:				44	95	204	439		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,621 vehicles					Autos: 15					
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,135 vehicles					Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 45 mph										
Near/Far Lane Distance: 44 feet					Vehicle Mix					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004		Grade Adjustment: 0.0			
					Lane Equivalent Distance (in feet)					
					Autos: 51.740					
					Medium Trucks: 51.568					
					Heavy Trucks: 51.585					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	1.07	-0.33	-1.20	-4.67	0.000	0.000			
Medium Trucks:	79.45	-11.88	-0.30	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-12.59	-0.31	-1.20	-5.37	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	68.0	66.8	64.7	62.1	69.5	69.9				
Medium Trucks:	66.1	65.1	61.3	60.3	67.7	67.9				
Heavy Trucks:	70.2	69.3	64.8	64.2	71.6	71.9				
Vehicle Noise:	73.2	72.2	68.6	67.3	74.7	74.9				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			115	247	532	1,145				
CNEL:			120	258	555	1,196				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		26,891 vehicles			Autos:		15		
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles):		15		
Peak Hour Volume:		2,079 vehicles			Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		45 mph			Vehicle Mix				
Near/Far Lane Distance:		44 feet			Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height:		0.0 feet			Medium Trucks:		73.6% 7.7% 18.6% 4.64%		
Barrier Type (0-Wall, 1-Berm):		0.0			Heavy Trucks:		75.6% 6.7% 17.8% 3.94%		
Centerline Dist. to Barrier:		56.0 feet			Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		56.0 feet			Autos:		0.000		
Barrier Distance to Observer:		0.0 feet			Medium Trucks:		2.297		
Observer Height (Above Pad):		5.0 feet			Heavy Trucks:		8.004		
Pad Elevation:		0.0 feet			Grade Adjustment:		0.0		
Road Elevation:		0.0 feet			Lane Equivalent Distance (in feet)				
Road Grade:		0.0%			Autos:		51.740		
Left View:		-90.0 degrees			Medium Trucks:		51.568		
Right View:		90.0 degrees			Heavy Trucks:		51.585		
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	0.95	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-11.99	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-12.70	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.9	66.7	64.6	62.0	69.4	69.8			
Medium Trucks:	66.0	64.9	61.2	60.2	67.5	67.8			
Heavy Trucks:	70.0	69.2	64.6	64.1	71.5	71.7			
Vehicle Noise:	73.0	72.1	68.5	67.2	74.5	74.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			113	242	522	1,125			
CNEL:			118	253	546	1,175			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: s/o Cactus Av.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 25,247 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,952 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
						Autos:	0.000			
		Medium Trucks:	2.297							
		Heavy Trucks:	8.004 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)						
				Autos:		51.740				
				Medium Trucks:		51.568				
		Heavy Trucks:		51.585						
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	0.68	-0.33	-1.20	-4.67	0.000	0.000			
Medium Trucks:	79.45	-12.27	-0.30	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-12.98	-0.31	-1.20	-5.37	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	67.6	66.5	64.3	61.7	69.1	69.5				
Medium Trucks:	65.7	64.7	60.9	60.0	67.3	67.5				
Heavy Trucks:	69.8	68.9	64.4	63.8	71.2	71.5				
Vehicle Noise:	72.8	71.8	68.3	66.9	74.3	74.6				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			108	232	501	1,079				
CNEL:			113	243	523	1,127				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,817 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,918 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph					Vehicle Mix				
Near/Far Lane Distance: 44 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 56.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 56.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 51.740				
Road Grade: 0.0%					Medium Trucks: 51.568				
Left View: -90.0 degrees					Heavy Trucks: 51.585				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	0.60	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-12.34	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-13.05	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.5	66.4	64.3	61.7	69.0	69.4			
Medium Trucks:	65.6	64.6	60.8	59.9	67.2	67.5			
Heavy Trucks:	69.7	68.8	64.3	63.8	71.2	71.4			
Vehicle Noise:	72.7	71.7	68.2	66.8	74.2	74.5			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			107	230	495	1,066			
CNEL:			111	240	517	1,114			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 18,480 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,429 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data					Vehicle Mix						
					Vehicle Type	Day	Evening	Night	Daily		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%						
					Noise Source Elevations (in feet)						
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004					Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)						
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585						
FHWA Noise Model Calculations											
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten				
Autos:	68.46	-0.68	-0.33	-1.20	-4.67	0.000	0.000				
Medium Trucks:	79.45	-13.62	-0.30	-1.20	-4.87	0.000	0.000				
Heavy Trucks:	84.25	-14.33	-0.31	-1.20	-5.37	0.000	0.000				
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	66.3	65.1	63.0	60.4	67.7	68.1					
Medium Trucks:	64.3	63.3	59.5	58.6	65.9	66.2					
Heavy Trucks:	68.4	67.5	63.0	62.5	69.9	70.1					
Vehicle Noise:	71.4	70.4	66.9	65.5	72.9	73.2					
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				88	189	407	876				
CNEL:				92	197	425	915				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC (With 2003 EIR Phase III) Road Name: Day St. Road Segment: n/o Cottonwood Av.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt):		13,632 vehicles		Autos:		15	
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15	
Peak Hour Volume:		1,054 vehicles		Heavy Trucks (3+ Axles):		15	
Vehicle Speed:		40 mph		Vehicle Mix			
Near/Far Lane Distance:		50 feet		Vehicle Type	Day	Evening	Night
Site Data							
Barrier Height:		0.0 feet		Autos:	71.1%	10.9%	18.0%
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:	73.6%	7.7%	18.6%
Centerline Dist. to Barrier:		44.0 feet		Heavy Trucks:	75.6%	6.7%	17.8%
Centerline Dist. to Observer:		44.0 feet		Grade Adjustment: 0.0			
Barrier Distance to Observer:		0.0 feet		Noise Source Elevations (in feet)			
Observer Height (Above Pad):		5.0 feet		Autos:	0.000		
Pad Elevation:		0.0 feet		Medium Trucks:	2.297		
Road Elevation:		0.0 feet		Heavy Trucks:	8.004		
Road Grade:		0.0%		Lane Equivalent Distance (in feet)			
Left View:		-90.0 degrees		Autos:	36.551		
Right View:		90.0 degrees		Medium Trucks:	36.308		
				Heavy Trucks:	36.332		
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.49	1.94	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-14.43	1.98	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-15.14	1.98	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.8	64.6	62.5	59.9	67.3	67.6	
Medium Trucks:	64.1	63.1	59.3	58.3	65.7	65.9	
Heavy Trucks:	68.6	67.7	63.2	62.7	70.1	70.3	
Vehicle Noise:	71.3	70.4	66.7	65.5	72.8	73.1	
Centerline Distance to Noise Contour (in feet)							
				70 dBA	65 dBA	60 dBA	55 dBA
Ldn:				68	146	315	680
CNEL:				71	153	329	709

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Day St. Road Segment: s/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 9,496 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 734 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 36.551 Medium Trucks: 36.308 Heavy Trucks: 36.332				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-3.06	1.94	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-16.00	1.98	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-16.71	1.98	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	64.2	63.0	60.9	58.3	65.7	66.1			
Medium Trucks:	62.5	61.5	57.7	56.8	64.1	64.3			
Heavy Trucks:	67.1	66.2	61.7	61.1	68.5	68.8			
Vehicle Noise:	69.8	68.8	65.2	63.9	71.3	71.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				53	115	248	534		
CNEL:				56	120	259	558		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 55,133 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,262 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	3.20	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-9.75	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-10.46	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.9	72.8	70.6	68.0	75.4	75.8			
Medium Trucks:	71.6	70.6	66.8	65.9	73.2	73.5			
Heavy Trucks:	74.9	74.0	69.5	69.0	76.3	76.6			
Vehicle Noise:	78.4	77.4	74.0	72.6	79.9	80.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				276	595	1,281	2,761		
CNEL:				289	622	1,340	2,887		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 58,787 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,544 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data					Vehicle Mix						
					Vehicle Type	Day	Evening	Night	Daily		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%						
					Noise Source Elevations (in feet)						
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004					Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)						
Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094											
FHWA Noise Model Calculations											
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten				
Autos:	71.78	3.48	0.13	-1.20	-4.69	0.000	0.000				
Medium Trucks:	82.40	-9.47	0.15	-1.20	-4.88	0.000	0.000				
Heavy Trucks:	86.40	-10.18	0.15	-1.20	-5.34	0.000	0.000				
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	74.2	73.0	70.9	68.3	75.7	76.1					
Medium Trucks:	71.9	70.9	67.1	66.2	73.5	73.7					
Heavy Trucks:	75.2	74.3	69.8	69.2	76.6	76.9					
Vehicle Noise:	76.7	77.7	74.3	72.9	80.2	80.5					
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				288	621	1,337	2,881				
CNEL:				301	649	1,399	3,013				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		55,281 vehicles			Autos:		15			
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles):		15			
Peak Hour Volume:		4,273 vehicles			Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		55 mph			Vehicle Mix					
Near/Far Lane Distance:		72 feet			Vehicle Type		Day	Evening	Night	Daily
Site Data					Autos:		71.1%	10.9%	18.0%	91.42%
Barrier Height:		0.0 feet			Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-Berm):		0.0			Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:		60.0 feet			Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		60.0 feet			Autos:		0.000			
Barrier Distance to Observer:		0.0 feet			Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet			Heavy Trucks:		8.004			
Pad Elevation:		0.0 feet					Grade Adjustment: 0.0			
Road Elevation:		0.0 feet			Lane Equivalent Distance (in feet)					
Road Grade:		0.0%			Autos:		48.260			
Left View:		-90.0 degrees			Medium Trucks:		48.076			
Right View:		90.0 degrees			Heavy Trucks:		48.094			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	3.21	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	82.40	-9.74	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-10.45	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	73.9	72.8	70.7	68.0	75.4	75.8				
Medium Trucks:	71.6	70.6	66.8	65.9	73.2	73.5				
Heavy Trucks:	74.9	74.0	69.5	69.0	76.4	76.6				
Vehicle Noise:	78.5	77.5	74.0	72.6	80.0	80.2				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				277	596	1,284	2,766			
CNEL:				289	623	1,342	2,892			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Old 215 Frontage Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 46,715 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,611 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	3.35	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-9.60	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-10.31	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.7	69.6	67.5	64.9	72.2	72.6			
Medium Trucks:	68.8	67.8	64.0	63.1	70.4	70.7			
Heavy Trucks:	72.9	72.0	67.5	67.0	74.4	74.6			
Vehicle Noise:	75.9	74.9	71.4	70.0	77.4	77.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				187	403	867	1,868		
CNEL:				195	420	906	1,952		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Day St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 38,215 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,954 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.48	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-10.47	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.18	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.2	68.1	66.0	63.3	70.7	71.1			
Medium Trucks:	67.3	66.3	62.5	61.6	68.9	69.1			
Heavy Trucks:	71.4	70.5	66.0	65.4	72.8	73.1			
Vehicle Noise:	74.4	73.4	69.9	68.5	75.9	76.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			165	356	768	1,654			
CNEL:			173	372	802	1,728			

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Day St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 38,003 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,938 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.45	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-10.49	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.20	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.2	68.0	65.9	63.3	70.7	71.1			
Medium Trucks:	67.3	66.3	62.5	61.5	68.9	69.1			
Heavy Trucks:	71.4	70.5	66.0	65.4	72.8	73.1			
Vehicle Noise:	74.4	73.4	69.8	68.5	75.9	76.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			165	355	765	1,648			
CNEL:			172	371	799	1,721			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Innovation Dr.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 26,482 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,047 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Lane Equivalent Distance (in feet)				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	0.88	0.58	-1.20	-4.69	0.000	0.000	
Medium Trucks:	79.45	-12.06	0.61	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	84.25	-12.77	0.61	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	68.7	67.6	65.5	62.8	70.2	70.6		
Medium Trucks:	66.8	65.8	62.0	61.1	68.4	68.7		
Heavy Trucks:	70.9	70.0	65.5	65.0	72.4	72.6		
Vehicle Noise:	73.9	72.9	69.4	68.0	75.4	75.7		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			137	296	637	1,373		
CNEL:			143	309	666	1,434		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Innovation Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,417 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,428 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.63	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-11.32	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-12.03	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.5	68.3	66.2	63.6	71.0	71.3			
Medium Trucks:	67.5	66.5	62.8	61.8	69.1	69.4			
Heavy Trucks:	71.6	70.7	66.2	65.7	73.1	73.3			
Vehicle Noise:	74.6	73.6	70.1	68.8	76.1	76.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				154	331	714	1,539		
CNEL:				161	346	746	1,607		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 58,468 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,520 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.87	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.08	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.79	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.4	71.2	69.1	66.5	73.9	74.2			
Medium Trucks:	70.2	69.2	65.5	64.5	71.8	72.1			
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6			
Vehicle Noise:	77.2	76.2	72.7	71.3	78.7	79.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			254	547	1,179	2,541			
CNEL:			266	572	1,232	2,655			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 55,952 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,325 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.68	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.27	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.98	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.2	71.0	68.9	66.3	73.7	74.0			
Medium Trucks:	70.0	69.0	65.3	64.3	71.6	71.9			
Heavy Trucks:	73.7	72.8	68.3	67.8	75.2	75.4			
Vehicle Noise:	77.0	76.0	72.5	71.1	78.5	78.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				247	532	1,145	2,467		
CNEL:				258	556	1,197	2,579		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 59,940 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,633 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.97	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-8.97	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.68	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.5	71.3	69.2	66.6	74.0	74.3			
Medium Trucks:	70.3	69.3	65.6	64.6	71.9	72.2			
Heavy Trucks:	74.0	73.1	68.6	68.1	75.5	75.7			
Vehicle Noise:	77.3	76.3	72.8	71.4	78.8	79.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			258	557	1,199	2,583			
CNEL:			270	582	1,253	2,700			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: elo Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 52,302 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,043 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					VehicleType	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.38	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.56	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.27	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn		CNEL		
Autos:	71.9	70.7	68.6	66.0	73.4		73.7		
Medium Trucks:	69.7	68.7	65.0	64.0	71.3		71.6		
Heavy Trucks:	73.4	72.5	68.0	67.5	74.9		75.1		
Vehicle Noise:	76.7	75.7	72.2	70.8	78.2		78.5		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				236	508	1,095	2,359		
CNEL:				247	531	1,144	2,465		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 48,470 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,747 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.05	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-9.89	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.60	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.2	71.0	68.9	66.3	73.7	74.1			
Medium Trucks:	70.1	69.1	65.3	64.3	71.7	71.9			
Heavy Trucks:	73.7	72.8	68.3	67.8	75.2	75.4			
Vehicle Noise:	77.0	76.0	72.5	71.1	78.5	78.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			222	477	1,028	2,215			
CNEL:			232	499	1,075	2,315			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 45,813 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,541 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.81	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-10.14	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.85	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.9	70.8	68.7	66.1	73.4	73.8			
Medium Trucks:	69.8	68.8	65.0	64.1	71.4	71.7			
Heavy Trucks:	73.5	72.6	68.1	67.5	74.9	75.2			
Vehicle Noise:	76.8	75.8	72.3	70.9	78.3	78.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				213	460	990	2,134		
CNEL:				223	480	1,035	2,230		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Barton St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 45,041 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,482 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 72 feet					Vehicle Type				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 60.0 feet					Daily				
Centerline Dist. to Observer: 60.0 feet					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Pad Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Elevation: 0.0 feet					Autos: 0.000				
Road Grade: 0.0%					Medium Trucks: 2.297				
Left View: -90.0 degrees					Heavy Trucks: 8.004				
Right View: 90.0 degrees					Grade Adjustment: 0.0				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 2.73 0.13 -1.20 -4.69 0.000 0.000									
Medium Trucks: 81.00 -10.21 0.15 -1.20 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -10.92 0.15 -1.20 -5.34 0.000 0.000									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos: 71.9 70.7 68.6 66.0 73.4 73.7									
Medium Trucks: 69.7 68.7 65.0 64.0 71.3 71.6									
Heavy Trucks: 73.4 72.5 68.0 67.5 74.9 75.1									
Vehicle Noise: 76.7 75.7 72.2 70.8 78.2 78.5									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				211	454	979	2,110		
CNEL:				220	475	1,023	2,205		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Barton St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 43,238 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,342 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.14	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.80	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.51	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.9	71.7	69.6	67.0	74.3	74.7			
Medium Trucks:	70.6	69.6	65.8	64.8	72.1	72.4			
Heavy Trucks:	73.8	72.9	68.4	67.9	75.3	75.5			
Vehicle Noise:	77.4	76.4	73.0	71.5	78.9	79.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				235	506	1,090	2,348		
CNEL:				246	529	1,140	2,455		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 46,981 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,632 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.50	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.44	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.15	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.2	72.1	69.9	67.3	74.7	75.1			
Medium Trucks:	70.9	69.9	66.1	65.2	72.5	72.8			
Heavy Trucks:	74.2	73.3	68.8	68.3	75.7	75.9			
Vehicle Noise:	77.7	76.7	73.3	71.9	79.2	79.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				248	535	1,152	2,481		
CNEL:				259	559	1,204	2,595		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 48,906 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,780 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.68	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.27	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-10.98	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.4	72.2	70.1	67.5	74.9	75.3			
Medium Trucks:	71.1	70.1	66.3	65.4	72.7	72.9			
Heavy Trucks:	74.4	73.5	69.0	68.4	75.8	76.1			
Vehicle Noise:	77.9	76.9	73.5	72.1	79.4	79.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				255	549	1,183	2,549		
CNEL:				267	574	1,237	2,665		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 56,107 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,337 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	3.27	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-9.67	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-10.38	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.0	73.8	71.7	69.1	76.5	76.8			
Medium Trucks:	72.7	71.7	67.9	67.0	74.3	74.5			
Heavy Trucks:	76.0	75.1	70.6	70.0	77.4	77.7			
Vehicle Noise:	79.5	78.5	75.1	73.6	81.0	81.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				298	643	1,385	2,984		
CNEL:				312	672	1,448	3,120		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 61,936 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,788 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	3.70	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-9.24	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-9.95	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.4	74.2	72.1	69.5	76.9	77.3			
Medium Trucks:	73.1	72.1	68.3	67.4	74.7	75.0			
Heavy Trucks:	76.4	75.5	71.0	70.5	77.9	78.1			
Vehicle Noise:	79.9	78.9	75.5	74.1	81.4	81.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				319	687	1,479	3,187		
CNEL:				333	718	1,547	3,333		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 65,868 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,092 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	3.97	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-8.98	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-9.69	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.7	74.5	72.4	69.8	77.2	77.5			
Medium Trucks:	73.4	72.4	68.6	67.7	75.0	75.2			
Heavy Trucks:	76.7	75.8	71.3	70.7	78.1	78.4			
Vehicle Noise:	80.2	79.2	75.8	74.3	81.7	82.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				332	715	1,541	3,321		
CNEL:				347	748	1,612	3,472		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: n/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 105,230 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 8,134 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	5.28	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-7.67	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-8.38	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.6	72.4	70.3	67.7	75.1	75.4			
Medium Trucks:	70.9	69.9	66.2	65.2	72.5	72.8			
Heavy Trucks:	73.6	72.7	68.2	67.6	75.0	75.3			
Vehicle Noise:	77.6	76.6	73.3	71.8	79.1	79.4			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			507	1,093	2,356	5,075			
CNEL:			531	1,144	2,465	5,312			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 111,960 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 8,655 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data					Vehicle Mix						
					Vehicle Type	Day	Evening	Night	Daily		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%						
					Noise Source Elevations (in feet)						
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004					Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)						
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813						
FHWA Noise Model Calculations											
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten				
Autos:	74.55	5.55	-5.05	-1.20	-4.79	0.000	0.000				
Medium Trucks:	84.86	-7.40	-5.05	-1.20	-4.88	0.000	0.000				
Heavy Trucks:	88.18	-8.11	-5.05	-1.20	-5.11	0.000	0.000				
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	73.8	72.7	70.6	68.0	75.3	75.7					
Medium Trucks:	71.2	70.2	66.4	65.5	72.8	73.1					
Heavy Trucks:	73.8	72.9	68.4	67.9	75.3	75.5					
Vehicle Noise:	77.9	76.9	73.6	72.0	79.4	79.7					
Centerline Distance to Noise Contour (in feet)											
			70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:			529	1,139	2,455	5,289					
CNEL:			554	1,193	2,569	5,536					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 113,300 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 8,758 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	5.60	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-7.35	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-8.06	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.9	72.7	70.6	68.0	75.4	75.8			
Medium Trucks:	71.3	70.3	66.5	65.6	72.9	73.1			
Heavy Trucks:	73.9	73.0	68.5	67.9	75.3	75.6			
Vehicle Noise:	77.9	76.9	73.6	72.1	79.4	79.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			533	1,149	2,474	5,331			
CNEL:			558	1,202	2,590	5,580			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 121,180 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 9,367 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	5.89	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-7.05	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-7.76	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	74.2	73.0	70.9	68.3	75.7	76.1			
Medium Trucks:	71.6	70.6	66.8	65.8	73.2	73.4			
Heavy Trucks:	74.2	73.3	68.8	68.2	75.6	75.9			
Vehicle Noise:	78.2	77.2	73.9	72.4	79.7	80.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				558	1,201	2,588	5,575		
CNEL:				584	1,257	2,709	5,836		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Wood Rd. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 14,322 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,107 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type		Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.43%					
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000					
				Medium Trucks: 2.297					
				Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 40.460					
				Medium Trucks: 40.241					
				Heavy Trucks: 40.262					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-1.79	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	79.45	-14.73	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-15.44	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.8	65.6	63.5	60.9	68.2	68.6			
Medium Trucks:	64.8	63.8	60.1	59.1	66.4	66.7			
Heavy Trucks:	68.9	68.0	63.5	63.0	70.4	70.6			
Vehicle Noise:	71.9	70.9	67.4	66.0	73.4	73.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			74	160	345	744			
CNEL:			78	167	361	777			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Wood Rd. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 19,492 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,507 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
						Autos:	0.000			
						Medium Trucks:	2.297			
						Heavy Trucks:	8.004			
						Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)						
						Autos:	40.460			
						Medium Trucks:	40.241			
						Heavy Trucks:	40.262			
				FHWA Noise Model Calculations						
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	0.07	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-12.88	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-13.59	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	66.7	65.5	63.4	60.8	68.1	68.5				
Medium Trucks:	64.9	63.9	60.2	59.2	66.5	66.8				
Heavy Trucks:	69.5	68.6	64.1	63.6	71.0	71.2				
Vehicle Noise:	72.2	71.2	67.6	66.3	73.7	74.0				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			78	168	361	778				
CNEL:			81	175	377	813				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: n/o Canyon Crest Dr.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 17,069 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,319 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.45%
						Medium Trucks:	73.6%	7.7%	18.6%	4.63%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.93%
				Noise Source Elevations (in feet)						
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0						
				Lane Equivalent Distance (in feet)						
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094						
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	-1.48	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	81.00	-14.44	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-15.15	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	67.7	66.5	64.4	61.8	69.1	69.5				
Medium Trucks:	65.5	64.5	60.7	59.8	67.1	67.4				
Heavy Trucks:	69.2	68.3	63.8	63.2	70.6	70.9				
Vehicle Noise:	72.5	71.5	68.0	66.6	74.0	74.3				
Centerline Distance to Noise Contour (in feet)										
			70 dBA		65 dBA		60 dBA		55 dBA	
Ldn:			110		238		512		1,103	
CNEL:			115		248		535		1,153	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Canyon Crest Dr.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt):		1,404 vehicles		Autos: 15			
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles): 15			
Peak Hour Volume:		109 vehicles		Heavy Trucks (3+ Axles): 15			
Vehicle Speed:		50 mph					
Near/Far Lane Distance:		72 feet		Vehicle Mix			
Site Data				Vehicle Type			
Barrier Height:		0.0 feet		Autos: 71.1% 10.9% 18.0% 91.86%			
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks: 73.6% 7.7% 18.6% 4.40%			
Centerline Dist. to Barrier:		60.0 feet		Heavy Trucks: 75.6% 6.7% 17.8% 3.74%			
Centerline Dist. to Observer:		60.0 feet		Noise Source Elevations (in feet)			
Barrier Distance to Observer:		0.0 feet		Autos: 0.000			
Observer Height (Above Pad):		5.0 feet		Medium Trucks: 2.297			
Pad Elevation:		0.0 feet		Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)			
Road Grade:		0.0%		Autos: 48.260			
Left View:		-90.0 degrees		Medium Trucks: 48.076			
Right View:		90.0 degrees		Heavy Trucks: 48.094			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-12.31	0.13	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-25.50	0.15	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-26.21	0.15	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	56.8	55.7	53.6	50.9	58.3	58.7	
Medium Trucks:	54.5	53.4	49.7	48.7	56.0	56.3	
Heavy Trucks:	58.1	57.2	52.7	52.2	59.6	59.8	
Vehicle Noise:	61.5	60.5	57.0	55.6	63.0	63.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			20	44	95	204	
CNEL:			21	46	99	214	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 44,436 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,435 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.68	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-10.28	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-10.99	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.6	70.5	68.3	65.7	73.1	73.5			
Medium Trucks:	69.5	68.5	64.7	63.8	71.1	71.3			
Heavy Trucks:	73.1	72.2	67.7	67.2	74.6	74.8			
Vehicle Noise:	76.4	75.4	72.0	70.6	77.9	78.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				186	400	862	1,857		
CNEL:				194	418	901	1,941		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: n/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 44,062 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,406 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.64	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-10.32	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-11.03	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.6	70.4	68.3	65.7	73.1	73.4			
Medium Trucks:	69.4	68.4	64.7	63.7	71.0	71.3			
Heavy Trucks:	73.1	72.2	67.7	67.2	74.6	74.8			
Vehicle Noise:	76.4	75.4	71.9	70.5	77.9	78.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			185	398	857	1,846			
CNEL:			193	416	896	1,930			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,989 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,395 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.46% Medium Trucks: 73.6% 7.7% 18.6% 4.62% Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.11	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-11.85	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-12.57	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.0	68.9	66.8	64.2	71.5	71.9			
Medium Trucks:	67.9	66.9	63.1	62.2	69.5	69.8			
Heavy Trucks:	71.6	70.7	66.2	65.6	73.0	73.3			
Vehicle Noise:	74.9	73.9	70.4	69.0	76.4	76.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				146	314	677	1,459		
CNEL:				153	329	708	1,525		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		6,132 vehicles			Autos: 15				
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles): 15				
Peak Hour Volume:		474 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed:		40 mph			Vehicle Mix				
Near/Far Lane Distance:		36 feet							
Site Data					VehicleType	Day	Evening	Night	Daily
Barrier Height:		0.0 feet			Autos: 71.1% 10.9% 18.0% 91.44%				
Barrier Type (0-Wall, 1-Berm):		0.0			Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
Centerline Dist. to Barrier:		44.0 feet			Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Centerline Dist. to Observer:		44.0 feet			Noise Source Elevations (in feet)				
Barrier Distance to Observer:		0.0 feet							
Observer Height (Above Pad):		5.0 feet			Autos: 0.000				
Pad Elevation:		0.0 feet			Medium Trucks: 2.297				
Road Elevation:		0.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Road Grade:		0.0%			Lane Equivalent Distance (in feet)				
Left View:		-90.0 degrees							
Right View:		90.0 degrees							
					Autos: 40.460				
					Medium Trucks: 40.241				
					Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-4.96	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-17.92	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-18.63	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	61.6	60.5	58.4	55.7	63.1	63.5			
Medium Trucks:	59.9	58.9	55.1	54.2	61.5	61.8			
Heavy Trucks:	64.5	63.6	59.1	58.5	65.9	66.2			
Vehicle Noise:	67.2	66.2	62.6	61.3	68.7	69.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			36	77	167	360			
CNEL:			38	81	174	375			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,270 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,412 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph									
Near/Far Lane Distance: 36 feet					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.43%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000				
Barrier Height: 0.0 feet					Medium Trucks: 2.297				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 8.004				
Centerline Dist. to Barrier: 44.0 feet					Grade Adjustment: 0.0				
Centerline Dist. to Observer: 44.0 feet									
Barrier Distance to Observer: 0.0 feet									
Observer Height (Above Pad): 5.0 feet									
Pad Elevation: 0.0 feet									
Road Elevation: 0.0 feet									
Road Grade: 0.0%									
Left View: -90.0 degrees									
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-0.22	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.17	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.88	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.4	65.2	63.1	60.5	67.9	68.2			
Medium Trucks:	64.7	63.7	59.9	58.9	66.3	66.5			
Heavy Trucks:	69.2	68.3	63.8	63.3	70.7	70.9			
Vehicle Noise:	71.9	71.0	67.3	66.1	73.4	73.7			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			75	161	346	745			
CNEL:			78	168	361	778			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: n/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,754 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,218 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-0.86	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.81	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-14.52	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.7	64.6	62.5	59.8	67.2	67.6			
Medium Trucks:	64.0	63.0	59.2	58.3	65.6	65.9			
Heavy Trucks:	68.6	67.7	63.2	62.6	70.0	70.3			
Vehicle Noise:	71.3	70.3	66.7	65.4	72.8	73.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			68	145	313	675			
CNEL:			70	152	327	705			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,636 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,286 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-0.62	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.58	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-14.29	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.0	64.8	62.7	60.1	67.5	67.8			
Medium Trucks:	64.3	63.2	59.5	58.5	65.8	66.1			
Heavy Trucks:	68.8	67.9	63.4	62.9	70.3	70.5			
Vehicle Noise:	71.5	70.5	66.9	65.7	73.0	73.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				70	151	325	700		
CNEL:				73	157	339	731		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Lurin Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,198 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,175 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-1.02	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.97	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-14.68	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.6	64.4	62.3	59.7	67.1	67.4			
Medium Trucks:	63.9	62.9	59.1	58.1	65.5	65.7			
Heavy Trucks:	68.4	67.5	63.0	62.5	69.9	70.1			
Vehicle Noise:	71.1	70.2	66.5	65.3	72.6	72.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				66	142	306	659		
CNEL:				69	148	319	688		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Coyote Bush Rd. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		2,531 vehicles			Autos:		15			
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles):		15			
Peak Hour Volume:		196 vehicles			Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		25 mph			Vehicle Mix					
Near/Far Lane Distance:		12 feet								
Site Data					Vehicle Type					
Barrier Height:		0.0 feet			Autos:		71.1%	10.9%	18.0%	91.48%
Barrier Type (0-Wall, 1-Berm):		0.0			Medium Trucks:		73.6%	7.7%	18.6%	4.61%
Centerline Dist. to Barrier:		33.0 feet			Heavy Trucks:		75.6%	6.7%	17.8%	3.91%
Centerline Dist. to Observer:		33.0 feet			Noise Source Elevations (in feet)					
Barrier Distance to Observer:		0.0 feet								
Observer Height (Above Pad):		5.0 feet			Autos:		0.000			
Pad Elevation:		0.0 feet			Medium Trucks:		2.297			
Road Elevation:		0.0 feet			Heavy Trucks:		8.004			
Road Grade:		0.0%			Grade Adjustment:		0.0			
Left View:		-90.0 degrees			Lane Equivalent Distance (in feet)					
Right View:		90.0 degrees								
					Autos:		32.833			
					Medium Trucks:		32.562			
					Heavy Trucks:		32.589			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	58.73	-6.76	2.64	-1.20	-4.52	0.000	0.000			
Medium Trucks:	70.80	-19.74	2.69	-1.20	-4.86	0.000	0.000			
Heavy Trucks:	77.97	-20.45	2.69	-1.20	-5.69	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	53.4	52.3	50.2	47.5	54.9	55.3				
Medium Trucks:	52.6	51.5	47.8	46.8	54.1	54.4				
Heavy Trucks:	59.0	58.1	53.6	53.1	60.5	60.7				
Vehicle Noise:	60.8	59.8	55.9	54.9	62.3	62.5				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			10	22	47	101				
CNEL:			10	23	49	105				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Orange Terrace Pkwy. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 9,772 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 755 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph					Vehicle Mix				
Near/Far Lane Distance: 48 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.44%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004				
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Grade: 0.0%					Autos: 49.739				
Left View: -90.0 degrees					Medium Trucks: 49.561				
Right View: 90.0 degrees					Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-3.44	-0.07	-1.20	-4.67	0.000		0.000	
Medium Trucks:	79.45	-16.40	-0.05	-1.20	-4.87	0.000		0.000	
Heavy Trucks:	84.25	-17.11	-0.05	-1.20	-5.38	0.000		0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.7	62.6	60.5	57.9	65.2	65.6			
Medium Trucks:	61.8	60.8	57.0	56.1	63.4	63.7			
Heavy Trucks:	65.9	65.0	60.5	60.0	67.4	67.6			
Vehicle Noise:	68.9	67.9	64.4	63.0	70.4	70.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				58	126	272	585		
CNEL:				61	132	284	611		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Village West Dr. Road Segment: n/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,775 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,683 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 83.49% Medium Trucks: 73.6% 7.7% 18.6% 5.58% Heavy Trucks: 75.6% 6.7% 17.8% 10.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.15	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	77.72	-11.60	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-8.68	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.1	64.0	61.9	59.3	66.6	67.0			
Medium Trucks:	64.6	63.6	59.8	58.9	66.2	66.5			
Heavy Trucks:	72.8	71.9	67.4	66.9	74.3	74.5			
Vehicle Noise:	74.0	73.1	69.0	68.1	75.5	75.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				130	281	605	1,304		
CNEL:				136	292	629	1,356		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Village West Dr. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 8,259 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 638 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph					Vehicle Mix				
Near/Far Lane Distance: 24 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.44%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Centerline Dist. to Barrier: 39.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 39.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 37.443				
Road Grade: 0.0%					Medium Trucks: 37.206				
Left View: -90.0 degrees					Heavy Trucks: 37.229				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-3.66	1.78	-1.20	-4.58	0.000	0.000		
Medium Trucks:	77.72	-16.62	1.82	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-17.33	1.82	-1.20	-5.57	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.4	62.3	60.2	57.5	64.9	65.3			
Medium Trucks:	61.7	60.7	56.9	56.0	63.3	63.6			
Heavy Trucks:	66.3	65.4	60.9	60.4	67.7	68.0			
Vehicle Noise:	69.0	68.0	64.4	63.1	70.5	70.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				42	91	195	421		
CNEL:				44	95	204	439		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: s/o Alessandro Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,665 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,139 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Lane Equivalent Distance (in feet)				
				Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	1.07	-0.33	-1.20	-4.67	0.000	0.000	
Medium Trucks:	79.45	-11.88	-0.30	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	84.25	-12.59	-0.31	-1.20	-5.37	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	68.0	66.9	64.7	62.1	69.5	69.9		
Medium Trucks:	66.1	65.1	61.3	60.3	67.7	67.9		
Heavy Trucks:	70.2	69.3	64.8	64.2	71.6	71.9		
Vehicle Noise:	73.2	72.2	68.6	67.3	74.7	74.9		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			115	247	532	1,146		
CNEL:			120	258	556	1,197		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 26,945 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,083 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	0.96	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-11.99	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-12.70	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.9	66.7	64.6	62.0	69.4	69.8			
Medium Trucks:	66.0	64.9	61.2	60.2	67.5	67.8			
Heavy Trucks:	70.0	69.2	64.6	64.1	71.5	71.7			
Vehicle Noise:	73.1	72.1	68.5	67.2	74.5	74.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				113	243	522	1,126		
CNEL:				118	253	546	1,176		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: s/o Cactus Av.			Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,336 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,958 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Vehicle Type	Day	Evening	Night	Daily
			Autos: 71.1% 10.9% 18.0% 91.45% Medium Trucks: 73.6% 7.7% 18.6% 4.62% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.69	-0.33	-1.20	-4.67	0.000	0.000
Medium Trucks:	79.45	-12.27	-0.30	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.98	-0.31	-1.20	-5.37	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.6	66.5	64.4	61.7	69.1	69.5	
Medium Trucks:	65.7	64.7	60.9	60.0	67.3	67.5	
Heavy Trucks:	69.8	68.9	64.4	63.8	71.2	71.5	
Vehicle Noise:	72.8	71.8	68.3	66.9	74.3	74.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			108	233	501	1,080	
CNEL:			113	243	523	1,128	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,906 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,925 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph					Vehicle Mix				
Near/Far Lane Distance: 44 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.45%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.62%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Centerline Dist. to Barrier: 56.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 56.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 51.740				
Road Grade: 0.0%					Medium Trucks: 51.568				
Left View: -90.0 degrees					Heavy Trucks: 51.585				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	0.62	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-12.34	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-13.05	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.6	66.4	64.3	61.7	69.0	69.4			
Medium Trucks:	65.6	64.6	60.8	59.9	67.2	67.5			
Heavy Trucks:	69.7	68.8	64.3	63.8	71.2	71.4			
Vehicle Noise:	72.7	71.7	68.2	66.8	74.2	74.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				107	230	495	1,067		
CNEL:				111	240	518	1,115		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,569 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,435 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.46%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.62%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
					Noise Source Elevations (in feet)				
					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740				
					Medium Trucks: 51.568				
					Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-0.66	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-13.62	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-14.33	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.3	65.1	63.0	60.4	67.8	68.1			
Medium Trucks:	64.3	63.3	59.5	58.6	65.9	66.2			
Heavy Trucks:	68.4	67.5	63.0	62.5	69.9	70.1			
Vehicle Noise:	71.4	70.4	66.9	65.6	72.9	73.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				88	189	407	877		
CNEL:				92	197	425	916		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Day St. Road Segment: n/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 13,650 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,055 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.43%
					Medium Trucks:		73.6%	7.7%	18.6%	4.63%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.93%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004			
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos:		36.551			
					Medium Trucks:		36.308			
					Heavy Trucks:		36.332			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	-1.48	1.94	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-14.43	1.98	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-15.14	1.98	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	65.8	64.6	62.5	59.9	67.3	67.6				
Medium Trucks:	64.1	63.1	59.3	58.3	65.7	65.9				
Heavy Trucks:	68.6	67.7	63.2	62.7	70.1	70.3				
Vehicle Noise:	71.3	70.4	66.8	65.5	72.8	73.1				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				68	146	316	680			
CNEL:				71	153	329	710			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Day St. Road Segment: s/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 9,522 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 736 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.44%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004 Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 36.551					
					Medium Trucks: 36.308					
					Heavy Trucks: 36.332					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos: 66.51 -3.05 1.94 -1.20 -4.61 0.000 0.000										
Medium Trucks: 77.72 -16.00 1.98 -1.20 -4.87 0.000 0.000										
Heavy Trucks: 82.99 -16.71 1.98 -1.20 -5.50 0.000 0.000										
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos: 64.2 63.0 60.9 58.3 65.7 66.1										
Medium Trucks: 62.5 61.5 57.7 56.8 64.1 64.3										
Heavy Trucks: 67.1 66.2 61.7 61.1 68.5 68.8										
Vehicle Noise: 69.8 68.8 65.2 63.9 71.3 71.5										
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				53	115	248	534			
CNEL:				56	120	259	558			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 55,160 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,264 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.42%
					Medium Trucks:		73.6%	7.7%	18.6%	4.64%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		48.260			
					Medium Trucks:		48.076			
					Heavy Trucks:		48.094			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	3.20	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	82.40	-9.75	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-10.46	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	73.9	72.8	70.6	68.0	75.4	75.8				
Medium Trucks:	71.6	70.6	66.8	65.9	73.2	73.5				
Heavy Trucks:	74.9	74.0	69.5	69.0	76.3	76.6				
Vehicle Noise:	78.4	77.4	74.0	72.6	79.9	80.2				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				276		595		1,282		2,761
CNEL:				289		622		1,340		2,887

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Mission Grove Pkwy.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 58,804 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,546 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type		Day	Evening	Night	Daily
				Autos:		71.1%	10.9%	18.0%	91.42%
				Medium Trucks:		73.6%	7.7%	18.6%	4.64%
				Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)					
				Autos:		0.000			
				Medium Trucks:		2.297			
				Heavy Trucks:		8.004			
				Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos:		48.260			
				Medium Trucks:		48.076			
				Heavy Trucks:		48.094			
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	3.48	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-9.47	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-10.18	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	74.2	73.0	70.9	68.3	75.7	76.1			
Medium Trucks:	71.9	70.9	67.1	66.2	73.5	73.7			
Heavy Trucks:	75.2	74.3	69.8	69.2	76.6	76.9			
Vehicle Noise:	78.7	77.7	74.3	72.9	80.2	80.5			
Centerline Distance to Noise Contour (in feet)									
			70 dBA		65 dBA		60 dBA		55 dBA
Ldn:			288		621		1,338		2,882
CNEL:			301		649		1,399		3,013

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Meridian Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		55,299 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		4,275 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		55 mph		Vehicle Mix				
Near/Far Lane Distance:		72 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier:		60.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		60.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 48.260				
Left View:		-90.0 degrees		Medium Trucks: 48.076				
Right View:		90.0 degrees		Heavy Trucks: 48.094				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	3.21	0.13	-1.20	-4.69	0.000	0.000	
Medium Trucks:	82.40	-9.74	0.15	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	86.40	-10.45	0.15	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	73.9	72.8	70.7	68.0	75.4	75.8		
Medium Trucks:	71.6	70.6	66.8	65.9	73.2	73.5		
Heavy Trucks:	74.9	74.0	69.5	69.0	76.4	76.6		
Vehicle Noise:	78.5	77.5	74.0	72.6	80.0	80.2		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			277	596	1,284	2,766		
CNEL:			289	623	1,343	2,892		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Old 215 Frontage Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 46,777 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,616 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	3.36	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-9.60	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-10.31	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.7	69.6	67.5	64.9	72.2	72.6			
Medium Trucks:	68.8	67.8	64.0	63.1	70.4	70.7			
Heavy Trucks:	72.9	72.0	67.5	67.0	74.4	74.6			
Vehicle Noise:	75.9	74.9	71.4	70.0	77.4	77.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				187	403	867	1,869		
CNEL:				195	421	906	1,952		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Day St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 38,277 vehicles				Autos: 15					
Peak Hour Percentage: 7.73%				Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,959 vehicles				Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 45 mph				Vehicle Mix					
Near/Far Lane Distance: 82 feet				Vehicle Type		Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.43%					
Barrier Height: 0.0 feet				Medium Trucks: 73.6% 7.7% 18.6% 4.63%					
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
Centerline Dist. to Barrier: 67.0 feet				Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 67.0 feet				Autos: 0.000					
Barrier Distance to Observer: 0.0 feet				Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet				Heavy Trucks: 8.004 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet				Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet				Autos: 53.226					
Road Grade: 0.0%				Medium Trucks: 53.059					
Left View: -90.0 degrees				Heavy Trucks: 53.076					
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.48	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-10.47	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.18	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.2	68.1	66.0	63.4	70.7	71.1			
Medium Trucks:	67.3	66.3	62.5	61.6	68.9	69.1			
Heavy Trucks:	71.4	70.5	66.0	65.4	72.8	73.1			
Vehicle Noise:	74.4	73.4	69.9	68.5	75.9	76.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			165	356	768	1,654			
CNEL:			173	372	802	1,728			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Day St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 38,039 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,940 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.46	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-10.49	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.20	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.2	68.1	65.9	63.3	70.7	71.1			
Medium Trucks:	67.3	66.3	62.5	61.5	68.9	69.1			
Heavy Trucks:	71.4	70.5	66.0	65.4	72.8	73.1			
Vehicle Noise:	74.4	73.4	69.8	68.5	75.9	76.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				165	355	765	1,648		
CNEL:				172	371	799	1,721		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Innovation Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 26,500 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,048 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Lane Equivalent Distance (in feet)									
					Autos: 45.000				
					Medium Trucks: 44.803				
					Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	0.89	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-12.06	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-12.77	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.7	67.6	65.5	62.8	70.2	70.6			
Medium Trucks:	66.8	65.8	62.0	61.1	68.4	68.7			
Heavy Trucks:	70.9	70.0	65.5	65.0	72.4	72.6			
Vehicle Noise:	73.9	72.9	69.4	68.0	75.4	75.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				137	296	637	1,373		
CNEL:				143	309	666	1,434		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Innovation Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,434 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,430 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.63	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-11.32	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-12.03	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.5	68.3	66.2	63.6	71.0	71.3			
Medium Trucks:	67.5	66.5	62.8	61.8	69.1	69.4			
Heavy Trucks:	71.6	70.7	66.2	65.7	73.1	73.3			
Vehicle Noise:	74.6	73.6	70.1	68.8	76.1	76.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				154	332	714	1,539		
CNEL:				161	346	746	1,607		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 58,601 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,530 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.32% Medium Trucks: 73.6% 7.7% 18.6% 4.65% Heavy Trucks: 75.6% 6.7% 17.8% 4.03%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.87	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.06	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.68	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.4	71.2	69.1	66.5	73.9	74.2			
Medium Trucks:	70.2	69.2	65.5	64.5	71.8	72.1			
Heavy Trucks:	74.0	73.1	68.6	68.1	75.5	75.7			
Vehicle Noise:	77.2	76.2	72.8	71.4	78.7	79.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				256	552	1,190	2,563		
CNEL:				268	577	1,243	2,679		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 56,077 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,335 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.31% Medium Trucks: 73.6% 7.7% 18.6% 4.65% Heavy Trucks: 75.6% 6.7% 17.8% 4.04%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.68	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.25	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.86	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.2	71.0	68.9	66.3	73.7	74.0			
Medium Trucks:	70.1	69.1	65.3	64.3	71.7	71.9			
Heavy Trucks:	73.8	72.9	68.4	67.9	75.3	75.5			
Vehicle Noise:	77.1	76.1	72.6	71.2	78.6	78.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				249	536	1,156	2,490		
CNEL:				260	561	1,208	2,602		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 60,056 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,642 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.32% Medium Trucks: 73.6% 7.7% 18.6% 4.65% Heavy Trucks: 75.6% 6.7% 17.8% 4.03%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.98	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-8.95	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.57	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.5	71.3	69.2	66.6	74.0	74.3			
Medium Trucks:	70.4	69.4	65.6	64.6	71.9	72.2			
Heavy Trucks:	74.1	73.2	68.7	68.2	75.6	75.8			
Vehicle Noise:	77.3	76.4	72.9	71.5	78.8	79.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			261	561	1,209	2,605			
CNEL:			272	587	1,264	2,723			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: elo Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 52,391 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,050 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.30% Medium Trucks: 73.6% 7.7% 18.6% 4.65% Heavy Trucks: 75.6% 6.7% 17.8% 4.05%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.38	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.54	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.15	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.9	70.7	68.6	66.0	73.4	73.7			
Medium Trucks:	69.8	68.8	65.0	64.0	71.4	71.6			
Heavy Trucks:	73.5	72.6	68.1	67.6	75.0	75.2			
Vehicle Noise:	76.8	75.8	72.3	70.9	78.3	78.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				238	513	1,105	2,382		
CNEL:				249	536	1,155	2,489		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 48,586 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,756 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.06	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-9.89	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.60	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.2	71.0	68.9	66.3	73.7	74.1			
Medium Trucks:	70.1	69.1	65.3	64.3	71.7	71.9			
Heavy Trucks:	73.7	72.8	68.3	67.8	75.2	75.4			
Vehicle Noise:	77.0	76.0	72.6	71.1	78.5	78.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			222	478	1,029	2,217			
CNEL:			232	499	1,075	2,317			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL												
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761							
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS							
Highway Data					Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 45,947 vehicles					Autos: 15							
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15							
Peak Hour Volume: 3,552 vehicles					Heavy Trucks (3+ Axles): 15							
Vehicle Speed: 50 mph					Vehicle Mix							
Near/Far Lane Distance: 72 feet					Vehicle Type							
Site Data					Day		Evening		Night		Daily	
					Autos: 71.1% 10.9% 18.0% 91.44%							
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%							
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%							
					Noise Source Elevations (in feet)							
					Autos: 0.000							
					Medium Trucks: 2.297							
					Heavy Trucks: 8.004		Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)							
					Autos: 48.260							
					Medium Trucks: 48.076							
					Heavy Trucks: 48.094							
FHWA Noise Model Calculations												
Vehicle Type		REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten				
Autos:		70.20	2.82	0.13	-1.20	-4.69	0.000	0.000				
Medium Trucks:		81.00	-10.14	0.15	-1.20	-4.88	0.000	0.000				
Heavy Trucks:		85.38	-10.85	0.15	-1.20	-5.34	0.000	0.000				
Unmitigated Noise Levels (without Topo and barrier attenuation)												
Vehicle Type		Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:		72.0	70.8	68.7	66.1	73.4	73.8					
Medium Trucks:		69.8	68.8	65.0	64.1	71.4	71.7					
Heavy Trucks:		73.5	72.6	68.1	67.5	74.9	75.2					
Vehicle Noise:		76.8	75.8	72.3	70.9	78.3	78.6					
Centerline Distance to Noise Contour (in feet)												
				70 dBA		65 dBA		60 dBA		55 dBA		
Ldn:				214		460		991		2,135		
CNEL:				223		481		1,036		2,232		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Barton St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 45,317 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,503 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 72 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.47%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.61%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
Centerline Dist. to Barrier: 60.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 60.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004				
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Grade: 0.0%					Autos: 48.260				
Left View: -90.0 degrees					Medium Trucks: 48.076				
Right View: 90.0 degrees					Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.76	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-10.21	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.92	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.9	70.7	68.6	66.0	73.4	73.8			
Medium Trucks:	69.7	68.7	65.0	64.0	71.3	71.6			
Heavy Trucks:	73.4	72.5	68.0	67.5	74.9	75.1			
Vehicle Noise:	76.7	75.7	72.2	70.8	78.2	78.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				211	455	981	2,113		
CNEL:				221	476	1,025	2,208		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Barton St.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		43,515 vehicles			Autos:		15			
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles):		15			
Peak Hour Volume:		3,364 vehicles			Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		55 mph			Vehicle Mix					
Near/Far Lane Distance:		72 feet								
Site Data					VehicleType	Day	Evening	Night	Daily	
Barrier Height:		0.0 feet			Autos:		71.1%	10.9%	18.0%	91.47%
Barrier Type (0-Wall, 1-Berm):		0.0			Medium Trucks:		73.6%	7.7%	18.6%	4.61%
Centerline Dist. to Barrier:		60.0 feet			Heavy Trucks:		75.6%	6.7%	17.8%	3.91%
Centerline Dist. to Observer:		60.0 feet			Noise Source Elevations (in feet)					
Barrier Distance to Observer:		0.0 feet								
Observer Height (Above Pad):		5.0 feet								
Pad Elevation:		0.0 feet			Autos:		0.000			
Road Elevation:		0.0 feet			Medium Trucks:		2.297			
Road Grade:		0.0%			Heavy Trucks:		8.004		Grade Adjustment: 0.0	
Left View:		-90.0 degrees			Lane Equivalent Distance (in feet)					
Right View:		90.0 degrees								
					Autos:		48.260			
					Medium Trucks:		48.076			
					Heavy Trucks:		48.094			
FHWA Noise Model Calculations										
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	2.17	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	82.40	-10.80	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-11.51	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	72.9	71.7	69.6	67.0	74.4	74.7				
Medium Trucks:	70.6	69.6	65.8	64.8	72.1	72.4				
Heavy Trucks:	73.8	72.9	68.4	67.9	75.3	75.5				
Vehicle Noise:	77.4	76.4	73.0	71.5	78.9	79.2				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				235	507	1,092	2,352			
CNEL:				246	530	1,141	2,459			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 47,736 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,690 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 90.55% Medium Trucks: 73.6% 7.7% 18.6% 4.73% Heavy Trucks: 75.6% 6.7% 17.8% 4.72%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.53	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.29	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-10.30	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.2	72.1	70.0	67.4	74.7	75.1			
Medium Trucks:	71.1	70.1	66.3	65.3	72.7	72.9			
Heavy Trucks:	75.0	74.2	69.6	69.1	76.5	76.7			
Vehicle Noise:	78.2	77.2	73.7	72.3	79.7	80.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			265	571	1,231	2,652			
CNEL:			277	597	1,286	2,771			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 49,644 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,837 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 90.58%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.73%				
					Heavy Trucks: 75.6% 6.7% 17.8% 4.69%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.70	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.12	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-10.16	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.4	72.3	70.1	67.5	74.9	75.3			
Medium Trucks:	71.2	70.2	66.5	65.5	72.8	73.1			
Heavy Trucks:	75.2	74.3	69.8	69.3	76.7	76.9			
Vehicle Noise:	78.3	77.3	73.9	72.5	79.8	80.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				272	585	1,261	2,717		
CNEL:				284	612	1,318	2,839		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Meridian Pkwy.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 59,018 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,562 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Vehicle Type	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 87.79% Medium Trucks: 73.6% 7.7% 18.6% 5.06% Heavy Trucks: 75.6% 6.7% 17.8% 7.15%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.32	1.12	-1.20	-4.67	0.000	0.000
Medium Trucks:	82.40	-9.08	1.15	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-7.57	1.15	-1.20	-5.38	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	75.0	73.9	71.8	69.1	76.5	76.9	
Medium Trucks:	73.3	72.3	68.5	67.6	74.9	75.1	
Heavy Trucks:	78.8	77.9	73.4	72.8	80.2	80.5	
Vehicle Noise:	81.1	80.1	76.4	75.2	82.6	82.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			379	817	1,760	3,792	
CNEL:			396	852	1,836	3,955	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 64,758 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,006 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 88.10% Medium Trucks: 73.6% 7.7% 18.6% 5.03% Heavy Trucks: 75.6% 6.7% 17.8% 6.87%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	3.74	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-8.70	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-7.34	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.4	74.3	72.2	69.6	76.9	77.3			
Medium Trucks:	73.7	72.7	68.9	67.9	75.3	75.5			
Heavy Trucks:	79.0	78.1	73.6	73.1	80.5	80.7			
Vehicle Noise:	81.4	80.4	76.7	75.5	82.9	83.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				397	856	1,844	3,972		
CNEL:				414	893	1,923	4,144		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 68,690 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 5,310 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 73 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 88.29%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 5.01%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 6.70%				
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 41.446				
Road Grade: 0.0%					Medium Trucks: 41.232				
Left View: -90.0 degrees					Heavy Trucks: 41.253				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	4.00	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-8.46	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-7.19	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.7	74.5	72.4	69.8	77.2	77.6			
Medium Trucks:	73.9	72.9	69.1	68.2	75.5	75.8			
Heavy Trucks:	79.2	78.3	73.8	73.2	80.6	80.8			
Vehicle Noise:	81.6	80.6	76.9	75.7	83.1	83.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				409	882	1,899	4,092		
CNEL:				427	920	1,982	4,269		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: n/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 106,986 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 8,270 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 90.06% Medium Trucks: 73.6% 7.7% 18.6% 4.80% Heavy Trucks: 75.6% 6.7% 17.8% 5.13%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	5.29	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-7.44	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-7.15	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.6	72.4	70.3	67.7	75.1	75.4			
Medium Trucks:	71.2	70.2	66.4	65.5	72.8	73.0			
Heavy Trucks:	74.8	73.9	69.4	68.8	76.2	76.5			
Vehicle Noise:	76.2	77.2	73.8	72.3	79.7	80.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				553	1,192	2,568	5,533		
CNEL:				578	1,246	2,685	5,784		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Alessandro Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 113,742 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 8,792 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Distance to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 90.14% Medium Trucks: 73.6% 7.7% 18.6% 4.79% Heavy Trucks: 75.6% 6.7% 17.8% 5.06%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	74.55	5.56	-5.05	-1.20	-4.79	0.000	0.000	
Medium Trucks:	84.86	-7.19	-5.05	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	88.18	-6.95	-5.05	-1.20	-5.11	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	73.8	72.7	70.6	68.0	75.3	75.7		
Medium Trucks:	71.4	70.4	66.7	65.7	73.0	73.3		
Heavy Trucks:	75.0	74.1	69.6	69.1	76.4	76.7		
Vehicle Noise:	76.4	77.4	74.0	72.6	79.9	80.2		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				574	1,236	2,663	5,738	
CNEL:				600	1,293	2,785	6,000	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 115,198 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 8,905 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 90.11% Medium Trucks: 73.6% 7.7% 18.6% 4.80% Heavy Trucks: 75.6% 6.7% 17.8% 5.10%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	5.61	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-7.13	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-6.87	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.9	72.7	70.6	68.0	75.4	75.8			
Medium Trucks:	71.5	70.5	66.7	65.8	73.1	73.3			
Heavy Trucks:	75.1	74.2	69.7	69.1	76.5	76.8			
Vehicle Noise:	76.5	77.5	74.1	72.6	80.0	80.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				580	1,249	2,691	5,799		
CNEL:				606	1,306	2,814	6,063		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 122,103 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 9,439 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 90.90% Medium Trucks: 73.6% 7.7% 18.6% 4.70% Heavy Trucks: 75.6% 6.7% 17.8% 4.40%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	74.55	5.90	-5.05	-1.20	-4.79	0.000	0.000	
Medium Trucks:	84.86	-6.97	-5.05	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	88.18	-7.25	-5.05	-1.20	-5.11	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	74.2	73.0	70.9	68.3	75.7	76.1		
Medium Trucks:	71.7	70.6	66.9	65.9	73.2	73.5		
Heavy Trucks:	74.7	73.8	69.3	68.8	76.1	76.4		
Vehicle Noise:	76.5	77.5	74.1	72.6	80.0	80.3		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				578	1,244	2,681	5,775	
CNEL:				604	1,302	2,804	6,042	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Wood Rd. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 16,532 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,278 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
				Autos: 0.000						
				Medium Trucks:		2.297	Grade Adjustment: 0.0			
				Heavy Trucks:		8.004				
								Lane Equivalent Distance (in feet)		
Autos:		40.460								
Medium Trucks:		40.241								
				Heavy Trucks:		40.262				
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	-1.16	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	79.45	-14.11	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-14.82	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	67.4	66.2	64.1	61.5	68.9	69.2				
Medium Trucks:	65.5	64.5	60.7	59.7	67.0	67.3				
Heavy Trucks:	69.5	68.7	64.1	63.6	71.0	71.2				
Vehicle Noise:	72.5	71.6	68.0	66.7	74.0	74.3				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			82	176	380	818				
CNEL:			85	184	397	855				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (With 2003 EIR Phase III) Road Name: Wood Rd. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		23,526 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		1,819 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		40 mph		Vehicle Mix				
Near/Far Lane Distance:		36 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier:		44.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		44.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 40.460				
Left View: -90.0 degrees				Medium Trucks: 40.241				
Right View: 90.0 degrees				Heavy Trucks: 40.262				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	66.51	0.88	1.28	-1.20	-4.61	0.000	0.000	
Medium Trucks:	77.72	-12.06	1.31	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	82.99	-12.77	1.31	-1.20	-5.50	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	67.5	66.3	64.2	61.6	69.0	69.3		
Medium Trucks:	65.8	64.8	61.0	60.0	67.4	67.6		
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0		
Vehicle Noise:	73.0	72.1	68.5	67.2	74.5	74.8		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			88	190	410	883		
CNEL:			92	199	428	921		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: n/o Canyon Crest Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,685 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,449 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.21	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-11.74	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-12.45	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.3	69.2	67.1	64.5	71.8	72.2			
Medium Trucks:	68.2	67.2	63.4	62.5	69.8	70.1			
Heavy Trucks:	71.9	71.0	66.5	65.9	73.3	73.6			
Vehicle Noise:	75.2	74.2	70.7	69.3	76.7	77.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				167	359	775	1,669		
CNEL:				174	376	809	1,744		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Canyon Crest Dr.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		20,674 vehicles		Autos:		15			
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15			
Peak Hour Volume:		1,598 vehicles		Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		50 mph		Vehicle Mix					
Near/Far Lane Distance:		72 feet							
Site Data				Vehicle Type		Day	Evening	Night	Daily
Barrier Height:		0.0 feet		Autos:		71.1%	10.9%	18.0%	91.42%
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Centerline Dist. to Barrier:		60.0 feet		Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Observer:		60.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer:		0.0 feet		Autos:		0.000			
Observer Height (Above Pad):		5.0 feet		Medium Trucks:		2.297			
Pad Elevation:		0.0 feet		Heavy Trucks:		8.004		Grade Adjustment: 0.0	
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade:		0.0%		Autos:		48.260			
Left View:		-90.0 degrees		Medium Trucks:		48.076			
Right View:		90.0 degrees		Heavy Trucks:		48.094			
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-0.65	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-13.59	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-14.30	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.5	67.3	65.2	62.6	70.0	70.4			
Medium Trucks:	66.4	65.4	61.6	60.6	68.0	68.2			
Heavy Trucks:	70.0	69.1	64.6	64.1	71.5	71.7			
Vehicle Noise:	73.3	72.3	68.8	67.4	74.8	75.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			126	270	583	1,255			
CNEL:			131	283	609	1,312			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 46,195 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,571 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.84	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-10.10	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-10.81	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.8	70.6	68.5	65.9	73.3	73.6			
Medium Trucks:	69.7	68.6	64.9	63.9	71.2	71.5			
Heavy Trucks:	73.3	72.4	67.9	67.4	74.8	75.0			
Vehicle Noise:	76.6	75.6	72.1	70.7	78.1	78.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				191	411	886	1,908		
CNEL:				199	430	926	1,994		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: n/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		52,300 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		4,043 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		50 mph		Vehicle Mix				
Near/Far Lane Distance:		48 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier:		55.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		55.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 49.739				
Left View:		-90.0 degrees		Medium Trucks: 49.561				
Right View:		90.0 degrees		Heavy Trucks: 49.578				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	3.38	-0.07	-1.20	-4.67	0.000	0.000	
Medium Trucks:	81.00	-9.56	-0.05	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	85.38	-10.27	-0.05	-1.20	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	72.3	71.2	69.1	66.4	73.8	74.2		
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.0		
Heavy Trucks:	73.9	73.0	68.5	67.9	75.3	75.6		
Vehicle Noise:	77.1	76.1	72.7	71.3	78.6	78.9		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			207	447	962	2,072		
CNEL:			217	467	1,005	2,166		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Trautwein Rd. Road Segment: s/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,173 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,410 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.13	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-11.81	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-12.52	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.1	68.9	66.8	64.2	71.6	71.9			
Medium Trucks:	67.9	66.9	63.2	62.2	69.5	69.8			
Heavy Trucks:	71.6	70.7	66.2	65.7	73.1	73.3			
Vehicle Noise:	74.9	73.9	70.4	69.0	76.4	76.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				147	316	681	1,468		
CNEL:				153	331	712	1,534		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 23,448 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,813 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.87	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.08	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-12.79	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.5	66.3	64.2	61.6	68.9	69.3			
Medium Trucks:	65.7	64.7	61.0	60.0	67.3	67.6			
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0			
Vehicle Noise:	73.0	72.0	68.4	67.1	74.5	74.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			88	190	409	881			
CNEL:			92	198	427	919			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 19,565 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,512 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
						Autos: 0.000				
						Medium Trucks: 2.297				
						Heavy Trucks: 8.004				
						Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)						
						Autos: 40.460				
						Medium Trucks: 40.241				
						Heavy Trucks: 40.262				
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	0.08	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-12.86	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-13.57	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	66.7	65.5	63.4	60.8	68.2	68.5				
Medium Trucks:	65.0	64.0	60.2	59.2	66.6	66.8				
Heavy Trucks:	69.5	68.6	64.1	63.6	71.0	71.2				
Vehicle Noise:	72.2	71.3	67.7	66.4	73.7	74.0				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			78	168	362	781				
CNEL:			81	176	378	815				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: HY (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: n/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761							
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 16,526 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,277 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15							
Site Data				Vehicle Mix							
				Vehicle Type	Day	Evening	Night	Daily			
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%							
				Noise Source Elevations (in feet)							
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)							
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262							
				FHWA Noise Model Calculations							
				Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
				Autos: 66.51 -0.65 1.28 -1.20 -4.61 0.000 0.000 Medium Trucks: 77.72 -13.60 1.31 -1.20 -4.87 0.000 0.000 Heavy Trucks: 82.99 -14.31 1.31 -1.20 -5.50 0.000 0.000							
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos: 65.9 64.8 62.7 60.1 67.4 67.8 Medium Trucks: 64.2 63.2 59.5 58.5 65.8 66.1 Heavy Trucks: 68.8 67.9 63.4 62.9 70.3 70.5 Vehicle Noise: 71.5 70.5 66.9 65.6 73.0 73.3											
Centerline Distance to Noise Contour (in feet)											
			70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:			70	150	324	698					
CNEL:			73	157	338	728					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,696 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,677 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.53	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.42	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.13	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.1	66.0	63.9	61.2	68.6	69.0			
Medium Trucks:	65.4	64.4	60.6	59.7	67.0	67.3			
Heavy Trucks:	70.0	69.1	64.6	64.0	71.4	71.7			
Vehicle Noise:	72.7	71.7	68.1	66.8	74.2	74.5			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			84	180	388	836			
CNEL:			87	188	405	873			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Barton St. Road Segment: s/o Lurin Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 20,444 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,580 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.27	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.67	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.38	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.9	65.7	63.6	61.0	68.4	68.7			
Medium Trucks:	65.2	64.2	60.4	59.4	66.7	67.0			
Heavy Trucks:	69.7	68.8	64.3	63.8	71.2	71.4			
Vehicle Noise:	72.4	71.4	67.8	66.6	73.9	74.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				80	173	373	804		
CNEL:				84	181	389	839		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Coyote Bush Rd. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		3,118 vehicles			Autos: 15					
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles): 15					
Peak Hour Volume:		241 vehicles			Heavy Trucks (3+ Axles): 15					
Vehicle Speed:		25 mph								
Near/Far Lane Distance:		12 feet								
Site Data					Vehicle Mix					
Barrier Height:		0.0 feet			Vehicle Type		Day	Evening	Night	Daily
Barrier Type (0-Wall, 1-Berm):		0.0			Autos:		71.1%	10.9%	18.0%	91.42%
Centerline Dist. to Barrier:		33.0 feet			Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Centerline Dist. to Observer:		33.0 feet			Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Barrier Distance to Observer:		0.0 feet								
Observer Height (Above Pad):		5.0 feet								
Pad Elevation:		0.0 feet								
Road Elevation:		0.0 feet								
Road Grade:		0.0%			Noise Source Elevations (in feet)					
Left View:		-90.0 degrees			Autos:		0.000			
Right View:		90.0 degrees			Medium Trucks:		2.297			
					Heavy Trucks:		8.004		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		32.833			
					Medium Trucks:		32.562			
					Heavy Trucks:		32.589			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	58.73	-5.85	2.64	-1.20	-4.52	0.000	0.000			
Medium Trucks:	70.80	-18.80	2.69	-1.20	-4.86	0.000	0.000			
Heavy Trucks:	77.97	-19.51	2.69	-1.20	-5.69	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	54.3	53.2	51.1	48.4	55.8	56.2				
Medium Trucks:	53.5	52.5	48.7	47.8	55.1	55.3				
Heavy Trucks:	59.9	59.1	54.6	54.0	61.4	61.6				
Vehicle Noise:	61.7	60.8	56.9	55.8	63.2	63.5				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				12	25	54	116			
CNEL:				12	26	56	121			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: HY (With 2003 EIR Phase III) Road Name: Orange Terrace Pkwy. Road Segment: n/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt):		9,789 vehicles		Autos:		15	
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15	
Peak Hour Volume:		757 vehicles		Heavy Trucks (3+ Axles):		15	
Vehicle Speed:		45 mph		Vehicle Mix			
Near/Far Lane Distance:		48 feet					
Site Data				Vehicle Type			
Barrier Height:		0.0 feet		Autos:		71.1% 10.9% 18.0% 91.42%	
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:		73.6% 7.7% 18.6% 4.64%	
Centerline Dist. to Barrier:		55.0 feet		Heavy Trucks:		75.6% 6.7% 17.8% 3.94%	
Centerline Dist. to Observer:		55.0 feet		Noise Source Elevations (in feet)			
Barrier Distance to Observer:		0.0 feet					
Observer Height (Above Pad):		5.0 feet		Autos:		0.000	
Pad Elevation:		0.0 feet		Medium Trucks:		2.297	
Road Elevation:		0.0 feet		Heavy Trucks:		8.004	
Road Grade:		0.0%		Grade Adjustment:		0.0	
Left View:		-90.0 degrees		Lane Equivalent Distance (in feet)			
Right View:		90.0 degrees					
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.44	-0.07	-1.20	-4.67	0.000	0.000
Medium Trucks:	79.45	-16.38	-0.05	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-17.09	-0.05	-1.20	-5.38	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.8	62.6	60.5	57.9	65.2	65.6	
Medium Trucks:	61.8	60.8	57.0	56.1	63.4	63.7	
Heavy Trucks:	65.9	65.0	60.5	60.0	67.4	67.6	
Vehicle Noise:	68.9	67.9	64.4	63.0	70.4	70.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			59	126	272	586	
CNEL:			61	132	284	612	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Village West Dr. Road Segment: n/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,528 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,128 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	1.56	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	77.72	-11.38	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-12.09	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.5	65.4	63.3	60.7	68.0	68.4			
Medium Trucks:	64.8	63.8	60.1	59.1	66.4	66.7			
Heavy Trucks:	69.4	68.5	64.0	63.5	70.9	71.1			
Vehicle Noise:	72.1	71.1	67.5	66.2	73.6	73.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				97	210	452	974		
CNEL:				102	219	472	1,017		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (With 2003 EIR Phase III) Road Name: Village West Dr. Road Segment: s/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,670 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,520 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 24 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 39.0 feet Centerline Dist. to Observer: 39.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Lane Equivalent Distance (in feet)				Autos: 37.443 Medium Trucks: 37.206 Heavy Trucks: 37.229				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	66.51	0.10	1.78	-1.20	-4.58	0.000	0.000	
Medium Trucks:	77.72	-12.84	1.82	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	82.99	-13.55	1.82	-1.20	-5.57	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	67.2	66.0	63.9	61.3	68.7	69.1		
Medium Trucks:	65.5	64.5	60.7	59.8	67.1	67.4		
Heavy Trucks:	70.1	69.2	64.7	64.1	71.5	71.8		
Vehicle Noise:	72.8	71.8	68.2	66.9	74.3	74.5		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				75	162	348	751	
CNEL:				78	169	364	784	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 30,320 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,344 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
					Noise Source Elevations (in feet)					
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004					Grade Adjustment: 0.0
					Lane Equivalent Distance (in feet)					
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	1.47	-0.33	-1.20	-4.67	0.000	0.000			
Medium Trucks:	79.45	-11.47	-0.30	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-12.18	-0.31	-1.20	-5.37	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	68.4	67.3	65.1	62.5	69.9	70.3				
Medium Trucks:	66.5	65.5	61.7	60.8	68.1	68.3				
Heavy Trucks:	70.6	69.7	65.2	64.6	72.0	72.3				
Vehicle Noise:	73.6	72.6	69.0	67.7	75.1	75.4				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				122	263	566	1,219			
CNEL:				127	274	591	1,273			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Cactus Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		29,518 vehicles		Autos:		15			
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15			
Peak Hour Volume:		2,282 vehicles		Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		45 mph		Vehicle Mix					
Near/Far Lane Distance:		44 feet		Vehicle Type		Day	Evening	Night	Daily
Site Data				Autos:		71.1%	10.9%	18.0%	91.42%
Barrier Height:		0.0 feet		Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:		56.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		56.0 feet		Autos:		0.000			
Barrier Distance to Observer:		0.0 feet		Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet		Heavy Trucks:		8.004		Grade Adjustment: 0.0	
Pad Elevation:		0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation:		0.0 feet		Autos:		51.740			
Road Grade:		0.0%		Medium Trucks:		51.568			
Left View:		-90.0 degrees		Heavy Trucks:		51.585			
Right View:		90.0 degrees							
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:		68.46	1.36	-0.33	-1.20	-4.67	0.000	0.000	
Medium Trucks:		79.45	-11.59	-0.30	-1.20	-4.87	0.000	0.000	
Heavy Trucks:		84.25	-12.30	-0.31	-1.20	-5.37	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:		68.3	67.1	65.0	62.4	69.8	70.2		
Medium Trucks:		66.4	65.4	61.6	60.6	67.9	68.2		
Heavy Trucks:		70.4	69.6	65.0	64.5	71.9	72.1		
Vehicle Noise:		73.5	72.5	68.9	67.6	74.9	75.2		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				120	258	556	1,197		
CNEL:				125	269	580	1,251		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: s/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,614 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,135 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.07	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-11.88	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-12.59	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.0	66.8	64.7	62.1	69.5	69.9			
Medium Trucks:	66.1	65.1	61.3	60.3	67.7	67.9			
Heavy Trucks:	70.2	69.3	64.8	64.2	71.6	71.9			
Vehicle Noise:	73.2	72.2	68.6	67.3	74.7	74.9			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			115	247	532	1,145			
CNEL:			120	258	555	1,196			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,141 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,098 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	0.99	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-11.95	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-12.66	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.9	66.8	64.7	62.0	69.4	69.8			
Medium Trucks:	66.0	65.0	61.2	60.3	67.6	67.8			
Heavy Trucks:	70.1	69.2	64.7	64.1	71.5	71.8			
Vehicle Noise:	73.1	72.1	68.6	67.2	74.6	74.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				113	244	525	1,132		
CNEL:				118	255	549	1,183		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: HY (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 19,724 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,525 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data					Vehicle Mix						
					Vehicle Type	Day	Evening	Night	Daily		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%						
					Noise Source Elevations (in feet)						
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004					Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)						
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585						
FHWA Noise Model Calculations											
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten				
Autos:	68.46	-0.40	-0.33	-1.20	-4.67	0.000	0.000				
Medium Trucks:	79.45	-13.34	-0.30	-1.20	-4.87	0.000	0.000				
Heavy Trucks:	84.25	-14.05	-0.31	-1.20	-5.37	0.000	0.000				
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	66.5	65.4	63.3	60.7	68.0	68.4					
Medium Trucks:	64.6	63.6	59.8	58.9	66.2	66.5					
Heavy Trucks:	68.7	67.8	63.3	62.8	70.2	70.4					
Vehicle Noise:	71.7	70.7	67.2	65.8	73.2	73.5					
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				92	197	425	915				
CNEL:				96	206	444	956				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Day St. Road Segment: n/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		30,729 vehicles			Autos:		15			
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles):		15			
Peak Hour Volume:		2,375 vehicles			Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		40 mph			Vehicle Mix					
Near/Far Lane Distance:		50 feet			Vehicle Type		Day	Evening	Night	Daily
Site Data					Autos:		71.1%	10.9%	18.0%	91.42%
Barrier Height:		0.0 feet			Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-Berm):		0.0			Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:		44.0 feet			Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		44.0 feet			Autos:		0.000			
Barrier Distance to Observer:		0.0 feet			Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet			Heavy Trucks:		8.004			
Pad Elevation:		0.0 feet					Grade Adjustment: 0.0			
Road Elevation:		0.0 feet			Lane Equivalent Distance (in feet)					
Road Grade:		0.0%			Autos:		36.551			
Left View:		-90.0 degrees			Medium Trucks:		36.308			
Right View:		90.0 degrees			Heavy Trucks:		36.332			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	2.04	1.94	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-10.90	1.98	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-11.61	1.98	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	69.3	68.1	66.0	63.4	70.8	71.2				
Medium Trucks:	67.6	66.6	62.8	61.9	69.2	69.4				
Heavy Trucks:	72.2	71.3	66.8	66.2	73.6	73.9				
Vehicle Noise:	74.9	73.9	70.3	69.0	76.4	76.6				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				117	252	542	1,168			
CNEL:				122	263	566	1,220			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Day St. Road Segment: s/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,387 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,194 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 36.551 Medium Trucks: 36.308 Heavy Trucks: 36.332				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	1.70	1.94	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-11.25	1.98	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-11.96	1.98	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.9	67.8	65.7	63.1	70.4	70.8			
Medium Trucks:	67.2	66.2	62.5	61.5	68.8	69.1			
Heavy Trucks:	71.8	70.9	66.4	65.9	73.3	73.5			
Vehicle Noise:	74.5	73.5	69.9	68.6	76.0	76.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				111	239	514	1,108		
CNEL:				116	249	537	1,157		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 67,330 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,205 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	4.07	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-8.88	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-9.59	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	74.8	73.6	71.5	68.9	76.3	76.6			
Medium Trucks:	72.5	71.5	67.7	66.8	74.1	74.3			
Heavy Trucks:	75.8	74.9	70.4	69.8	77.2	77.5			
Vehicle Noise:	79.3	78.3	74.9	73.4	80.8	81.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				315	680	1,464	3,154		
CNEL:				330	711	1,531	3,298		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: HY (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 68,765 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,316 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data					Vehicle Mix						
					VehicleType	Day	Evening	Night	Daily		
					Autos: 71.1% 10.9% 18.0% 91.42%						
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%						
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%						
					Noise Source Elevations (in feet)						
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0						
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Lane Equivalent Distance (in feet)						
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094						
					FHWA Noise Model Calculations						
					VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten
Autos:					71.78	4.16	0.13	-1.20	-4.69	0.000	0.000
Medium Trucks:					82.40	-8.79	0.15	-1.20	-4.88	0.000	0.000
Heavy Trucks:					86.40	-9.50	0.15	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)											
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:		74.9	73.7	71.6	69.0	76.4	76.7				
Medium Trucks:		72.6	71.6	67.8	66.8	74.2	74.4				
Heavy Trucks:		75.8	75.0	70.4	69.9	77.3	77.5				
Vehicle Noise:		79.4	78.4	75.0	73.5	80.9	81.2				
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				320	689	1,485	3,199				
CNEL:				335	721	1,553	3,345				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 69,657 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,384 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	4.21	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-8.73	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-9.44	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	74.9	73.8	71.7	69.0	76.4	76.8			
Medium Trucks:	72.6	71.6	67.8	66.9	74.2	74.5			
Heavy Trucks:	75.9	75.0	70.5	70.0	77.4	77.6			
Vehicle Noise:	79.5	78.5	75.0	73.6	81.0	81.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			323	695	1,498	3,227			
CNEL:			337	727	1,566	3,374			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Old 215 Frontage Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 62,947 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,866 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	4.64	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-8.30	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-9.01	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.0	70.9	68.8	66.1	73.5	73.9			
Medium Trucks:	70.1	69.1	65.3	64.4	71.7	72.0			
Heavy Trucks:	74.2	73.3	68.8	68.3	75.7	75.9			
Vehicle Noise:	77.2	76.2	72.7	71.3	78.7	79.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			228	491	1,058	2,279			
CNEL:			238	513	1,105	2,381			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: w/o Day St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 48,149 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,722 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				VehicleType	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.42%					
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076					
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	3.48	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-9.46	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-10.17	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.2	69.1	67.0	64.3	71.7	72.1			
Medium Trucks:	68.3	67.3	63.5	62.6	69.9	70.2			
Heavy Trucks:	72.4	71.5	67.0	66.5	73.8	74.1			
Vehicle Noise:	75.4	74.4	70.9	69.5	76.9	77.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			193	416	895	1,929			
CNEL:			202	434	935	2,015			

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Alessandro Bl. Road Segment: e/o Day St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 47,488 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,671 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	3.42	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-9.52	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-10.23	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.2	69.0	66.9	64.3	71.7	72.0			
Medium Trucks:	68.2	67.2	63.5	62.5	69.8	70.1			
Heavy Trucks:	72.3	71.4	66.9	66.4	73.8	74.0			
Vehicle Noise:	75.3	74.3	70.8	69.5	76.8	77.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			191	412	887	1,912			
CNEL:			200	430	927	1,997			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Innovation Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,036 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,244 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph					Vehicle Mix				
Near/Far Lane Distance: 80 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 60.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 60.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004				
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Grade: 0.0%					Autos: 45.000				
Left View: -90.0 degrees					Medium Trucks: 44.803				
Right View: 90.0 degrees					Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.28	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-11.66	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-12.37	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.1	68.0	65.9	63.2	70.6	71.0			
Medium Trucks:	67.2	66.2	62.4	61.5	68.8	69.1			
Heavy Trucks:	71.3	70.4	65.9	65.4	72.8	73.0			
Vehicle Noise:	74.3	73.3	69.8	68.4	75.8	76.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			146	315	678	1,460			
CNEL:			152	329	708	1,525			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Innovation Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 34,464 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,664 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.03	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-10.92	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.63	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.9	68.7	66.6	64.0	71.4	71.7			
Medium Trucks:	67.9	66.9	63.2	62.2	69.5	69.8			
Heavy Trucks:	72.0	71.1	66.6	66.1	73.5	73.7			
Vehicle Noise:	75.0	74.0	70.5	69.2	76.5	76.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				164	353	760	1,636		
CNEL:				171	368	793	1,709		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Elsworth St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 62,699 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,847 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	4.17	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-8.78	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.49	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.7	71.5	69.4	66.8	74.2	74.5			
Medium Trucks:	70.5	69.5	65.8	64.8	72.1	72.4			
Heavy Trucks:	74.2	73.3	68.8	68.3	75.7	75.9			
Vehicle Noise:	77.5	76.5	73.0	71.6	79.0	79.3			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			266	573	1,235	2,662			
CNEL:			278	599	1,291	2,782			

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 61,453 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,750 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	4.08	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-8.86	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.57	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.6	71.4	69.3	66.7	74.1	74.4			
Medium Trucks:	70.4	69.4	65.7	64.7	72.0	72.3			
Heavy Trucks:	74.1	73.2	68.7	68.2	75.6	75.8			
Vehicle Noise:	77.4	76.4	72.9	71.5	78.9	79.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				263	566	1,219	2,626		
CNEL:				274	591	1,274	2,745		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Graham St.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 65,840 vehicles					Autos: 15					
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15					
Peak Hour Volume: 5,089 vehicles					Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph					Vehicle Mix					
Near/Far Lane Distance: 82 feet					Vehicle Type		Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%					
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
Centerline Dist. to Barrier: 67.0 feet					Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 67.0 feet					Autos: 0.000					
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004					
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0					
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)					
Road Grade: 0.0%					Autos: 53.226					
Left View: -90.0 degrees					Medium Trucks: 53.059					
Right View: 90.0 degrees					Heavy Trucks: 53.076					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	4.38	-0.51	-1.20	-4.71	0.000	0.000			
Medium Trucks:	81.00	-8.56	-0.49	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-9.27	-0.49	-1.20	-5.29	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	72.9	71.7	69.6	67.0	74.4	74.7				
Medium Trucks:	70.7	69.7	66.0	65.0	72.3	72.6				
Heavy Trucks:	74.4	73.5	69.0	68.5	75.9	76.1				
Vehicle Noise:	77.7	76.7	73.2	71.8	79.2	79.5				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				275	592	1,276	2,750			
CNEL:				287	619	1,334	2,874			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 57,439 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,440 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.79	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.16	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.87	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.3	71.1	69.0	66.4	73.8	74.2			
Medium Trucks:	70.2	69.2	65.4	64.4	71.7	72.0			
Heavy Trucks:	73.8	72.9	68.4	67.9	75.3	75.5			
Vehicle Noise:	77.1	76.1	72.6	71.2	78.6	78.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				251	541	1,165	2,511		
CNEL:				262	565	1,218	2,624		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 53,003 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,097 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.42%
					Medium Trucks:		73.6%	7.7%	18.6%	4.64%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		48.260			
					Medium Trucks:		48.076			
					Heavy Trucks:		48.094			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	3.44	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	81.00	-9.51	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-10.22	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	72.6	71.4	69.3	66.7	74.1	74.4				
Medium Trucks:	70.4	69.4	65.7	64.7	72.0	72.3				
Heavy Trucks:	74.1	73.2	68.7	68.2	75.6	75.8				
Vehicle Noise:	77.4	76.4	72.9	71.5	78.9	79.2				
Centerline Distance to Noise Contour (in feet)										
			70 dBA		65 dBA		60 dBA		55 dBA	
Ldn:			235		507		1,091		2,351	
CNEL:			246		529		1,141		2,458	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 50,080 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,871 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.19	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-9.75	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.46	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.3	71.2	69.1	66.4	73.8	74.2			
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.1			
Heavy Trucks:	73.9	73.0	68.5	67.9	75.3	75.6			
Vehicle Noise:	77.2	76.2	72.7	71.3	78.7	78.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				226	488	1,051	2,264		
CNEL:				237	510	1,098	2,366		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Barton St.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		47,553 vehicles			Autos:		15			
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles):		15			
Peak Hour Volume:		3,676 vehicles			Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		50 mph			Vehicle Mix					
Near/Far Lane Distance:		72 feet			Vehicle Type		Day	Evening	Night	Daily
Site Data					Autos:		71.1%	10.9%	18.0%	91.42%
Barrier Height:		0.0 feet			Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-Berm):		0.0			Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:		60.0 feet			Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		60.0 feet			Autos:		0.000			
Barrier Distance to Observer:		0.0 feet			Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet			Heavy Trucks:		8.004		Grade Adjustment: 0.0	
Pad Elevation:		0.0 feet			Lane Equivalent Distance (in feet)					
Road Elevation:		0.0 feet			Autos:		48.260			
Road Grade:		0.0%			Medium Trucks:		48.076			
Left View:		-90.0 degrees			Heavy Trucks:		48.094			
Right View:		90.0 degrees								
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	2.97	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	81.00	-9.98	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-10.69	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	72.1	70.9	68.8	66.2	73.6	74.0				
Medium Trucks:	70.0	69.0	65.2	64.3	71.6	71.8				
Heavy Trucks:	73.6	72.8	68.2	67.7	75.1	75.3				
Vehicle Noise:	76.9	75.9	72.5	71.1	78.4	78.7				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				219	471	1,015	2,187			
CNEL:				229	493	1,061	2,286			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Barton St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 43,929 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,396 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.21	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.73	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.44	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.9	71.8	69.7	67.0	74.4	74.8			
Medium Trucks:	70.6	69.6	65.8	64.9	72.2	72.5			
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6			
Vehicle Noise:	77.5	76.5	73.0	71.6	79.0	79.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				237	511	1,101	2,373		
CNEL:				248	535	1,152	2,481		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 50,736 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,922 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	2.84	0.13	-1.20	-4.69	0.000	0.000	
Medium Trucks:	82.40	-10.11	0.15	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	86.40	-10.82	0.15	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	73.5	72.4	70.3	67.7	75.0	75.4		
Medium Trucks:	71.2	70.2	66.5	65.5	72.8	73.1		
Heavy Trucks:	74.5	73.6	69.1	68.6	76.0	76.2		
Vehicle Noise:	78.1	77.1	73.7	72.2	79.6	79.9		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				261	563	1,212	2,612	
CNEL:				273	588	1,268	2,731	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 51,895 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,011 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004				
				Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 48.260				
				Medium Trucks: 48.076				
				Heavy Trucks: 48.094				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	2.93	0.13	-1.20	-4.69	0.000	0.000	
Medium Trucks:	82.40	-10.01	0.15	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	86.40	-10.72	0.15	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	73.6	72.5	70.4	67.8	75.1	75.5		
Medium Trucks:	71.3	70.3	66.6	65.6	72.9	73.2		
Heavy Trucks:	74.6	73.7	69.2	68.7	76.1	76.3		
Vehicle Noise:	78.2	77.2	73.8	72.3	79.7	80.0		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			265	571	1,231	2,652		
CNEL:			277	597	1,287	2,773		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: w/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		62,199 vehicles			Autos:		15			
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles):		15			
Peak Hour Volume:		4,808 vehicles			Heavy Trucks (3+ Axles):		15			
Vehicle Speed:		55 mph			Vehicle Mix					
Near/Far Lane Distance:		73 feet			Vehicle Type		Day	Evening	Night	Daily
Site Data					Autos:		71.1%	10.9%	18.0%	91.42%
Barrier Height:		0.0 feet			Medium Trucks:		73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-Berm):		0.0			Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:		55.0 feet			Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		55.0 feet			Autos:		0.000			
Barrier Distance to Observer:		0.0 feet			Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet			Heavy Trucks:		8.004			
Pad Elevation:		0.0 feet			Grade Adjustment:		0.0			
Road Elevation:		0.0 feet			Lane Equivalent Distance (in feet)					
Road Grade:		0.0%			Autos:		41.446			
Left View:		-90.0 degrees			Medium Trucks:		41.232			
Right View:		90.0 degrees			Heavy Trucks:		41.253			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	3.72	1.12	-1.20	-4.67	0.000	0.000			
Medium Trucks:	82.40	-9.22	1.15	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	86.40	-9.93	1.15	-1.20	-5.38	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	75.4	74.3	72.2	69.5	76.9	77.3				
Medium Trucks:	73.1	72.1	68.4	67.4	74.7	75.0				
Heavy Trucks:	76.4	75.5	71.0	70.5	77.9	78.1				
Vehicle Noise:	80.0	79.0	75.6	74.1	81.5	81.8				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			320	689	1,484	3,196				
CNEL:			334	720	1,551	3,342				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 67,030 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 5,181 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph									
Near/Far Lane Distance: 73 feet					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000				
Barrier Height: 0.0 feet					Medium Trucks: 2.297				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Barrier: 55.0 feet									
Centerline Dist. to Observer: 55.0 feet									
Barrier Distance to Observer: 0.0 feet									
Observer Height (Above Pad): 5.0 feet									
Pad Elevation: 0.0 feet									
Road Elevation: 0.0 feet									
Road Grade: 0.0%					Lane Equivalent Distance (in feet)				
Left View: -90.0 degrees					Autos: 41.446				
Right View: 90.0 degrees					Medium Trucks: 41.232				
					Heavy Trucks: 41.253				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	4.05	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-8.90	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-9.61	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.7	74.6	72.5	69.9	77.2	77.6			
Medium Trucks:	73.5	72.5	68.7	67.7	75.1	75.3			
Heavy Trucks:	76.7	75.8	71.3	70.8	78.2	78.4			
Vehicle Noise:	80.3	79.3	75.9	74.4	81.8	82.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				336	724	1,559	3,360		
CNEL:				351	757	1,631	3,513		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: Van Buren Bl. Road Segment: e/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 71,356 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 5,516 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 73 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.42%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 41.446				
Road Grade: 0.0%					Medium Trucks: 41.232				
Left View: -90.0 degrees					Heavy Trucks: 41.253				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	4.32	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-8.63	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-9.34	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	76.0	74.9	72.8	70.1	77.5	77.9			
Medium Trucks:	73.7	72.7	69.0	68.0	75.3	75.6			
Heavy Trucks:	77.0	76.1	71.6	71.1	78.5	78.7			
Vehicle Noise:	80.6	79.6	76.1	74.7	82.1	82.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				350	755	1,626	3,503		
CNEL:				366	789	1,700	3,663		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: n/o Alessandro Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 150,230 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 11,613 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 106.888				
				Medium Trucks: 106.805				
				Heavy Trucks: 106.813				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	74.55	6.83	-5.05	-1.20	-4.79	0.000	0.000	
Medium Trucks:	84.86	-6.12	-5.05	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	88.18	-6.83	-5.05	-1.20	-5.11	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	75.1	74.0	71.9	69.2	76.6	77.0		
Medium Trucks:	72.5	71.5	67.7	66.8	74.1	74.4		
Heavy Trucks:	75.1	74.2	69.7	69.2	76.6	76.8		
Vehicle Noise:	79.2	78.2	74.9	73.3	80.7	81.0		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				643	1,386	2,987	6,434	
CNEL:				673	1,451	3,126	6,734	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: HY (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Alessandro Bl.				Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 156,910 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 12,129 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Vehicle Type	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Distance to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.42%			
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%			
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	74.55	7.01	-5.05	-1.20	-4.79	0.000	0.000
Medium Trucks:	84.86	-5.93	-5.05	-1.20	-4.88	0.000	0.000
Heavy Trucks:	88.18	-6.64	-5.05	-1.20	-5.11	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	75.3	74.2	72.0	69.4	76.8	77.2	
Medium Trucks:	72.7	71.7	67.9	67.0	74.3	74.5	
Heavy Trucks:	75.3	74.4	69.9	69.4	76.8	77.0	
Vehicle Noise:	79.4	78.3	75.0	73.5	80.9	81.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			662	1,427	3,074	6,624	
CNEL:			693	1,494	3,218	6,933	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 157,560 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 12,179 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	7.03	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-5.91	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-6.62	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.3	74.2	72.1	69.4	76.8	77.2			
Medium Trucks:	72.7	71.7	67.9	67.0	74.3	74.6			
Heavy Trucks:	75.3	74.4	69.9	69.4	76.8	77.0			
Vehicle Noise:	79.4	78.4	75.1	73.5	80.9	81.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				664	1,431	3,083	6,642		
CNEL:				695	1,498	3,227	6,952		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (With 2003 EIR Phase III) Road Name: I-215 Fwy. Road Segment: s/o Van Buren Bl.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 161,320 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 12,470 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	74.55	7.13	-5.05	-1.20	-4.79	0.000	0.000	
Medium Trucks:	84.86	-5.81	-5.05	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	88.18	-6.52	-5.05	-1.20	-5.11	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	75.4	74.3	72.2	69.5	76.9	77.3		
Medium Trucks:	72.8	71.8	68.0	67.1	74.4	74.7		
Heavy Trucks:	75.4	74.5	70.0	69.5	76.9	77.1		
Vehicle Noise:	79.5	78.5	75.2	73.6	81.0	81.3		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				675	1,454	3,132	6,747	
CNEL:				706	1,521	3,278	7,062	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Wood Rd. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 16,541 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,279 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.42%
					Medium Trucks:		73.6%	7.7%	18.6%	4.64%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.94%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004			
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos:		40.460			
					Medium Trucks:		40.241			
					Heavy Trucks:		40.262			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	-1.16	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	79.45	-14.11	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-14.82	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	67.4	66.2	64.1	61.5	68.9	69.2				
Medium Trucks:	65.5	64.5	60.7	59.7	67.0	67.3				
Heavy Trucks:	69.5	68.7	64.1	63.6	71.0	71.2				
Vehicle Noise:	72.5	71.6	68.0	66.7	74.0	74.3				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			82	176	380	819				
CNEL:			86	184	397	855				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Wood Rd. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,535 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,819 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.88	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.06	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-12.77	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.5	66.3	64.2	61.6	69.0	69.3			
Medium Trucks:	65.8	64.8	61.0	60.0	67.4	67.6			
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0			
Vehicle Noise:	73.0	72.1	68.5	67.2	74.5	74.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				88	190	410	883		
CNEL:				92	199	428	922		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Trautwein Rd. Road Segment: n/o Canyon Crest Dr.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,739 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,453 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.21	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-11.74	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-12.45	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.3	69.2	67.1	64.5	71.8	72.2			
Medium Trucks:	68.2	67.2	63.4	62.5	69.8	70.1			
Heavy Trucks:	71.9	71.0	66.5	65.9	73.3	73.6			
Vehicle Noise:	75.2	74.2	70.7	69.3	76.7	77.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				167	360	775	1,669		
CNEL:				174	376	810	1,745		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (Proposed) Road Name: Trautwein Rd. Road Segment: s/o Canyon Crest Dr.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 20,745 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,604 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0=Wall, 1=Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.45%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.62%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	-0.63	0.13	-1.20	-4.69	0.000	0.000	
Medium Trucks:	81.00	-13.59	0.15	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-14.30	0.15	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	68.5	67.3	65.2	62.6	70.0	70.4		
Medium Trucks:	66.4	65.4	61.6	60.6	68.0	68.2		
Heavy Trucks:	70.0	69.1	64.6	64.1	71.5	71.7		
Vehicle Noise:	73.3	72.3	68.9	67.4	74.8	75.1		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				126	271	583	1,256	
CNEL:				131	283	609	1,313	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Trautwein Rd. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 46,293 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,578 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.85	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-10.10	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-10.81	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.8	70.6	68.5	65.9	73.3	73.7			
Medium Trucks:	69.7	68.6	64.9	63.9	71.2	71.5			
Heavy Trucks:	73.3	72.4	67.9	67.4	74.8	75.0			
Vehicle Noise:	76.6	75.6	72.1	70.7	78.1	78.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				191	411	886	1,909		
CNEL:				200	430	926	1,995		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (Proposed) Road Name: Trautwein Rd. Road Segment: n/o Orange Terrace Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		52,425 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		4,052 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		50 mph		Vehicle Mix				
Near/Far Lane Distance:		48 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.44%				
Barrier Height:		0.0 feet		Medium Trucks:		73.6% 7.7% 18.6% 4.63%		
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks:		75.6% 6.7% 17.8% 3.93%		
Centerline Dist. to Barrier:		55.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		55.0 feet		Autos:		0.000		
Barrier Distance to Observer:		0.0 feet		Medium Trucks:		2.297		
Observer Height (Above Pad):		5.0 feet		Heavy Trucks:		8.004		
Pad Elevation:		0.0 feet		Grade Adjustment:		0.0		
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos:		49.739		
Left View:		-90.0 degrees		Medium Trucks:		49.561		
Right View:		90.0 degrees		Heavy Trucks:		49.578		
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	3.39	-0.07	-1.20	-4.67	0.000	0.000	
Medium Trucks:	81.00	-9.56	-0.05	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	85.38	-10.27	-0.05	-1.20	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	72.3	71.2	69.1	66.4	73.8	74.2		
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.0		
Heavy Trucks:	73.9	73.0	68.5	67.9	75.3	75.6		
Vehicle Noise:	77.1	76.1	72.7	71.3	78.6	78.9		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			207	447	963	2,074		
CNEL:			217	467	1,006	2,167		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Trautwein Rd. Road Segment: s/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,307 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,420 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.46% Medium Trucks: 73.6% 7.7% 18.6% 4.62% Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 49.739 Medium Trucks: 49.561 Heavy Trucks: 49.578				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.16	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	81.00	-11.81	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-12.52	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.1	68.9	66.8	64.2	71.6	72.0			
Medium Trucks:	67.9	66.9	63.2	62.2	69.5	69.8			
Heavy Trucks:	71.6	70.7	66.2	65.7	73.1	73.3			
Vehicle Noise:	74.9	73.9	70.4	69.0	76.4	76.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				147	317	682	1,469		
CNEL:				154	331	713	1,536		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Barton St. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,466 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,814 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.87	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.08	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-12.79	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.5	66.3	64.2	61.6	69.0	69.3			
Medium Trucks:	65.7	64.7	61.0	60.0	67.3	67.6			
Heavy Trucks:	70.3	69.4	64.9	64.4	71.8	72.0			
Vehicle Noise:	73.0	72.0	68.4	67.1	74.5	74.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			88	190	409	881			
CNEL:			92	198	427	920			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Barton St. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 19,592 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,514 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.43%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004 Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 40.460					
					Medium Trucks: 40.241					
					Heavy Trucks: 40.262					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	66.51	0.09	1.28	-1.20	-4.61	0.000	0.000			
Medium Trucks:	77.72	-12.86	1.31	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	82.99	-13.57	1.31	-1.20	-5.50	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	66.7	65.5	63.4	60.8	68.2	68.5				
Medium Trucks:	65.0	64.0	60.2	59.2	66.6	66.8				
Heavy Trucks:	69.5	68.6	64.1	63.6	71.0	71.2				
Vehicle Noise:	72.2	71.3	67.7	66.4	73.7	74.0				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				78	168	362	781			
CNEL:				82	176	378	815			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Barton St. Road Segment: n/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,553 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,280 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-0.64	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-13.60	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-14.31	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.9	64.8	62.7	60.1	67.4	67.8			
Medium Trucks:	64.2	63.2	59.5	58.5	65.8	66.1			
Heavy Trucks:	68.8	67.9	63.4	62.9	70.3	70.5			
Vehicle Noise:	71.5	70.5	66.9	65.6	73.0	73.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				70	150	324	698		
CNEL:				73	157	338	728		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Barton St. Road Segment: s/o Krameria Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,723 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,679 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.54	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.42	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.13	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.1	66.0	63.9	61.2	68.6	69.0			
Medium Trucks:	65.4	64.4	60.6	59.7	67.0	67.3			
Heavy Trucks:	70.0	69.1	64.6	64.0	71.4	71.7			
Vehicle Noise:	72.7	71.7	68.1	66.8	74.2	74.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				84	180	388	836		
CNEL:				87	188	405	873		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Barton St. Road Segment: s/o Lurin Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 20,471 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,582 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	0.28	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-12.67	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-13.38	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.9	65.7	63.6	61.0	68.4	68.7			
Medium Trucks:	65.2	64.2	60.4	59.4	66.7	67.0			
Heavy Trucks:	69.7	68.8	64.3	63.8	71.2	71.4			
Vehicle Noise:	72.4	71.4	67.8	66.6	73.9	74.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				80	173	373	804		
CNEL:				84	181	390	839		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Coyote Bush Rd. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		3,136 vehicles			Autos: 15					
Peak Hour Percentage:		7.73%			Medium Trucks (2 Axles): 15					
Peak Hour Volume:		242 vehicles			Heavy Trucks (3+ Axles): 15					
Vehicle Speed:		25 mph								
Near/Far Lane Distance:		12 feet								
Site Data					Vehicle Mix					
Barrier Height:		0.0 feet			Vehicle Type		Day	Evening	Night	Daily
Barrier Type (0-Wall, 1-Berm):		0.0			Autos:		71.1%	10.9%	18.0%	91.47%
Centerline Dist. to Barrier:		33.0 feet			Medium Trucks:		73.6%	7.7%	18.6%	4.61%
Centerline Dist. to Observer:		33.0 feet			Heavy Trucks:		75.6%	6.7%	17.8%	3.92%
Barrier Distance to Observer:		0.0 feet								
Observer Height (Above Pad):		5.0 feet								
Pad Elevation:		0.0 feet								
Road Elevation:		0.0 feet								
Road Grade:		0.0%			Noise Source Elevations (in feet)					
Left View:		-90.0 degrees			Autos:		0.000			
Right View:		90.0 degrees			Medium Trucks:		2.297			
					Heavy Trucks:		8.004			
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos:		32.833			
					Medium Trucks:		32.562			
					Heavy Trucks:		32.589			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	58.73	-5.83	2.64	-1.20	-4.52	0.000	0.000			
Medium Trucks:	70.80	-18.80	2.69	-1.20	-4.86	0.000	0.000			
Heavy Trucks:	77.97	-19.51	2.69	-1.20	-5.69	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	54.3	53.2	51.1	48.5	55.8	56.2				
Medium Trucks:	53.5	52.5	48.7	47.8	55.1	55.3				
Heavy Trucks:	59.9	59.1	54.6	54.0	61.4	61.6				
Vehicle Noise:	61.7	60.8	56.9	55.8	63.2	63.5				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				12		25		54		116
CNEL:				12		26		56		121

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Orange Terrace Pkwy. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 9,807 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 758 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph					Vehicle Mix				
Near/Far Lane Distance: 48 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.44%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 49.739				
Road Grade: 0.0%					Medium Trucks: 49.561				
Left View: -90.0 degrees					Heavy Trucks: 49.578				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-3.43	-0.07	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-16.38	-0.05	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-17.09	-0.05	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.8	62.6	60.5	57.9	65.3	65.6			
Medium Trucks:	61.8	60.8	57.0	56.1	63.4	63.7			
Heavy Trucks:	65.9	65.0	60.5	60.0	67.4	67.6			
Vehicle Noise:	68.9	67.9	64.4	63.0	70.4	70.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				59	126	272	586		
CNEL:				61	132	284	613		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Village West Dr. Road Segment: n/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 29,674 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,294 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 44 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type		Day	Evening	Night	Daily
				Autos:		71.1%	10.9%	18.0%	85.59%
				Medium Trucks:		73.6%	7.7%	18.6%	5.34%
				Heavy Trucks:		75.6%	6.7%	17.8%	9.07%
				Noise Source Elevations (in feet)					
				Autos:		0.000			
				Medium Trucks:		2.297			
				Heavy Trucks:		8.004		Grade Adjustment: 0.0	
				Lane Equivalent Distance (in feet)					
				Autos:		51.740			
				Medium Trucks:		51.568			
				Heavy Trucks:		51.585			
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	1.60	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	77.72	-10.45	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-8.14	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.6	65.4	63.3	60.7	68.1	68.5			
Medium Trucks:	65.8	64.8	61.0	60.0	67.4	67.6			
Heavy Trucks:	73.3	72.5	67.9	67.4	74.8	75.0			
Vehicle Noise:	74.8	73.8	69.8	68.9	76.2	76.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				146	315	678	1,460		
CNEL:				152	327	706	1,520		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (Proposed) Road Name: Village West Dr. Road Segment: s/o Krameria Av.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,715 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,524 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 24 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 39.0 feet Centerline Dist. to Observer: 39.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 37.443 Medium Trucks: 37.206 Heavy Trucks: 37.229				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	66.51	0.12	1.78	-1.20	-4.58	0.000	0.000	
Medium Trucks:	77.72	-12.84	1.82	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	82.99	-13.55	1.82	-1.20	-5.57	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	67.2	66.1	63.9	61.3	68.7	69.1		
Medium Trucks:	65.5	64.5	60.7	59.8	67.1	67.4		
Heavy Trucks:	70.1	69.2	64.7	64.1	71.5	71.8		
Vehicle Noise:	72.8	71.8	68.2	66.9	74.3	74.5		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				75	162	349	751	
CNEL:				78	169	364	784	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: HY (Proposed) Road Name: Meridian Pkwy. Road Segment: s/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 30,364 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,347 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data					Vehicle Mix						
					Vehicle Type	Day	Evening	Night	Daily		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%						
					Noise Source Elevations (in feet)						
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004					Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)						
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585						
FHWA Noise Model Calculations											
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten				
Autos:	68.46	1.48	-0.33	-1.20	-4.67	0.000	0.000				
Medium Trucks:	79.45	-11.47	-0.30	-1.20	-4.87	0.000	0.000				
Heavy Trucks:	84.25	-12.18	-0.31	-1.20	-5.37	0.000	0.000				
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	68.4	67.3	65.2	62.5	69.9	70.3					
Medium Trucks:	66.5	65.5	61.7	60.8	68.1	68.3					
Heavy Trucks:	70.6	69.7	65.2	64.6	72.0	72.3					
Vehicle Noise:	73.6	72.6	69.0	67.7	75.1	75.4					
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				122	263	566	1,219				
CNEL:				127	274	591	1,274				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (Proposed) Road Name: Meridian Pkwy. Road Segment: n/o Cactus Av.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):		29,571 vehicles		Autos:		15		
Peak Hour Percentage:		7.73%		Medium Trucks (2 Axles):		15		
Peak Hour Volume:		2,286 vehicles		Heavy Trucks (3+ Axles):		15		
Vehicle Speed:		45 mph		Vehicle Mix				
Near/Far Lane Distance:		44 feet		Vehicle Type	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0% 91.44%				
Barrier Height:		0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.63%				
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
Centerline Dist. to Barrier:		56.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer:		56.0 feet		Autos: 0.000				
Barrier Distance to Observer:		0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad):		5.0 feet		Heavy Trucks: 8.004				
Pad Elevation:		0.0 feet		Grade Adjustment: 0.0				
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade:		0.0%		Autos: 51.740				
Left View:		-90.0 degrees		Medium Trucks: 51.568				
Right View:		90.0 degrees		Heavy Trucks: 51.585				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	68.46	1.36	-0.33	-1.20	-4.67	0.000	0.000	
Medium Trucks:	79.45	-11.59	-0.30	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	84.25	-12.30	-0.31	-1.20	-5.37	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	68.3	67.1	65.0	62.4	69.8	70.2		
Medium Trucks:	66.4	65.4	61.6	60.6	67.9	68.2		
Heavy Trucks:	70.4	69.6	65.0	64.5	71.9	72.1		
Vehicle Noise:	73.5	72.5	68.9	67.6	75.0	75.2		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			120	258	556	1,198		
CNEL:			125	270	581	1,251		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Meridian Pkwy. Road Segment: s/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,704 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,141 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.45% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.08	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-11.88	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-12.59	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.0	66.9	64.8	62.1	69.5	69.9			
Medium Trucks:	66.1	65.1	61.3	60.3	67.7	67.9			
Heavy Trucks:	70.2	69.3	64.8	64.2	71.6	71.9			
Vehicle Noise:	73.2	72.2	68.6	67.3	74.7	74.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				115	247	532	1,146		
CNEL:				120	258	556	1,197		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Meridian Pkwy. Road Segment: n/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,230 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,105 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type		Day	Evening	Night	Daily
					Autos:		71.1%	10.9%	18.0%	91.45%
					Medium Trucks:		73.6%	7.7%	18.6%	4.62%
					Heavy Trucks:		75.6%	6.7%	17.8%	3.93%
					Noise Source Elevations (in feet)					
					Autos:		0.000			
					Medium Trucks:		2.297			
					Heavy Trucks:		8.004		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		51.740			
					Medium Trucks:		51.568			
					Heavy Trucks:		51.585			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	1.01	-0.33	-1.20	-4.67	0.000	0.000			
Medium Trucks:	79.45	-11.95	-0.30	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	84.25	-12.66	-0.31	-1.20	-5.37	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	67.9	66.8	64.7	62.1	69.4	69.8				
Medium Trucks:	66.0	65.0	61.2	60.3	67.6	67.8				
Heavy Trucks:	70.1	69.2	64.7	64.1	71.5	71.8				
Vehicle Noise:	73.1	72.1	68.6	67.2	74.6	74.9				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				113		244		526		1,133
CNEL:				118		255		549		1,183

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Meridian Pkwy. Road Segment: n/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,813 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 1,532 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 44 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 56.0 feet Centerline Dist. to Observer: 56.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.46% Medium Trucks: 73.6% 7.7% 18.6% 4.62% Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	-0.37	-0.33	-1.20	-4.67	0.000	0.000		
Medium Trucks:	79.45	-13.34	-0.30	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	84.25	-14.05	-0.31	-1.20	-5.37	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.6	65.4	63.3	60.7	68.1	68.4			
Medium Trucks:	64.6	63.6	59.8	58.9	66.2	66.5			
Heavy Trucks:	68.7	67.8	63.3	62.8	70.2	70.4			
Vehicle Noise:	71.7	70.7	67.2	65.8	73.2	73.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				92	197	425	916		
CNEL:				96	206	444	957		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Day St. Road Segment: n/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,747 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,377 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 36.551 Medium Trucks: 36.308 Heavy Trucks: 36.332				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 66.51 2.04 1.94 -1.20 -4.61 0.000 0.000									
Medium Trucks: 77.72 -10.90 1.98 -1.20 -4.87 0.000 0.000									
Heavy Trucks: 82.99 -11.61 1.98 -1.20 -5.50 0.000 0.000									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos: 69.3 68.1 66.0 63.4 70.8 71.2									
Medium Trucks: 67.6 66.6 62.8 61.9 69.2 69.4									
Heavy Trucks: 72.2 71.3 66.8 66.2 73.6 73.9									
Vehicle Noise: 74.9 73.9 70.3 69.0 76.4 76.6									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				117	252	542	1,169		
CNEL:				122	263	566	1,220		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Day St. Road Segment: s/o Cottonwood Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,414 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,196 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 36.551 Medium Trucks: 36.308 Heavy Trucks: 36.332				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	1.70	1.94	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-11.25	1.98	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-11.96	1.98	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.0	67.8	65.7	63.1	70.4	70.8			
Medium Trucks:	67.2	66.2	62.5	61.5	68.8	69.1			
Heavy Trucks:	71.8	70.9	66.4	65.9	73.3	73.5			
Vehicle Noise:	74.5	73.5	69.9	68.6	76.0	76.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				111	239	515	1,109		
CNEL:				116	249	537	1,157		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Alessandro Bl. Road Segment: w/o Mission Grove Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 67,357 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,207 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.42%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.64%				
					Heavy Trucks: 75.6% 6.7% 17.8% 3.94%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	4.07	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-8.88	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-9.59	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	74.8	73.6	71.5	68.9	76.3	76.6			
Medium Trucks:	72.5	71.5	67.7	66.8	74.1	74.3			
Heavy Trucks:	75.8	74.9	70.4	69.8	77.2	77.5			
Vehicle Noise:	79.3	78.3	74.9	73.4	80.8	81.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				315	680	1,464	3,155		
CNEL:				330	711	1,531	3,299		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Alessandro Bl. Road Segment: e/o Mission Grove Pkwy.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 68,783 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,317 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
						Autos:	0.000			
						Medium Trucks:	2.297			
						Heavy Trucks:	8.004			
						Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)						
						Autos:	48.260			
						Medium Trucks:	48.076			
						Heavy Trucks:	48.094			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	4.16	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	82.40	-8.79	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-9.50	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	74.9	73.7	71.6	69.0	76.4	76.7				
Medium Trucks:	72.6	71.6	67.8	66.8	74.2	74.4				
Heavy Trucks:	75.8	75.0	70.4	69.9	77.3	77.5				
Vehicle Noise:	79.4	78.4	75.0	73.5	80.9	81.2				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				320	689	1,485	3,199			
CNEL:				335	721	1,553	3,345			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Alessandro Bl. Road Segment: e/o Meridian Pkwy.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 69,675 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,386 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.42%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
				Autos:		0.000				
				Medium Trucks:		2.297				
				Heavy Trucks:		8.004		Grade Adjustment: 0.0		
				Lane Equivalent Distance (in feet)						
				Autos:		48.260				
				Medium Trucks:		48.076				
				Heavy Trucks:		48.094				
FHWA Noise Model Calculations										
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:		71.78	4.21	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:		82.40	-8.73	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:		86.40	-9.44	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)										
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:		74.9	73.8	71.7	69.0	76.4	76.8			
Medium Trucks:		72.6	71.6	67.8	66.9	74.2	74.5			
Heavy Trucks:		75.9	75.0	70.5	70.0	77.4	77.6			
Vehicle Noise:		79.5	78.5	75.0	73.6	81.0	81.3			
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				323		695		1,498		3,227
CNEL:				337		727		1,566		3,374

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Alessandro Bl. Road Segment: w/o Old 215 Frontage Rd.				Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 63,009 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,871 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15						
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix						
				Vehicle Type		Day	Evening	Night	Daily	
						Autos:	71.1%	10.9%	18.0%	91.43%
						Medium Trucks:	73.6%	7.7%	18.6%	4.64%
						Heavy Trucks:	75.6%	6.7%	17.8%	3.94%
				Noise Source Elevations (in feet)						
						Autos:	0.000			
		Medium Trucks:	2.297							
		Heavy Trucks:	8.004 Grade Adjustment: 0.0							
Lane Equivalent Distance (in feet)										
		Autos:	48.260							
		Medium Trucks:	48.076							
		Heavy Trucks:	48.094							
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	68.46	4.65	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	79.45	-8.30	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	84.25	-9.01	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	72.0	70.9	68.8	66.2	73.5	73.9				
Medium Trucks:	70.1	69.1	65.3	64.4	71.7	72.0				
Heavy Trucks:	74.2	73.3	68.8	68.3	75.7	75.9				
Vehicle Noise:	77.2	76.2	72.7	71.3	78.7	79.0				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			228	491	1,058	2,280				
CNEL:			238	513	1,105	2,381				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Alessandro Bl. Road Segment: w/o Day St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 48,211 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,727 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 71.1% 10.9% 18.0% 91.43% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	3.49	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-9.46	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-10.17	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.2	69.1	67.0	64.4	71.7	72.1			
Medium Trucks:	68.3	67.3	63.5	62.6	69.9	70.2			
Heavy Trucks:	72.4	71.5	67.0	66.5	73.8	74.1			
Vehicle Noise:	75.4	74.4	70.9	69.5	76.9	77.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				193	416	896	1,930		
CNEL:				202	434	936	2,016		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Alessandro Bl. Road Segment: e/o Day St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 47,524 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,674 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 82 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.43%					
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000					
				Medium Trucks: 2.297					
				Heavy Trucks: 8.004					
				Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 53.226					
				Medium Trucks: 53.059					
				Heavy Trucks: 53.076					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	3.42	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	79.45	-9.52	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-10.23	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.2	69.0	66.9	64.3	71.7	72.0			
Medium Trucks:	68.2	67.2	63.5	62.5	69.8	70.1			
Heavy Trucks:	72.3	71.4	66.9	66.4	73.8	74.0			
Vehicle Noise:	75.3	74.3	70.8	69.5	76.8	77.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			191	412	887	1,912			
CNEL:			200	430	927	1,997			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Cactus Av. Road Segment: w/o Innovation Dr.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 29,054 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,246 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.43%					
				Medium Trucks: 73.6% 7.7% 18.6% 4.64%					
				Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	1.29	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-11.66	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-12.37	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.1	68.0	65.9	63.2	70.6	71.0			
Medium Trucks:	67.2	66.2	62.4	61.5	68.8	69.1			
Heavy Trucks:	71.3	70.4	65.9	65.4	72.8	73.0			
Vehicle Noise:	74.3	73.3	69.8	68.4	75.8	76.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			146	315	678	1,460			
CNEL:			153	329	708	1,525			

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Cactus Av. Road Segment: e/o Innovation Dr.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 34,482 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,665 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix					
				Vehicle Type		Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.42% Medium Trucks: 73.6% 7.7% 18.6% 4.64% Heavy Trucks: 75.6% 6.7% 17.8% 3.94%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.03	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	79.45	-10.92	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-11.63	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.9	68.7	66.6	64.0	71.4	71.7			
Medium Trucks:	67.9	66.9	63.2	62.2	69.5	69.8			
Heavy Trucks:	72.0	71.1	66.6	66.1	73.5	73.7			
Vehicle Noise:	75.0	74.0	70.5	69.2	76.5	76.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			164	353	760	1,637			
CNEL:			171	368	794	1,710			

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Cactus Av. Road Segment: w/o Elsworth St.				Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 62,832 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,857 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				Vehicle Type	Day	Evening	Night	Daily	
				Autos: 71.1% 10.9% 18.0% 91.33%					
				Medium Trucks: 73.6% 7.7% 18.6% 4.65%					
				Heavy Trucks: 75.6% 6.7% 17.8% 4.03%					
				Noise Source Elevations (in feet)					
				Autos: 0.000					
				Medium Trucks: 2.297					
				Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 53.226					
				Medium Trucks: 53.059					
				Heavy Trucks: 53.076					
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	4.17	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-8.76	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.38	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.7	71.5	69.4	66.8	74.2	74.5			
Medium Trucks:	70.6	69.5	65.8	64.8	72.1	72.4			
Heavy Trucks:	74.3	73.4	68.9	68.4	75.8	76.0			
Vehicle Noise:	77.5	76.5	73.1	71.7	79.0	79.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				268	578	1,246	2,684		
CNEL:				280	604	1,302	2,805		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Cactus Av. Road Segment: e/o Elsworth St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 61,578 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,760 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.32% Medium Trucks: 73.6% 7.7% 18.6% 4.65% Heavy Trucks: 75.6% 6.7% 17.8% 4.03%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	4.09	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-8.85	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.47	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.6	71.4	69.3	66.7	74.1	74.4			
Medium Trucks:	70.5	69.5	65.7	64.7	72.1	72.3			
Heavy Trucks:	74.2	73.3	68.8	68.3	75.7	75.9			
Vehicle Noise:	77.5	76.5	73.0	71.6	79.0	79.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			265	571	1,229	2,648			
CNEL:			277	596	1,285	2,768			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Cactus Av. Road Segment: w/o Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 65,956 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 5,098 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 82 feet					Vehicle Type				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 67.0 feet					Daily				
Centerline Dist. to Observer: 67.0 feet					Autos: 71.1% 10.9% 18.0% 91.33%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.65%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 75.6% 6.7% 17.8% 4.02%				
Pad Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Elevation: 0.0 feet					Autos: 0.000				
Road Grade: 0.0%					Medium Trucks: 2.297				
Left View: -90.0 degrees					Heavy Trucks: 8.004				
Right View: 90.0 degrees					Grade Adjustment: 0.0				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	4.39	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-8.55	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.17	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.9	71.7	69.6	67.0	74.4	74.7			
Medium Trucks:	70.8	69.8	66.0	65.0	72.4	72.6			
Heavy Trucks:	74.5	73.6	69.1	68.6	76.0	76.2			
Vehicle Noise:	77.8	76.8	73.3	71.9	79.2	79.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				277	597	1,286	2,771		
CNEL:				290	624	1,344	2,896		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Cactus Av. Road Segment: e/o Graham St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 57,527 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 4,447 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph									
Near/Far Lane Distance: 82 feet					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 91.31%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.65%				
					Heavy Trucks: 75.6% 6.7% 17.8% 4.04%				
					Noise Source Elevations (in feet)				
					Autos: 0.000				
Barrier Height: 0.0 feet					Medium Trucks: 2.297				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Barrier: 67.0 feet									
Centerline Dist. to Observer: 67.0 feet									
Barrier Distance to Observer: 0.0 feet									
Observer Height (Above Pad): 5.0 feet									
Pad Elevation: 0.0 feet									
Road Elevation: 0.0 feet									
Road Grade: 0.0%									
Left View: -90.0 degrees									
Right View: 90.0 degrees									
					Lane Equivalent Distance (in feet)				
					Autos: 53.226				
					Medium Trucks: 53.059				
					Heavy Trucks: 53.076				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.79	-0.51	-1.20	-4.71	0.000	0.000		
Medium Trucks:	81.00	-9.14	-0.49	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-9.75	-0.49	-1.20	-5.29	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.3	71.1	69.0	66.4	73.8	74.2			
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.0			
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6			
Vehicle Noise:	77.2	76.2	72.7	71.3	78.7	79.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			253	546	1,176	2,533			
CNEL:			265	570	1,229	2,647			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 53,119 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,106 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.44% Medium Trucks: 73.6% 7.7% 18.6% 4.63% Heavy Trucks: 75.6% 6.7% 17.8% 3.93%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.45	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-9.51	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-10.22	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.6	71.4	69.3	66.7	74.1	74.4			
Medium Trucks:	70.4	69.4	65.7	64.7	72.0	72.3			
Heavy Trucks:	74.1	73.2	68.7	68.2	75.6	75.8			
Vehicle Noise:	77.4	76.4	72.9	71.5	78.9	79.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				235	507	1,092	2,353		
CNEL:				246	530	1,141	2,459		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 50,214 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,882 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 91.44%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.63%					
					Heavy Trucks: 75.6% 6.7% 17.8% 3.93%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004					
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 48.260					
					Medium Trucks: 48.076					
					Heavy Trucks: 48.094					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	3.21	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	81.00	-9.75	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-10.46	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	72.3	71.2	69.1	66.5	73.8	74.2				
Medium Trucks:	70.2	69.2	65.4	64.5	71.8	72.1				
Heavy Trucks:	73.9	73.0	68.5	67.9	75.3	75.6				
Vehicle Noise:	77.2	76.2	72.7	71.3	78.7	78.9				
Centerline Distance to Noise Contour (in feet)										
				70 dBA		65 dBA		60 dBA		55 dBA
Ldn:				227		488		1,052		2,266
CNEL:				237		510		1,099		2,368

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Barton St.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 47,830 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,697 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 91.47%				
				Medium Trucks: 73.6% 7.7% 18.6% 4.61%				
				Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
Autos: 48.260								
Medium Trucks: 48.076								
Heavy Trucks: 48.094								
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	3.00	0.13	-1.20	-4.69	0.000	0.000	
Medium Trucks:	81.00	-9.98	0.15	-1.20	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-10.69	0.15	-1.20	-5.34	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	72.1	71.0	68.9	66.2	73.6	74.0		
Medium Trucks:	70.0	69.0	65.2	64.3	71.6	71.8		
Heavy Trucks:	73.6	72.8	68.2	67.7	75.1	75.3		
Vehicle Noise:	76.9	75.9	72.5	71.1	78.4	78.7		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				219	472	1,017	2,190	
CNEL:				229	493	1,063	2,289	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Barton St.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 44,206 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 3,417 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.47% Medium Trucks: 73.6% 7.7% 18.6% 4.61% Heavy Trucks: 75.6% 6.7% 17.8% 3.92%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.24	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-10.73	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-11.44	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.9	71.8	69.7	67.1	74.4	74.8			
Medium Trucks:	70.6	69.6	65.8	64.9	72.2	72.5			
Heavy Trucks:	73.9	73.0	68.5	68.0	75.4	75.6			
Vehicle Noise:	77.5	76.5	73.1	71.6	79.0	79.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				238	512	1,103	2,377		
CNEL:				249	535	1,154	2,485		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 51,491 vehicles					Autos: 15				
Peak Hour Percentage: 7.73%					Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,980 vehicles					Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 72 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 71.1% 10.9% 18.0% 90.62%				
Barrier Height: 0.0 feet					Medium Trucks: 73.6% 7.7% 18.6% 4.72%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 75.6% 6.7% 17.8% 4.66%				
Centerline Dist. to Barrier: 60.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 60.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 48.260				
Road Grade: 0.0%					Medium Trucks: 48.076				
Left View: -90.0 degrees					Heavy Trucks: 48.094				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.86	0.13	-1.20	-4.69	0.000	0.000		
Medium Trucks:	82.40	-9.97	0.15	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-10.02	0.15	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	73.6	72.4	70.3	67.7	75.1	75.4			
Medium Trucks:	71.4	70.4	66.6	65.7	73.0	73.2			
Heavy Trucks:	75.3	74.4	69.9	69.4	76.8	77.0			
Vehicle Noise:	78.5	77.5	74.0	72.6	80.0	80.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				278	599	1,290	2,778		
CNEL:				290	625	1,348	2,903		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Orange Terrace Pkwy.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 52,633 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 4,069 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 72 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 90.63%					
					Medium Trucks: 73.6% 7.7% 18.6% 4.72%					
					Heavy Trucks: 75.6% 6.7% 17.8% 4.65%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004					
					Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 48.260					
					Medium Trucks: 48.076					
					Heavy Trucks: 48.094					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	2.96	0.13	-1.20	-4.69	0.000	0.000			
Medium Trucks:	82.40	-9.87	0.15	-1.20	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-9.94	0.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	73.7	72.5	70.4	67.8	75.2	75.5				
Medium Trucks:	71.5	70.5	66.7	65.8	73.1	73.3				
Heavy Trucks:	75.4	74.5	70.0	69.5	76.9	77.1				
Vehicle Noise:	78.6	77.6	74.1	72.7	80.1	80.4				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				282	607	1,307	2,816			
CNEL:				294	634	1,366	2,943			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Meridian Pkwy.				Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 65,083 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,031 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Distance to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Type	Day	Evening	Night	Daily
				Autos: 71.1% 10.9% 18.0% 88.12%				
				Medium Trucks: 73.6% 7.7% 18.6% 5.02%				
				Heavy Trucks: 75.6% 6.7% 17.8% 6.85%				
				Noise Source Elevations (in feet)				
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	3.76	1.12	-1.20	-4.67	0.000	0.000	
Medium Trucks:	82.40	-8.68	1.15	-1.20	-4.87	0.000	0.000	
Heavy Trucks:	86.40	-7.33	1.15	-1.20	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	75.5	74.3	72.2	69.6	77.0	77.3		
Medium Trucks:	73.7	72.7	68.9	68.0	75.3	75.5		
Heavy Trucks:	79.0	78.1	73.6	73.1	80.5	80.7		
Vehicle Noise:	81.4	80.4	76.8	75.5	82.9	83.2		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			398	858	1,848	3,981		
CNEL:			415	895	1,928	4,153		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Meridian Pkwy.					Project Name: Meridian South Campus Job Number: 12761					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 69,825 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,397 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data					Vehicle Mix					
					Vehicle Type		Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 88.34%					
					Medium Trucks: 73.6% 7.7% 18.6% 5.00%					
					Heavy Trucks: 75.6% 6.7% 17.8% 6.66%					
					Noise Source Elevations (in feet)					
					Autos: 0.000					
					Medium Trucks: 2.297					
					Heavy Trucks: 8.004 Grade Adjustment: 0.0					
					Lane Equivalent Distance (in feet)					
					Autos: 41.446					
					Medium Trucks: 41.232					
					Heavy Trucks: 41.253					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	4.07	1.12	-1.20	-4.67	0.000	0.000			
Medium Trucks:	82.40	-8.39	1.15	-1.20	-4.87	0.000	0.000			
Heavy Trucks:	86.40	-7.15	1.15	-1.20	-5.38	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	75.8	74.6	72.5	69.9	77.3	77.6				
Medium Trucks:	74.0	73.0	69.2	68.2	75.6	75.8				
Heavy Trucks:	79.2	78.3	73.8	73.3	80.7	80.9				
Vehicle Noise:	81.6	80.7	77.0	75.8	83.1	83.4				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				413	889	1,915	4,127			
CNEL:				431	928	1,999	4,306			

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Opportunity Way					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 74,150 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 5,732 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 73 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 88.52% Medium Trucks: 73.6% 7.7% 18.6% 4.98% Heavy Trucks: 75.6% 6.7% 17.8% 6.50%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 41.446 Medium Trucks: 41.232 Heavy Trucks: 41.253				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	4.34	1.12	-1.20	-4.67	0.000	0.000		
Medium Trucks:	82.40	-8.15	1.15	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	86.40	-7.00	1.15	-1.20	-5.38	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	76.0	74.9	72.8	70.2	77.5	77.9			
Medium Trucks:	74.2	73.2	69.4	68.5	75.8	76.1			
Heavy Trucks:	79.4	78.5	74.0	73.4	80.8	81.0			
Vehicle Noise:	81.8	80.9	77.2	76.0	83.3	83.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				426	917	1,975	4,256		
CNEL:				444	957	2,061	4,441		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: I-215 Fwy. Road Segment: n/o Alessandro Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 151,986 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 11,748 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Vehicle Type	Day	Evening	Night	Daily
					Autos: 71.1% 10.9% 18.0% 90.46%				
					Medium Trucks: 73.6% 7.7% 18.6% 4.76%				
					Heavy Trucks: 75.6% 6.7% 17.8% 4.78%				
					Grade Adjustment: 0.0				
					Noise Source Elevations (in feet)				
					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.004				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888				
					Medium Trucks: 106.805				
					Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	6.83	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-5.96	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-5.94	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.1	74.0	71.9	69.2	76.6	77.0			
Medium Trucks:	72.7	71.7	67.9	66.9	74.2	74.5			
Heavy Trucks:	76.0	75.1	70.6	70.1	77.5	77.7			
Vehicle Noise:	79.6	78.6	75.2	73.7	81.1	81.4			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			684	1,474	3,176	6,843			
CNEL:			716	1,542	3,322	7,157			

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: HY (Proposed) Road Name: I-215 Fwy. Road Segment: s/o Alessandro Bl.				Project Name: Meridian South Campus Job Number: 12761							
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 158,692 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 12,267 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15							
Site Data				Vehicle Mix							
				Vehicle Type	Day	Evening	Night	Daily			
				Autos: 71.1% 10.9% 18.0% 90.51% Medium Trucks: 73.6% 7.7% 18.6% 4.75% Heavy Trucks: 75.6% 6.7% 17.8% 4.74%							
				Noise Source Elevations (in feet)							
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)							
				Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813							
				FHWA Noise Model Calculations							
				Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
				Autos: 74.55 7.02 -5.05 -1.20 -4.79 0.000 0.000 Medium Trucks: 84.86 -5.78 -5.05 -1.20 -4.88 0.000 0.000 Heavy Trucks: 88.18 -5.79 -5.05 -1.20 -5.11 0.000 0.000							
Unmitigated Noise Levels (without Topo and barrier attenuation)											
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos: 75.3 74.2 72.0 69.4 76.8 77.2 Medium Trucks: 72.8 71.8 68.1 67.1 74.4 74.7 Heavy Trucks: 76.1 75.3 70.7 70.2 77.6 77.8 Vehicle Noise: 79.7 78.7 75.4 73.9 81.2 81.5											
Centerline Distance to Noise Contour (in feet)											
				70 dBA		65 dBA		60 dBA		55 dBA	
Ldn:				703		1,514		3,262		7,027	
CNEL:				735		1,583		3,411		7,350	

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: I-215 Fwy. Road Segment: s/o Cactus Av.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 159,458 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 12,326 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 90.47% Medium Trucks: 73.6% 7.7% 18.6% 4.75% Heavy Trucks: 75.6% 6.7% 17.8% 4.78%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	74.55	7.04	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-5.76	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-5.74	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.3	74.2	72.1	69.4	76.8	77.2			
Medium Trucks:	72.9	71.9	68.1	67.1	74.5	74.7			
Heavy Trucks:	76.2	75.3	70.8	70.3	77.7	77.9			
Vehicle Noise:	79.8	78.8	75.4	73.9	81.3	81.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				706	1,522	3,278	7,063		
CNEL:				739	1,591	3,429	7,387		

Friday, April 24, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: HY (Proposed) Road Name: I-215 Fwy. Road Segment: s/o Van Buren Bl.					Project Name: Meridian South Campus Job Number: 12761				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 162,216 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 12,539 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 71.1% 10.9% 18.0% 91.02% Medium Trucks: 73.6% 7.7% 18.6% 4.69% Heavy Trucks: 75.6% 6.7% 17.8% 4.29%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 106.888 Medium Trucks: 106.805 Heavy Trucks: 106.813				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Attenu	Berm Attenu		
Autos:	74.55	7.14	-5.05	-1.20	-4.79	0.000	0.000		
Medium Trucks:	84.86	-5.74	-5.05	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	88.18	-6.13	-5.05	-1.20	-5.11	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	75.4	74.3	72.2	69.5	76.9	77.3			
Medium Trucks:	72.9	71.9	68.1	67.2	74.5	74.7			
Heavy Trucks:	75.8	74.9	70.4	69.9	77.3	77.5			
Vehicle Noise:	79.7	78.6	75.3	73.8	81.2	81.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				693	1,493	3,216	6,929		
CNEL:				725	1,562	3,365	7,250		

APPENDIX 9.1:

REFERENCE DISTRIBUTION/WAREHOUSE NOISE SOURCE PHOTOS

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JN:12761 Reference Noise Source Photos



1.1_Truck Activities



1.2_Truck Activities



1.3_Truck Activities



2.1_Roof-Top AC
32, 50' 32.308900"116, 59' 26.656400"



2.2_Roof Top AC
32, 50' 32.230000"116, 59' 26.960000"



3.1_Parking Lot
33, 39' 58.790000"117, 40' 20.490000"

JN:12761 Reference Noise Source Photos



3.2_Parking Lot
33, 39' 58.790000"117, 40' 20.490000"



3.3_Parking Lot
33, 39' 58.790000"117, 40' 20.490000"



4.1_Dog Park



4.2_Dog Park



4.3_Dog Park



4.4_Dog Park

APPENDIX 9.2:

OPERATIONAL CADNAA NOISE PREDICTION MODEL INPUTS

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12761

CadnaA Noise Prediction Model: 12761.cna

Date: 25.04.20

Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)						(ft)	(ft)	(ft)
R01		R01	44.6	44.2	50.9	55.0	45.0	0.0				5.00	a	6239455.92	2268384.83	5.00
R02		R02	44.1	43.0	49.7	55.0	45.0	0.0				5.00	a	6241902.62	2268307.48	5.00
R03		R03	43.1	42.8	49.4	55.0	45.0	0.0				5.00	a	6243119.57	2268271.13	5.00
R04		R04	41.3	41.0	47.7	55.0	45.0	0.0				5.00	a	6245025.61	2268242.15	5.00
R05		R05	43.1	42.7	49.4	65.0	45.0	0.0				5.00	a	6247100.75	2266469.38	5.00
R06		R06	41.5	41.3	48.0	65.0	45.0	0.0				5.00	a	6246010.11	2264536.82	5.00
R07		R07	44.7	44.6	51.2	65.0	45.0	0.0				5.00	a	6244916.51	2264556.70	5.00
R08		R08	42.5	42.3	49.0	65.0	45.0	0.0				5.00	a	6244158.05	2264111.95	5.00
R09		R09	45.9	44.3	51.0	55.0	45.0	0.0				5.00	a	6238680.22	2265730.24	5.00
R10		R10	46.0	45.7	52.4	55.0	45.0	0.0				5.00	a	6238696.41	2267200.81	5.00
R11		R11	53.1	53.0	59.6	55.0	55.0	0.0				5.00	a	6240879.27	2266753.71	5.00
R12		R12	45.9	45.1	51.8	55.0	55.0	0.0				5.00	a	6242873.26	2267798.69	5.00
R13		R13	49.4	49.3	56.0	55.0	55.0	0.0				5.00	a	6244059.89	2265693.22	5.00
R14		R14	40.2	40.0	46.6	65.0	45.0	0.0				5.00	a	6246527.70	2264616.83	5.00
R15		R15	35.8	35.5	42.2	65.0	45.0	0.0				5.00	a	6246671.32	2263138.50	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			K0	Height		Coordinates			
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
			(dBA)	(dBA)	(dBA)		dB(A)		(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6239199.24	2268155.47	40.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6239870.87	2268092.11	40.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6240449.56	2268075.21	40.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6241049.38	2268075.21	40.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6241915.30	2268062.54	40.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6242781.23	2267509.19	40.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6244141.37	2266685.50	40.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6245636.68	2266719.30	40.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6238933.13	2266820.67	40.00
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6238895.11	2265751.99	40.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6240398.87	2267167.04	40.00
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6239866.64	2267175.49	40.00
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6239845.52	2266216.63	40.00
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6240365.08	2266203.96	40.00
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6241133.86	2267078.34	40.00
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6244517.31	2265452.08	40.00
POINTSOURCE		AC17	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6245007.30	2265688.63	40.00
POINTSOURCE		AC18	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6246510.48	2266512.49	40.00

Area Source(s)

ID	Result. PWL			Result. PWL"			Lw / Li		Operating Time			Moving Pt. Src			Height
	Day	Evening	Night	Day	Evening	Night	Type	Value	Day	Special	Night	Number			(ft)
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	Day	Evening	Night	
DOG	83.7	83.7	83.7	42.8	42.8	42.8	Lw"	42.8	900.00	0.00	0.00				5
PARKING01	86.1	86.1	86.1	41.7	41.7	41.7	Lw"	41.7							5
PARKING02	80.8	80.8	80.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING03	83.0	83.0	83.0	41.7	41.7	41.7	Lw"	41.7							5
PARKING04	84.5	84.5	84.5	41.7	41.7	41.7	Lw"	41.7							5
PARKING05	79.7	79.7	79.7	41.7	41.7	41.7	Lw"	41.7							5
PARKING06	88.8	88.8	88.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING07	79.8	79.8	79.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING08	85.8	85.8	85.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING09	87.1	87.1	87.1	41.7	41.7	41.7	Lw"	41.7							5
PARKING10	80.0	80.0	80.0	41.7	41.7	41.7	Lw"	41.7							5
TRUCK01	99.5	99.5	99.5	49.6	49.6	49.6	Lw	99.5							8
TRUCK02	99.5	99.5	99.5	52.7	52.7	52.7	Lw	99.5							8
TRUCK03	99.5	99.5	99.5	57.7	57.7	57.7	Lw	99.5							8
TRUCK04	99.5	99.5	99.5	57.6	57.6	57.6	Lw	99.5							8
TRUCK05	99.5	99.5	99.5	54.3	54.3	54.3	Lw	99.5							8
TRUCK06	99.5	99.5	99.5	46.3	46.3	46.3	Lw	99.5							8
TRUCK07	99.5	99.5	99.5	53.6	53.6	53.6	Lw	99.5							8

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	5.00	a	6238807.14	2265930.84	5.00	0.00
			6239202.53	2265929.12	5.00	0.00
			6239198.19	2265594.92	5.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	5.00	a		6238795.41	2265605.34	5.00 0.00
				6238933.19	2267302.15	5.00 0.00
				6238824.26	2267302.26	5.00 0.00
				6238840.05	2268231.67	5.00 0.00
				6239392.72	2268229.14	5.00 0.00
				6239466.48	2268219.89	5.00 0.00
				6239839.89	2268174.20	5.00 0.00
				6240305.80	2268146.45	5.00 0.00
				6240731.42	2268141.26	5.00 0.00
				6240726.09	2268039.73	5.00 0.00
				6240133.18	2268042.57	5.00 0.00
				6239579.99	2268096.47	5.00 0.00
				6238944.53	2268119.16	5.00 0.00
				6238904.82	2266337.61	5.00 0.00
				6238811.51	2266343.31	5.00 0.00
				6238823.10	2267234.15	5.00 0.00
				6238924.68	2267228.39	5.00 0.00
				6239721.84	2267446.83	5.00 0.00
				6240538.86	2267455.34	5.00 0.00
				6240527.51	2267253.92	5.00 0.00
				6239721.84	2267287.96	5.00 0.00
				6240863.06	2268150.12	5.00 0.00
				6241184.24	2268150.12	5.00 0.00
				6241185.97	2268112.79	5.00 0.00
				6241227.81	2268021.30	5.00 0.00
				6241286.41	2267887.84	5.00 0.00
				6241317.88	2267848.77	5.00 0.00
				6241328.73	2267786.92	5.00 0.00
				6241320.05	2267728.33	5.00 0.00
				6241334.15	2267674.08	5.00 0.00
				6240842.40	2267676.61	5.00 0.00
				6240842.40	2268119.16	5.00 0.00
				6240936.10	2267676.13	5.00 0.00
				6240933.18	2267350.37	5.00 0.00
				6240890.73	2266962.99	5.00 0.00
				6240797.67	2266970.21	5.00 0.00
				6240828.22	2267290.80	5.00 0.00
				6240836.73	2267353.21	5.00 0.00
				6240842.40	2267676.61	5.00 0.00
				6241619.37	2268148.30	5.00 0.00
				6241688.56	2268137.18	5.00 0.00
				6242095.36	2268130.29	5.00 0.00
				6242207.02	2268119.66	5.00 0.00
				6242260.62	2268113.70	5.00 0.00
				6242292.75	2268082.81	5.00 0.00
				6242333.52	2268076.64	5.00 0.00
				6242251.97	2267703.50	5.00 0.00
				6243000.72	2267557.71	5.00 0.00
				6242973.43	2267467.65	5.00 0.00
				6242233.17	2267611.23	5.00 0.00
				6242147.01	2267188.80	5.00 0.00
				6242070.35	2267199.40	5.00 0.00
				6242008.57	2267297.01	5.00 0.00
				6241710.80	2267469.98	5.00 0.00
				6241609.49	2267954.32	5.00 0.00
				6239730.78	2266125.07	5.00 0.00
				6240466.96	2266125.07	5.00 0.00
				6240466.59	2266024.80	5.00 0.00
				6239723.15	2266037.35	5.00 0.00
				6238811.51	2266343.31	5.00 0.00
				6239483.54	2266334.77	5.00 0.00
				6239472.93	2265990.54	5.00 0.00
				6239528.05	2265924.78	5.00 0.00
				6238807.14	2265930.84	5.00 0.00
				6246598.67	2267154.34	5.00 0.00
				6246691.98	2267173.87	5.00 0.00
				6246715.73	2267088.00	5.00 0.00
				6246737.56	2266866.82	5.00 0.00
				6246722.37	2266097.48	5.00 0.00
				6246665.94	2266038.89	5.00 0.00
				6246622.76	2266036.78	5.00 0.00
				6246493.24	2266041.61	5.00 0.00
				6246313.41	2266070.75	5.00 0.00
				6246176.15	2266112.77	5.00 0.00
				6245940.83	2266194.67	5.00 0.00
				6245788.42	2266216.51	5.00 0.00
				6245586.97	2266216.88	5.00 0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6245389.90	2266182.12	5.00	0.00
			6245191.69	2266126.94	5.00	0.00
			6245051.69	2266066.42	5.00	0.00
			6244958.81	2266031.94	5.00	0.00
			6244814.77	2265995.57	5.00	0.00
			6244667.25	2265978.13	5.00	0.00
			6243408.56	2265997.66	5.00	0.00
			6243410.14	2266065.52	5.00	0.00
			6244326.75	2266065.07	5.00	0.00
			6244660.83	2266053.42	5.00	0.00
			6244928.88	2266111.69	5.00	0.00
			6245243.54	2266228.23	5.00	0.00
			6245515.47	2266298.15	5.00	0.00
			6245756.33	2266309.81	5.00	0.00
			6245973.87	2266274.85	5.00	0.00
			6246214.73	2266189.38	5.00	0.00
			6246436.16	2266127.23	5.00	0.00
			6246634.28	2266111.69	5.00	0.00
			6246642.05	2266950.79	5.00	0.00
AREASOURCE	5.00	a	6244308.18	2265802.56	5.00	0.00
			6244309.17	2265876.13	5.00	0.00
			6244708.48	2265871.79	5.00	0.00
			6244734.52	2265880.47	5.00	0.00
			6244887.96	2265903.93	5.00	0.00
			6245292.25	2266032.38	5.00	0.00
			6245246.17	2265940.23	5.00	0.00
			6244773.47	2265795.22	5.00	0.00
AREASOURCE	8.00	a	6238933.19	2267302.15	8.00	0.00
			6238944.53	2268119.16	8.00	0.00
			6239109.88	2268113.26	8.00	0.00
			6239469.70	2268100.41	8.00	0.00
			6239681.71	2268086.56	8.00	0.00
			6240066.01	2268049.11	8.00	0.00
			6240311.89	2268041.71	8.00	0.00
			6240726.09	2268039.73	8.00	0.00
			6240720.42	2267591.51	8.00	0.00
			6240692.05	2267568.81	8.00	0.00
			6239653.75	2267574.49	8.00	0.00
			6239599.85	2267574.49	8.00	0.00
			6239560.14	2267574.49	8.00	0.00
			6239517.58	2267537.61	8.00	0.00
			6239497.72	2267495.05	8.00	0.00
			6239489.21	2267287.96	8.00	0.00
AREASOURCE	8.00	a	6238924.68	2267228.39	8.00	0.00
			6239469.36	2267219.88	8.00	0.00
			6239500.56	2267188.67	8.00	0.00
			6239483.54	2266334.77	8.00	0.00
			6238904.82	2266337.61	8.00	0.00
AREASOURCE	8.00	a	6239616.87	2267148.95	8.00	0.00
			6239801.27	2267140.44	8.00	0.00
			6239778.57	2266238.32	8.00	0.00
			6239599.85	2266252.50	8.00	0.00
AREASOURCE	8.00	a	6240459.42	2267143.28	8.00	0.00
			6240640.98	2267134.77	8.00	0.00
			6240618.29	2266235.48	8.00	0.00
			6240431.06	2266241.16	8.00	0.00
AREASOURCE	8.00	a	6240936.10	2267676.13	8.00	0.00
			6241334.15	2267674.08	8.00	0.00
			6241350.43	2267624.16	8.00	0.00
			6241333.07	2267551.46	8.00	0.00
			6241324.39	2267449.47	8.00	0.00
			6241391.12	2267305.42	8.00	0.00
			6241434.95	2267206.47	8.00	0.00
			6241471.69	2267091.43	8.00	0.00
			6241525.02	2266916.75	8.00	0.00
			6240890.73	2266962.99	8.00	0.00
			6240930.78	2267328.47	8.00	0.00
AREASOURCE	8.00	a	6243410.14	2266065.52	8.00	0.00
			6243423.76	2266653.04	8.00	0.00
			6243482.35	2266674.74	8.00	0.00
			6243734.09	2266653.04	8.00	0.00
			6244187.64	2266913.46	8.00	0.00
			6244291.81	2266874.39	8.00	0.00
			6244391.64	2266874.39	8.00	0.00
			6244482.78	2266896.09	8.00	0.00
			6244606.84	2266858.88	8.00	0.00
			6244830.01	2266791.93	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6244895.11	2266794.10	8.00	0.00
			6244947.19	2266774.57	8.00	0.00
			6245099.10	2266807.12	8.00	0.00
			6245157.70	2266844.01	8.00	0.00
			6245339.99	2266798.44	8.00	0.00
			6245402.92	2266791.93	8.00	0.00
			6245524.45	2266835.33	8.00	0.00
			6245691.55	2266820.14	8.00	0.00
			6245841.29	2266904.78	8.00	0.00
			6245904.22	2266870.05	8.00	0.00
			6246001.88	2266841.84	8.00	0.00
			6246064.81	2266859.20	8.00	0.00
			6246093.03	2266878.73	8.00	0.00
			6246197.19	2266969.88	8.00	0.00
			6246320.89	2266985.07	8.00	0.00
			6246429.40	2267041.49	8.00	0.00
			6246509.69	2267074.05	8.00	0.00
			6246598.67	2267154.34	8.00	0.00
			6246642.05	2266950.79	8.00	0.00
			6246634.28	2266111.69	8.00	0.00
			6246436.16	2266127.23	8.00	0.00
			6246214.73	2266189.38	8.00	0.00
			6245973.87	2266274.85	8.00	0.00
			6245756.33	2266309.81	8.00	0.00
			6245515.47	2266298.15	8.00	0.00
			6245334.24	2266251.55	8.00	0.00
			6245243.54	2266228.23	8.00	0.00
			6244928.88	2266111.69	8.00	0.00
			6244756.47	2266074.21	8.00	0.00
			6244660.83	2266053.42	8.00	0.00
AREASOURCE	8.00	a	6244308.18	2265802.56	8.00	0.00
			6244773.47	2265795.22	8.00	0.00
			6245246.17	2265940.23	8.00	0.00
			6245003.62	2265455.12	8.00	0.00
			6244760.56	2265539.76	8.00	0.00
			6244702.20	2265392.63	8.00	0.00
			6244659.30	2265318.86	8.00	0.00
			6244595.63	2265233.77	8.00	0.00
			6244524.16	2265145.73	8.00	0.00
			6244391.84	2265002.55	8.00	0.00
			6244296.15	2264912.59	8.00	0.00

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
			left	right		horz.	vert.	Begin	End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	a	6238823.39	2268732.50	6.00	0.00
										6238833.81	2268529.37	6.00	0.00
										6239339.02	2268388.75	6.00	0.00
										6239560.37	2268339.27	6.00	0.00
										6239977.04	2268295.00	6.00	0.00
										6240596.83	2268284.58	6.00	0.00
										6240711.41	2268281.98	6.00	0.00
BARRIERS		BARRIERS00002						6.00	a	6240836.41	2268284.58	6.00	0.00
										6241430.16	2268281.98	6.00	0.00
										6241966.62	2268279.37	6.00	0.00
										6242266.10	2268258.54	6.00	0.00
										6242297.35	2268266.35	6.00	0.00
										6242328.60	2268443.44	6.00	0.00
										6242404.12	2268602.29	6.00	0.00
BARRIERS		BARRIERS00003						6.00	a	6238659.33	2267253.33	6.00	0.00
										6238724.43	2267235.10	6.00	0.00
										6238737.46	2267130.94	6.00	0.00
										6238719.23	2266352.29	6.00	0.00
										6238672.35	2266323.64	6.00	0.00
BARRIERS		BARRIERS00004						6.00	a	6238693.18	2266261.14	6.00	0.00
										6238727.04	2266211.67	6.00	0.00
										6238719.23	2265643.96	6.00	0.00
										6238674.96	2265612.71	6.00	0.00
BARRIERS		BARRIERS00005						6.00	a	6238656.73	2265534.58	6.00	0.00
										6238706.21	2265516.35	6.00	0.00
										6238706.21	2265466.87	6.00	0.00
										6238703.60	2264406.98	6.00	0.00
										6238701.00	2264318.44	6.00	0.00
										6238661.93	2264281.98	6.00	0.00
										6238625.48	2264279.37	6.00	0.00